2017 SENATE HUMAN SERVICES

SB 2198

2017 SENATE STANDING COMMITTEE MINUTES

Human Services Committee
Red River Room, State Capitol

SB 2198
1/24/2017
Job Number 27292

☐ Subcommittee
☐ Conference Committee

Committee Clerk Signature Marie Johnson

Explanation or reason for introduction of bill/resolution:

A bill relating to the regulation of medical imaging and radiation therapy, and to declare an emergency.

Minutes: 20 attachments.

Chair J. Lee: Brought the hearing to order, all members were present.
Chair J. Lee: Introduced the bill. (0:30-2:30)
Shirley Porter (3:50-17:50) testified in favor please see attachment #1.
Senator Heckaman: A question on certification, we just heard a bill on medical providers and licensure; is there any reciprocity with other states?
Ms. Porter: We recognize reciprocity with Montana
Senator Heckaman: Is any of it tied to reimbursement that facilities get
Ms. Porter: I can't answer that. Some facilities do for licensed individuals.
V-Chair Larsen: If I go to school for rad tech, then I'm in industry as a technician, do I have another 8 years to be certified?
Ms. Porter: As an example from the last page of attachment #1, the route for radiographers is 2-year internship, after that registry examination, 2 years. At facility pass examination. The 8 years is a guideline; you have that long to complete training.
Chair J. Lee: If you're going to do continuing education(CE), online classes, how much time does it take, will you be able to continue your regular work, what's the program?
Ms. Porter: Certification in the different modalities, you are employed in the institution, it's on the job training, different testing sign-off procedures, pass your test and do continuing education. All of this is done within facility. CE is all online.
Chair J. Lee: Summarized the procedure, explained the reason for six plus two years to get certification. (21:35-22:45).
Ms. Porter: Multiple individual in CT department, they can all be cross training at the same time, the length of 6 years, plus the 1 renew, which happens every 2 years. All of your individuals covering call and cross- training at the same time.
Chair J. Lee: This doesn't prevent any body from doing anything, but if you're doing why not make it count towards your certification?
Senator Piepkorn: What are the other facilities?
Ms. Porter: They would be hospitals, clinics, freestanding, all of those.
Senator Piepkorn: What is free standing?

Ms. Porter: You're not attached to a hospital.
Senator Piepkorn: When you say it is common practice; does that mean everyone does offer the 2-year completion track?
Ms. Porter: It's a hospital or clinic policy; they want people to have completed their certification in 2 years.
Senator Piepkorn: Are all facilities on that 2-year plan?
Ms. Porter: All of the large ones, yes.
Donna Newman: testified in support, please see attachment #2 (26:15-33:25) provided a letter of support, please see attachment #3.
Chair J. Lee: Tell us where the schools are and how many students they have?
Ms. Newman: There are two schools in Bismarck, East Grand Forks, Fargo, and Minot. Each school puts out 5-10 technologists per year. Most of them you can go into the program with a 2-year degree, or you can have a 4-year; there are 2 avenues to get into radiography. After you graduate you sit for those exams, and some modalities you do not have to be a radiographer: Nuclear radiation, ultra sound, and radiation therapy. These use different types of imaging.
Chair J. Lee: Are there openings for these graduating students?
Ms. Newman: Absolutely, we have a need for more students, but we have to maintain a student/teacher ratio.
Senator Kreun: Lots of testimony on a lot of different components of radiology and CT, this doesn't diminish any of the training that is taking place, it expands it. Is that right?
Ms. Newman: Yes, it used to be, when equipment wasn't so sophisticated, you had the same equipment, you need to pass certification, understand theory, then train on your hospital equipment.
Chris Walski, (39:15-43:25) provided testimony in favor, please see attachment #4.
Diane Nelson, Radiation Manager Jamestown (44:00-47:17) testified in support, please see attachment #5.
Anne Bell-Pfeifer (48:15-51:00) provided testimony in favor please see attachment #6, Provided test from Brent Colby, please attachment #7.
Dr. Ted Fogety (52:15-1:00:00) provided testimony in favor please see attachments #8-10
Opposition
Tim Blasl, Vice President of the ND Hospital Association (1:01:00-1:06:25) provided testimony in opposition, please see attachment #11.
Senator Anderson: You don't think the ladder they've built to get people certified over time will solve recruitment?
Tim Blasl: The biggest issue is recruitment. The smaller facilities have difficulty, because our neighboring states have less restrictive requirements. Our concern is they may not come to ND because of higher regulations.
Senator Clemens: Are larger facilities currently having these separate certifications already? Or is it a combined certification because it's not required?
Tim Blasl: Each facility is different, the issue is more with the smaller facilities, some have requirements in place already.
Matt Grimshaw, CHI St. Alexius Health Williston, provided test in opposition (1:09:10-1:11:40), please see attachment #12.
Chair J. Lee: Have you put any new equipment in your x-ray or medical imaging department in the last 20 years?

Matt Grimshaw: Yes, we have state of the art technology, brand new MRI, two brand new CT scanners, and all of our technicians have gone through all the training required, and can use them.
Chair J. Lee: Gave a vehicle maintenance example. They have 8 years to get certified. There is a point to the certification; I don't want to glow because I've been given too much radiation. I can't understand why giving 6-8 years for on the job training isn't enough. Or as a work incentive for someone they might recruit.
Matt Grimshaw: It's not always my choice, it's the technician's choice, if they want to take the certification test.
Chair J. Lee: You are the employer, continuing education is important. Gave a real estate agent example.
Matt Grimshaw: There's a difference between licensure requirements, and being register for every modality. We have a technician who will retire before she has to take the certification test. Many organizations mandate this. I'm not arguing about the position of the text on the rational reasons for this. This is about the State mandating it. As a state, should we mandate while other states do not? When we're in a competitive environment where there are not enough technicians. Maybe time for a study. Look at evidence or discrepancies in the quality state-wide between certified and uncertified.
Chair J. Lee: You don't see a liability concern. If I had a problem, and I saw you had an uncertified tech, my attorney and I would be chatting about that.
Matt Grimshaw: None.
Chair J. Lee: Story about how dentists can chairside train assistants.
Matt Grimshaw: Our technicians still go to school, they are registered, they cross train over several years.
Chair J. Lee: It's not the same thing.
Matt Grimshaw: If this were industry norm, we would not be alone. There's a reason other states have licensing guidelines, and don't have certifications.
Theo Stoller (1:16:55-1:20:30) provided test in opposition, please see attachment #13.
Senator Kreun: What kind of a liability do we have if we pass a hospital that potentially could be stroke ready, and we don't and the patient dies.
Chair J. Lee: The law was changed; they are instructed to go to the next hospital they can.
Andy Lankowicz (1:22:10-1:26:30) read testimony for Colleen Learned in opposition, please see attachment #14.
Chair J. Lee: I continue to be curious why it's so hard to get certification.
Andy Lankowicz: It's an over regulation. We've proved we have the quality and safety.
V-Chair Larsen: Do these radiation techs have to get CE credits to continue to keep their license?
Andy Lankowicz: Yes.
Senator Clemens: Currently how many techs, if this bill passed, would that increase the number you need?
Andy Lankowicz: I currently have 8 techs, losing one, down to 7; I had 6 techs that did ultrasound, I now have 4, going down to 3. It's difficult under the current scenario. Ask you to look at options to help with CE, difficult to recruit and train.
Senator Clemens: If this bill passed would you have to go to more than 4?
Andy Lankowicz: No, not necessarily, it really depends on the workload that we have from the hospital. There is a minimum requirement that we have to do call, that's major issue.
No Neutral testimony

Senator Anderson: On page 5, line 3, it clearly says the board has the authority to adopt rules under this chapter; and yet in several instances, now page 6 line 26-27 it talks about adopting rules; on page 7, line 22 says board may establish by rule. On page 8, line 16 it said the board shall adopt by rule; I wonder if all those repetitions are redundant or intended for some purpose.
Edward Erickson, Assistant Attorney General: Those are simple redundancies to reassure people that these actions won't take place without having to go through a rule making process.
Senator Anderson: You don't see a downside to the redundancies?
Edward Erickson: Not really, except for pure efficiency of language.
Chair J. Lee: Closed the hearing on 2198
Attachments #15-20 were provided after the hearing for the committee's reference.

2017 SENATE STANDING COMMITTEE MINUTES

Human Services Committee
Red River Room, State Capitol

SB 2198
1/24/2017
Job Number 27374

☐ Subcommittee
☐ Conference Committee

Committee Clerk Signature Marie Johnson

Explanation or reason for introduction of bill/resolution:

A bill relating to the regulation of medical imaging and radiation therapy, and to declare an emergency.

Minutes: 0 attachments

Senator Anderson: Stated that the hospitals concern is the additional burden on the staff. The board is trying to require certification as part of licensure, and that's not what most of us do. Gave a nursing example.
Chair J. Lee: The hospitals are more concerned about their bottom line than quality care. If the certification was really going to be a barrier to bringing in workers from out of state, the hospital could assist them, they could pay for classes, they could figure a way to accommodate the need.
Senator Anderson: I talked with Dr. Fogerty, asked if he had to have separate certification for each one. I think in his roll with the hospital he keeps up with that, but other physicians don't, because they're not in his business.
Senator Kreun: In the comments that were made, some individual that work, are trained and will take training. They won't take the next step, don't want extra responsibility. It isn't as easy to get people in the rural areas. Even GF has trouble.
Chair J. Lee: I can't grasp why people don't want to learn more. That they wouldn't want to move ahead in their field.
Senator Kreun: We just went through that with the nurses. We have to give them some incentive to do it.
Chair J. Lee: The nurse educators we're talking about need to get their doctorate, so it's more than certification. The big deal is they make $30,00-$35,000 less being a nurse educator than they do being a floor nurse.
Senator Kreun: are the nurses who are going to get more certification going to get more money?
Chair J. Lee: Maybe not, but I'd feel safer.
Senator Heckaman: I missed the last testimony, I thought I heard the one CEO say they're trained on specific equipment.
Chair J. Lee: Im sure the people who sell them equipment will give them training on the equipment.

Senator Heckaman: That doesn't give them certification?
Chair J. Lee: No, because they don't have the academic background. Having been a degree medical technologist, they know how to cookbook stuff. Laboratory example (7:30-8:00). The thing is, you don't have the theory you don't have the ability to recognize what it is that you are doing. Gave an example (8:20-8:45). This is a matter of quality care. The hospitals have got to step up to the plate and figure out how to cope with it.
Senator Heckaman: In Carrington, all those things are brought in on a truck. Locally do you have to certify? If you go to assist, do you have to certify?
Chair J. Lee: If you're not the one doing the test, I wouldn't think so.
Senator Anderson: Not to say the bill is all bad. I the objections we heard were in requiring the certifications for licensure. I think we could fix the other things in that bill and let that go. That might take a little bit of work, but I don't think we have to throw the whole thing out. The bill might be fine; we might need to work on it.
Chair J. Lee: Is there agreement to work on it?
Senator Clemens: At this point we don't know what we're going to take out. If it's going to create undue hardship to smaller hospitals, and probably the large one, I'm going to be opposed to that. Regulation usually hurts the smaller guy.
Senator Anderson: Would it be worthwhile asking the board? Get their opinion.
Chair J. Lee: They can do that, visit with Edward Erickson. I don't like to do other people's bills, I like the boards to figure out what works.
Chair J. Lee: Closed the meeting.

2017 SENATE STANDING COMMITTEE MINUTES

Human Services Committee
Red River Room, State Capitol

SB 2198
2/7/2017
Job Number 28023

☐ Subcommittee
☐ Conference Committee

Committee Clerk Signature Marie Johnson

Explanation or reason for introduction of bill/resolution:

A bill relating to confidentiality of children's advocacy center records; reimbursement of the cost of forensic interviews and confidentiality of juvenile court records and children's advocacy records.

Minutes: 2 Attachments.

Chair J. Lee: Brought the hearing on SB 2198 to order, all members were present.
Ms. Shirley Porter, President ND Medical Imaging and Radiation Therapy Board (NDMIRT) introduced the proposed amendments (1:05-5:40) **please see attachment #1,2.**
V-Chair Larsen: On those Continuing Education (CE) credits, my wife has to do fire training, tornado drill training for her work, will they be able to either-or that? Or is that going to be a mandate of the CE which will increase their time that they have to have for units?
Chair J. Lee: Explain to me what you're taking about, with the fire safety?
V-Chair Larsen: As she works at her hospital, they require her to do CE credits, and through the system they have established classes that count as CE credits. So the whole hospital's doing these CE. Rad techs now have to do that CE, is that going to push out that other stuff, is it increasing the mandates of their CE credits?
Ms. Porter: The profession of radiographers do have 24 CE's they have to do every 2 years. The areas that they're practicing as a CT tech, they would do CT CE hours, those also count towards their radiography, their 24, so if they had to do 6 hours relevant to CT because they were practicing CT, those count towards their 24.
Chair J. Lee: But if the hospital has a fire safety unit, that's going to be for everybody just because of fire safety because it isn't specific to profession.
Ms. Porter: That's an institutional policy.
V-Chair Larsen: So they're doing more than the 24?
Ms. Porter: Not necessarily, part of the 24 would have to be specific to what they're practicing. Instead of all 24 having to be radiography, some could be CT.
Edward Erickson, Assistant Attorney General: (9:10-11:45) Walked through the proposed amendments.
V-Chair Larsen: On section 2, You've crossed out nationally recognized, do we have a state certification? Number 2 section c?
Mr. Erickson: That was done throughout, similar language is being crossed out throughout the bill, one reason is there's a possibility that we will see some international groups forming,

that would include the US and say, Canada, there's several in other professions. We want to not be limited if that becomes new standard.
Chair J. Lee: On page 6, section 6, the investigative panel, that's new language?
Mr. Erickson: That was in the original bill. Resumed walkthrough **(13:30-24:00)**
Senator Heckaman: If there are 10-11 modalities currently practicing in the state, why aren't they included in section 2?
Mr. Erickson: We wanted to leave language a little open, so the board may adopt by rule standards concerning the scope of practice for medical imaging or radiation therapy modalities, which is a general term including (but not limited to). So they could adopt additional modalities.
Senator Heckaman: It seems like it'd be clearer to list them.
Chair J. Lee: Wasn't there a reason why there are 6?
Ms. Porter: We listed the 6 primary modalities, the additional modalities, I believe there are up to 15-16 additional modalities, we did that through admin rule to recognize the other modalities, they are almost sub-specialties within the 6.
Mr. Erickson: Resumed the walkthrough **(25:45-28:00)**
Senator Piepkorn: On page 11, sect 8, letter b, the board may grant a conditional license allowing an applicant under this subdivision to practice before earning their license, did you get any pushback or anything like that during the negotiation between the various parties?
Mr. Erickson: No pushback in discussions, that was always the way we intended to operate, with the conditional licensing language that was already in the existing law, we put it here to make it very clear that we will work with people who are recruiting from out of state, particularly states that do not have licensing laws at this moment.
Senator Clemens: Are these CE credits, is it online type stuff, about how long would it take a typical person working to obtain their license?
Mr. Erickson: Which section are you referring to?
Senator Clemens: Looking at what Senator Piepkorn just referred to.
Mr. Erickson: On the back page of Ms. Porter's attachment (please see attachment #2) Has the list of what is recommended by the national certifying group for each of the different modalities. Now a lot of these, you can get if you're in multiple modalities a lot of them might apply in more than one case. For example, a radiologist who also does CT, it wouldn't necessarily be doing 24 and 24, some CT would apply to both.
Senator Clemens: It's not a real hardship for people trying to obtain these, if they want to get them. I was thinking there was a lot more to it.
Ms. Porter: It shouldn't cause a hardship. If I use myself as an example, I do mammography, so many hours of my 24 have to be specific to mammography. If was not certified in mammography, I would have to do 15 and 3, cycles for the federal contract, but if I was a noncertified CT technologist, the certified CT technologist has to have 12 of their 24. I don't know through rule what the number would be at this point, but continuing ed is pretty much all online, it's cheap, easy, at your convenience. A lot of our institutions provide some of it as well.
Senator Clemens: Would it be unusual for someone to have 4-5 modalities?
Ms. Porter: Depends on where you practice, if you're in a larger institution 4 is a lot. Smaller institution and you are of the philosophy that you do it all, you might be doing radiography, CT, covering Nuc Med or sonography, so you would do some hours relevant to each of those, but again, all of those hours would count back to your primary of radiography. So it's part of it, you wouldn't have to have it in addition to, on top of the 24.
Senator Anderson: How does this affect the dentist assistants or veterinary techs?

Mr. Erickson: This bill only regulates use on humans, veterinary use is outside this chapter. We've had enquiries about use for archeological digs, also there's an exception for mortuary use, if you look at section 3, sub-section 2: exception for dental assistant or hygienist who are licensed under 43-20. They would be regulated by that licensing board. If they were practicing in unsafe manor, they would be subject to that board, not ours.
Mr. Blasl, North Dakota Hospital Association: I do have to say I appreciate board coming to table, it's provided flexibility for our rural areas, lots of discussion, we appreciate the amendments.
Senator Anderson: You appreciate the amendments and now you support the bill?
Mr. Blasl: Yes, we support the bill now.
Senator Piepkorn: It helps our work in the committee to have other groups work together.
Senator Heckaman: I move adopt the hoghouse amendments to SB 2198.
V-Chair Larsen: Second.
A roll call vote was taken.
Motion passes 7-0-0.
Senator Heckaman: I move do pass as amended.
V-Chair Larsen: Second.
A roll call vote was taken.
Motion passes 7-0-0.
Chair J. Lee: will carry.
New amendments were proposed after the meeting; the proposed amendments were not sent to Legislative Council for final drafting. A standing committee report was not created for this set of minutes.

2017 SENATE STANDING COMMITTEE MINUTES

Human Services Committee
Red River Room, State Capitol

SB 2198
2/13/2017
Job Number 28262

☐ Subcommittee
☐ Conference Committee

Committee Clerk Signature Marie Johnson

Explanation or reason for introduction of bill/resolution:

A bill relating to regulation of medical imaging and radiation therapy; declares an emergency.

Minutes: 1 attachment

Chair J. Lee: Opened the hearing for committee work on SB 2198. All members were present. Relevant committee work starts at (1:35). Committee attempted to find the difference between the amendments.

Senator Clemens: Did we add nurse to section 4 or was that another bill?

Chair J. Lee: This should be the one we consider, 2002 version (please see attachment #1). Walked through the proposed amendments (3:15-9:20).

Senator Heckaman: The changes are all in section 10, they are all form and style.

Chair J. Lee: (9:55-10:37) Resumed the walk through.

Senator Heckaman: Is everybody happy with these? This is one my local hospital is interested in.

Chair J. Lee: Yes, and they have said it on the record, the hospital association is fine with it, and because of that agreement the House killed the other bill. I'm glad board and association pulled together.

Senator Heckaman: I'll move reconsider our actions on SB 2198.

V-Chair Larsen: Second.

A voice vote was taken.

Motion passes.

Senator Heckaman: I move adopt amendment 17.8044.02002 on SB 2198.

V-Chair Larsen: Second.

Motion passes 7-0-0.

Senator Heckaman: I move do pass as amended.

V-Chair Larsen: Second.

Motion passes 7-0-0.

Chair J. Lee will carry.

PROPOSED AMENDMENTS TO SENATE BILL NO. 2198

Page 1, line 1, after "A BILL" replace the remainder of the bill with "for an Act to amend and reenact sections 43-62-01, 43-62-02, 43-62-03, 43-62-04, 43-62-08, 43-62-09, 43-62-11, 43-62-14, 43-62-15, and 43-62-18, and subsections 7 and 13 of section 43-62-19 of the North Dakota Century Code, relating to the regulation of medical imaging and radiation therapy; and to declare an emergency.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. AMENDMENT. Section 43-62-01 of the North Dakota Century Code is amended and reenacted as follows:

43-62-01. Definitions.

As used in this chapter:

1. "Board" means the North Dakota medical imaging and radiation therapy board ~~of examiners~~.
2. "Certification organization" means a national certification organization that specializes in the certification and registration of ~~certification of~~ medical imaging and radiation therapy technical personnel and which has programs accredited by the national commission for certifying agencies, American national standards institute or the international organization for standardization, or other accreditation organization recognized by the board.
3. "Licensed practitioner" means a licensed physician, advanced practice registered nurse, ~~surgeon,~~ chiropractor, dentist, or podiatrist.
4. "Licensee" means an individual licensed by the board to perform medical imaging or radiation therapy ~~procedures~~ and operate medical imaging or radiation therapy equipment, including a nuclear medicine technologist, radiation therapist, radiographer, radiologist assistant, ~~or~~ sonographer, or

magnetic resonance imaging technologist.

5. "Medical imaging" means the performance of any diagnostic or interventional procedure or operation of medical imaging equipment intended for use in the diagnosis or visualization of disease or other medical conditions in human beings, including magnetic resonance imaging, fluoroscopy, nuclear medicine, sonography, or x-rays.

6. "Medical physicist" means an individual who is certified by the American board of radiology, American board of medical physics, American board of science in nuclear medicine, or Canadian college of physics in medicine in radiological physics or one of the subspecialties of radiological physics.

7. "Primary modality" means an individual practicing as a nuclear medicine technologist, radiation therapist, radiographer, radiologist assistant, sonographer, or magnetic resonance imaging technologist.

8. "Protected health information" has the same meaning as provided under section 23-01.3-01.

9. "Radiation therapy" means the performance of any procedure or operation of radiation therapy equipment intended for use in the treatment of disease or other medical conditions in human beings.

~~8.~~10. "Radiation therapist" means ~~a nonphysician licensed by the board to perform radiation therapy~~ an individual, other than a licensed practitioner or authorized user, who performs procedures and ~~operate~~ applies ionizing radiation ~~therapy equipment~~ emitted from x-ray machines, particle accelerators, or sealed radioactive sources to human beings for therapeutic purposes.

SECTION 2. AMENDMENT. Section 43-62-02 of the North Dakota Century Code is amended and reenacted as follows:

43-62-02. License required.

~~After December 31, 2015, an~~An individual may not perform or offer to perform medical imaging or radiation therapy ~~procedures~~ on humans for diagnostic or therapeutic purposes ~~as defined in this chapter~~ or otherwise indicate or imply that the individual is licensed to perform medical imaging or radiation therapy unless that individual is licensed under this chapter.

SECTION 3. AMENDMENT. Section 43-62-03 of the North Dakota Century Code is amended and reenacted as follows:

43-62-03. Exemptions.

This chapter does not apply to the following:

1. A licensed practitioner performing medical imaging or radiation therapy.
2. A dental assistant or dental hygienist licensed under chapter 43-20.
3. A student enrolled in and attending a school or college of medicine, medical imaging, or radiation therapy who performs medical imaging or radiation therapy ~~procedures~~ on humans while under the supervision of a licensed practitioner or a radiographer, radiation therapist, nuclear medicine technologist, radiologist assistant, ~~or~~ sonographer, or magnetic resonance imaging technologist holding a license in the medical imaging or radiation therapy modality for which the student is enrolled or attending ~~under this chapter~~.
4. An individual administering medical imaging or radiation ~~procedures~~therapy and who is employed by the United States government when performing duties associated with that employment.

5. A nurse licensed under chapter 43-12.1 who performs sonography on a focused imaging target to assess specific and limited information about a patient's immediate medical condition or to provide real-time visual guidance for another procedure.

6. A limited x-ray machine operator who meets the requirements of rules adopted by the state department of health under section 23-20.1-04.

7. Medical imaging performed as a part of a post-mortem examination or on other nonliving remains.

8. Medical imaging performed by emergency medical services personnel certified or licensed under section 23-27-04.3.

SECTION 4. AMENDMENT. Section 43-62-04 of the North Dakota Century Code is amended and reenacted as follows:

43-62-04. North Dakota medical imaging and radiation therapy board ~~of examiners~~.

1. The governor shall appoint a ~~state board of~~North Dakota medical imaging and radiation therapy ~~medical examiners~~board consisting of nine members including:

   a. Five medical imaging or radiation therapy professionals ~~one each from~~ chosen to represent the areas of radiography, radiation therapy, nuclear medicine technology, sonography, magnetic resonance imaging, and medical imaging or radiation therapy education;

   b. One radiologist;

   c. One medical physicist;

   d. One physician from a rural area; and

e. One public member.

2. Each medical imaging or radiation therapy member of the board must:

a. Be a practicing medical imaging or radiation therapy licensee of integrity and ability.

b. Be a resident of and currently licensed pursuant to subsection 2 of section 43-62-14 in the member's primary medical imaging or radiation therapy modality in this state.

c. Be currently certified by a ~~nationally recognized~~ certification organization in the member's medical imaging or radiation therapy modality.

d. Have been engaged in the active practice of the medical imaging or radiation therapy profession within this state for a period of at least five years.

3. Each public member of the board must:

a. Be a resident of this state.

b. Be at least twenty-one years of age.

c. Not be affiliated with any group or profession that provides or regulates health care.

4. The radiologist, medical physicist, and physician members of the board must:

a. Be a practicing radiologist, medical physicist, or physician of integrity and ability.

b. Be a resident of and be licensed to practice as a physician or registered as a medical physicist in this state.

5. An individual appointed to the board shall qualify by taking the oath required of civil officers.

SECTION 5. AMENDMENT. Section 43-62-08 of the North Dakota Century Code is amended and reenacted as follows:

43-62-08. Meetings of the board.

The board shall hold at least two meetings each year to conduct business and to review the standards and rules for improving the administration of medical imaging or radiation therapy ~~procedures~~. The board shall establish the procedures for calling, holding, and conducting regular and special meetings. A majority of board members constitutes a quorum.

SECTION 6. AMENDMENT. Section 43-62-09 of the North Dakota Century Code is amended and reenacted as follows:

43-62-09. Powers of the board.

In addition to any other powers, the board may:

1. Administer this chapter.
2. Issue interpretations of this chapter.
3. Adopt rules as may be necessary to carry out this chapter.
4. Employ and fix the compensation of personnel the board determines necessary to carry into effect this chapter and incur other expenses necessary to effectuate this chapter.
5. Issue, renew, deny, suspend, or revoke licenses and carry out any disciplinary actions authorized by this chapter.
6. Set fees for licensure, license renewal, and other services deemed necessary to carry out the purposes of this chapter.
7. Conduct investigations for the purpose of determining whether violations of this chapter or grounds for disciplining licensees exist. <u>The board may establish an investigative panel to conduct an investigation under this subsection and may subpoena records.</u>

8. Develop standards and adopt rules for the improvement of the administration of medical imaging or radiation therapy ~~procedures~~ in this state.

9. Employ or contract with one or more certification organizations known to provide acceptable examinations leading to certification of technical personnel performing medical imaging or radiation therapy ~~procedures~~.

10. Impose sanctions, deny licensure, levy fines, or seek appropriate civil or criminal penalties against anyone who violates or attempts to violate examination security, anyone who obtains or attempts to obtain licensure by fraud or deception, or anyone who knowingly assists in that type of activity.

11. Require information on an applicant's or licensee's fitness, qualifications, and previous professional record and performance from recognized data sources, licensing and disciplinary authorities of other jurisdictions, certification organizations, professional education and training institutions, liability insurers, health care institutions, or other employers, and law enforcement agencies be reported to the board. The board or its investigative panels may require an applicant for licensure or a licensee who is the subject of a disciplinary investigation to submit to a statewide and nationwide criminal history record check. The nationwide criminal history record check must be conducted in the manner provided by section 12-60-24. All costs associated with the criminal history record check are the responsibility of the licensee or applicant.

12. Require the self-reporting by an applicant or a licensee of any information the board determines may indicate possible deficiencies in practice, performance, fitness, or qualifications.

13. Establish a mechanism for dealing with a licensee who abuses or is dependent upon or addicted to alcohol or other addictive chemical substances, and enter an agreement with a professional organization possessing relevant procedures and techniques the board has evaluated and approved for the organization's cooperation or participation.
14. Issue a cease and desist order, obtain a court order, or an injunction to halt unlicensed practice, a violation of this chapter, or a violation of the rules of the board.
15. Issue a conditional, restricted, or otherwise circumscribed license as the board determines necessary.

SECTION 7. AMENDMENT. Section 43-62-11 of the North Dakota Century Code is amended and reenacted as follows:

43-62-11. Records of the board.

The board shall keep a record of its proceedings and applications for licensure. An application record must be preserved for at least six years beyond the disposition of the application or the last annual registration of the licensee, whichever is later. Protected health information in the board's possession is an exempt record.

SECTION 8. AMENDMENT. Section 43-62-14 of the North Dakota Century Code is amended and reenacted as follows:

43-62-14. License requirements.

1. The board ~~may~~shall issue a license to ~~any~~a qualified applicant ~~who has submitted~~. In order to qualify for licensure an applicant must comply with the modality licensure requirements under subsections 2, 3, or 6, must comply with board requirements adopted by rule, and shall submit satisfactory evidence, verified by oath or affirmation, that the applicant:
   a. At the time of the application is at least eighteen years of age.

b. Has successfully completed a four-year course of study in a ~~secondary~~high school ~~approved by the state board of higher education~~ or passed an approved equivalency test.

2. ~~In addition to the requirements of subsection 1,~~To qualify for licensure to practice one or more of the primary modalities as a nuclear medicine technologist, radiation therapist, radiographer, radiologist assistant, sonographer or magnetic resonance imaging technologist, an ~~individual seeking to obtain a license~~applicant must meet the requirements for ~~a~~ the applicable specific modality or modalities ~~of medical imaging or radiation therapy shall comply with the following requirements~~, including:

a. Provide satisfactory completion of a course of study ~~in~~appropriate for the specified modality, such as radiography, radiation therapy, nuclear medicine technology, radiologist assistant, ~~or~~ sonography, or ~~its equivalent to be determined by the board~~ magnetic resonance imaging. The curriculum for each course of study may not be less stringent than the standards approved by the joint review committee on education in radiologic technology, joint review committee on nuclear medicine technology, commission on accreditation of allied health education programs, or any other appropriate accreditation agency approved by the board, provided the standards are not in conflict with board policy.

b. Pass a certification examination established or approved by the board given by a certification organization recognized by the board.

c. Show evidence of compliance with continuing education or recertification requirements required for registration of certification by a certification organization recognized by the board.

d. A licensee under this subsection may not practice a primary modality without meeting the requirements for each specific primary modalitiy being practiced. However, a licensee under this subsection may practice other modalities recognized by rule upon meeting the continuing education requirements for each modality practiced by the licensee.

3. An applicant who is not licensed for a primary modality under subsection 2 may qualify for licensure to practice any modality recognized by the board other than the primary modalities by complying with certification or registration requirements established by rule. A license under this subsection only allows the licensee to practice the specific modality or modalities for which the applicant had met the requirements, but this license may be issued in conjunction with a license for additional modalities issued under subsection 6.

4. The board may establish by rule specific changes or exceptions for those modalities in which the accreditation agency or certification organization differs in certification or registration requirements from this chapter.

5. The board~~, upon application and payment of proper fees,~~ may grant a license to an ~~individual~~applicant who submits the necessary application and fees who has been licensed, certified, or registered to perform or administer medical imaging or radiation therapy ~~procedures~~ in another jurisdiction if that jurisdiction's standards of licensure are substantially equivalent to those provided in this chapter in accordance with rules adopted by the board.

6. The board may establish unique individualized licensing and practice standards and requirements for an applicant who does not meet the

licensure requirements to receive a license in at least one primary modality of medical imaging or radiation therapy in subsection 2, or who meets the licensure requirements for one primary modality but not for another primary modality which the applicant desires to practice.

a. The board may grant a license limited to one or more modalities practiced by an applicant for three or more of the five years preceding January 1, 2017. The board may establish standards and requirements for the licensee designed to maintain reasonable access to public services and to promote public safety, including continuing education. A license granted for a specified modality under this subdivision expires and may not be renewed if the licensee attains a license in that modality under subsections 2 or 3.

b. The board may grant a license to an applicant who began practice on or after January 1, 2017, for a specified modality or modalities if the applicant first passes a board approved examination and maintains specified continuing education requirements for each modality. The board may grant a conditional license allowing an applicant under this subdivision to practice before passing the examination.

SECTION 9. AMENDMENT. Section 43-62-15 of the North Dakota Century Code is amended and reenacted as follows:

43-62-15. Scope of practice.

1. A license issued by the board under this chapter must specify each medical imaging or radiation therapy modality for which the licensee is qualified to practice under section 43-62-14.

2. The board shall ~~establish licensure~~ adopt by rule standards concerning scope of practice for ~~the following~~ medical imaging and radiation therapy modalities, including:

a. Nuclear medicine technologist.;

b. Radiation therapist.;

c. Radiographer.;

d. Radiologist assistant; ~~and~~

e. Sonographer; and

f. Magnetic resonance imaging technologist.

~~2.~~3. ~~An individual holding a license under this chapter may perform~~A licensee's performance of medical imaging or radiation therapy ~~procedures~~ on humans for diagnostic or therapeutic purposes ~~only~~must be by written, facsimile, electronic, or verbal prescription of an individual authorized by this state to prescribe medical imaging or radiation therapy ~~procedures~~ and must be under the supervision of a licensed practitioner.

~~3.~~4. ~~An individual holding a license under this chapter may perform~~A licensee's performance of medical imaging and radiation therapy ~~procedures~~ on humans for diagnostic or therapeutic purposes ~~only within~~is limited to the scope of the medical imaging and radiation therapy modality of that license as specified under the rules adopted by the board.

SECTION 10. AMENDMENT. Section 43-62-18 of the North Dakota Century Code is amended and reenacted as follows:

43-62-18. Disciplinary action.

The board may take disciplinary action against a licensee by any of the following means:

1. Revocation of license.
2. Suspension of license.
3. Probation.
4. Imposition of stipulations, limitations, or conditions relating to the performance of medical imaging or radiation therapy ~~procedures~~.
5. Letter of censure.
6. Imposition of a penalty, not to exceed one thousand dollars for any single disciplinary action. Any fines collected by the board must be deposited in the state general fund.
7. Payment of the board's expenses, including legal fees, which may be deposited in the board's operating fund.

SECTION 11. AMENDMENT. Subsections 7 and 13 of section 43-62-19 of the North Dakota Century Code is amended and reenacted as follows:

7. The violation of any provision of this chapter ~~or~~, any rule of the board, or any federal or state law applicable to the practice of medical imaging or radiation therapy, or any action, stipulation, limitation, condition, or agreement imposed by the board or its investigative panels.
13. The failure to maintain in good standing, including completion of continuing education or recertification requirements, a certification from a ~~nationally-recognized~~ certification organization recognized by the board for the medical imaging or radiation therapy modality for which a license has been issued by the board.

SECTION 12. EMERGENCY. This Act is declared to be an emergency measure."

Renumber accordingly.

Prepared by the Legislative Council staff for
Senator J. Lee
February 13, 2017

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PROPOSED AMENDMENTS TO SENATE BILL NO. 2198

Page 1, line 1, after "A BILL" replace the remainder of the bill with "for an Act to amend and reenact sections 43-62-01, 43-62-02, 43-62-03, 43-62-04, 43-62-08, 43-62-09, 43-62-11, 43-62-14, 43-62-15, and 43-62-18, and subsections 7 and 13 of section 43-62-19 of the North Dakota Century Code, relating to the regulation of medical imaging and radiation therapy; and to declare an emergency.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. AMENDMENT. Section 43-62-01 of the North Dakota Century Code is amended and reenacted as follows:

43-62-01. Definitions.

As used in this chapter:

1. "Board" means the North Dakota medical imaging and radiation therapy board ~~of examiners~~.

2. "Certification organization" means a national certification organization that specializes in the certification and registration of ~~certification of~~ medical imaging and radiation therapy technical personnel and which has programs accredited by the national commission for certifying agencies, American national standards institute or the international organization for standardization, or other accreditation organization recognized by the board.

3. "Licensed practitioner" means a licensed physician, advanced practice registered nurse, ~~surgeon,~~ chiropractor, dentist, or podiatrist.

4. "Licensee" means an individual licensed by the board to perform medical imaging or radiation therapy ~~procedures~~ and operate medical imaging or radiation therapy equipment, including a nuclear medicine technologist, radiation therapist, radiographer, radiologist assistant, ~~or~~ sonographer, or magnetic resonance imaging technologist.

5. "Medical imaging" means the performance of any diagnostic or interventional procedure or operation of medical imaging equipment intended for use in the diagnosis or visualization of disease or other medical conditions in human beings, including magnetic resonance imaging, fluoroscopy, nuclear medicine, sonography, or x-rays.

6. "Medical physicist" means an individual who is certified by the American board of radiology, American board of medical physics, American board of science in nuclear medicine, or Canadian college of physics in medicine in radiological physics or one of the subspecialties of radiological physics.

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7. "Primary modality" means an individual practicing as a nuclear medicine technologist, radiation therapist, radiographer, radiologist assistant, sonographer, or magnetic resonance imaging technologist.

8. "Protected health information" has the same meaning as provided under section 23-01.3-01.

9. "Radiation therapy" means the performance of any procedure or operation of radiation therapy equipment intended for use in the treatment of disease or other medical conditions in human beings.

~~8.~~10. "Radiation therapist" means ~~a nonphysician licensed by the board to perform radiation therapy~~an individual, other than a licensed practitioner or authorized user, who performs procedures and ~~operate~~applies ionizing radiation ~~therapy equipment~~emitted from x-ray machines, particle accelerators, or sealed radioactive sources to human beings for therapeutic purposes.

SECTION 2. AMENDMENT. Section 43-62-02 of the North Dakota Century Code is amended and reenacted as follows:

43-62-02. License required.

~~After December 31, 2015, an~~An individual may not perform or offer to perform medical imaging or radiation therapy ~~procedures~~ on humans for diagnostic or therapeutic purposes ~~as defined in this chapter~~ or otherwise indicate or imply that the individual is licensed to perform medical imaging or radiation therapy unless that individual is licensed under this chapter.

SECTION 3. AMENDMENT. Section 43-62-03 of the North Dakota Century Code is amended and reenacted as follows:

43-62-03. Exemptions.

This chapter does not apply to the following:

1. A licensed practitioner performing medical imaging or radiation therapy.

2. A dental assistant or dental hygienist licensed under chapter 43-20.

3. A student enrolled in and attending a school or college of medicine, medical imaging, or radiation therapy who performs medical imaging or radiation therapy ~~procedures~~ on humans while under the supervision of a licensed practitioner or a radiographer, radiation therapist, nuclear medicine technologist, radiologist assistant, ~~or~~ sonographer, or magnetic resonance imaging technologist holding a license in the medical imaging or radiation therapy modality for which the student is enrolled or attending ~~under this chapter~~.

4. An individual administering medical imaging or radiation ~~procedures~~therapy and who is employed by the United States government when performing duties associated with that employment.

5. A nurse licensed under chapter 43-12.1 who performs sonography on a focused imaging target to assess specific and limited information about a

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patient's immediate medical condition or to provide real-time visual guidance for another procedure.

6. A limited x-ray machine operator who meets the requirements of rules adopted by the state department of health under section 23-20.1-04.

7. Medical imaging performed as a part of a post-mortem examination or on other nonliving remains.

8. Medical imaging performed by emergency medical services personnel certified or licensed under section 23-27-04.3.

SECTION 4. AMENDMENT. Section 43-62-04 of the North Dakota Century Code is amended and reenacted as follows:

43-62-04. North Dakota medical imaging and radiation therapy board ~~of examiners~~.

1. The governor shall appoint a ~~state board of~~North Dakota medical imaging and radiation therapy ~~medical examiners~~board consisting of nine members including:

   a. Five medical imaging or radiation therapy professionals~~, one each from~~ chosen to represent the areas of radiography, radiation therapy, nuclear medicine technology, sonography, magnetic resonance imaging, and medical imaging or radiation therapy education;

   b. One radiologist;

   c. One medical physicist;

   d. One physician from a rural area; and

   e. One public member.

2. Each medical imaging or radiation therapy member of the board must:

   a. Be a practicing medical imaging or radiation therapy licensee of integrity and ability.

   b. Be a resident of and currently licensed pursuant to subsection 2 of section 43-62-14 in the member's ~~medical imaging or radiation therapy~~primary modality in this state.

   c. Be currently certified by a ~~nationally recognized~~ certification organization in the member's ~~medical imaging or radiation therapy~~primary modality.

   d. Have been engaged in the active practice of the medical imaging or radiation therapy profession within this state for a period of at least five years.

3. Each public member of the board must:

   a. Be a resident of this state.

   b. Be at least twenty-one years of age.

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c. Not be affiliated with any group or profession that provides or regulates health care.

4. The radiologist, medical physicist, and physician members of the board must:

   a. Be a practicing radiologist, medical physicist, or physician of integrity and ability.

   b. Be a resident of and be licensed to practice as a physician or registered as a medical physicist in this state.

5. An individual appointed to the board shall qualify by taking the oath required of civil officers.

SECTION 5. AMENDMENT. Section 43-62-08 of the North Dakota Century Code is amended and reenacted as follows:

43-62-08. Meetings of the board.

The board shall hold at least two meetings each year to conduct business and to review the standards and rules for improving the administration of medical imaging or radiation therapy ~~procedures~~. The board shall establish the procedures for calling, holding, and conducting regular and special meetings. A majority of board members constitutes a quorum.

SECTION 6. AMENDMENT. Section 43-62-09 of the North Dakota Century Code is amended and reenacted as follows:

43-62-09. Powers of the board.

In addition to any other powers, the board may:

1. Administer this chapter.

2. Issue interpretations of this chapter.

3. Adopt rules as may be necessary to carry out this chapter.

4. Employ and fix the compensation of personnel the board determines necessary to carry into effect this chapter and incur other expenses necessary to effectuate this chapter.

5. Issue, renew, deny, suspend, or revoke licenses and carry out any disciplinary actions authorized by this chapter.

6. Set fees for licensure, license renewal, and other services deemed necessary to carry out the purposes of this chapter.

7. Conduct investigations for the purpose of determining whether violations of this chapter or grounds for disciplining licensees exist. <u>The board may establish an investigative panel to conduct an investigation under this subsection and may subpoena records.</u>

8. Develop standards and adopt rules for the improvement of the administration of medical imaging or radiation therapy ~~procedures~~ in this state.

9. Employ or contract with one or more certification organizations known to provide acceptable examinations leading to certification of technical personnel performing medical imaging or radiation therapy ~~procedures~~.

10. Impose sanctions, deny licensure, levy fines, or seek appropriate civil or criminal penalties against anyone who violates or attempts to violate examination security, anyone who obtains or attempts to obtain licensure by fraud or deception, or anyone who knowingly assists in that type of activity.

11. Require information on an applicant's or licensee's fitness, qualifications, and previous professional record and performance from recognized data sources, licensing and disciplinary authorities of other jurisdictions, certification organizations, professional education and training institutions, liability insurers, health care institutions, or other employers, and law enforcement agencies be reported to the board. The board or its investigative panels may require an applicant for licensure or a licensee who is the subject of a disciplinary investigation to submit to a statewide and nationwide criminal history record check. The nationwide criminal history record check must be conducted in the manner provided by section 12-60-24. All costs associated with the criminal history record check are the responsibility of the licensee or applicant.

12. Require the self-reporting by an applicant or a licensee of any information the board determines may indicate possible deficiencies in practice, performance, fitness, or qualifications.

13. Establish a mechanism for dealing with a licensee who abuses or is dependent upon or addicted to alcohol or other addictive chemical substances, and enter an agreement with a professional organization possessing relevant procedures and techniques the board has evaluated and approved for the organization's cooperation or participation.

14. Issue a cease and desist order, obtain a court order, or an injunction to halt unlicensed practice, a violation of this chapter, or a violation of the rules of the board.

15. Issue a conditional, restricted, or otherwise circumscribed license as the board determines necessary.

SECTION 7. AMENDMENT. Section 43-62-11 of the North Dakota Century Code is amended and reenacted as follows:

43-62-11. Records of the board.

The board shall keep a record of its proceedings and applications for licensure. An application record must be preserved for at least six years beyond the disposition of the application or the last annual registration of the licensee, whichever is later. Protected health information in the possession of the board is an exempt record.

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SECTION 8. AMENDMENT. Section 43-62-14 of the North Dakota Century Code is amended and reenacted as follows:

43-62-14. License requirements.

1. The board ~~may~~shall issue a license to ~~any~~a qualified applicant ~~who has submitted~~. To qualify for licensure, an applicant shall comply with the modality licensure requirements under subsection 2, 3, 4, or 7, comply with board requirements adopted by rules, and submit satisfactory evidence, verified by oath or affirmation, that the applicant:

   a. At the time of the application is at least eighteen years of age.

   b. Has successfully completed a four-year course of study in a ~~secondary~~high school ~~approved by the state board of higher education~~ or passed an approved equivalency test.

2. ~~In addition to the requirements of subsection 1~~To qualify for licensure to practice one or more of the primary modalities as a nuclear medicine technologist, radiation therapist, radiographer, radiologist assistant, sonographer, or magnetic resonance imaging technologist, an ~~individual seeking to obtain a license~~applicant shall meet the requirements for ~~a~~the applicable specific modality ~~of medical imaging or radiation therapy shall comply with the following requirements~~, including:

   a. Provide satisfactory completion of a course of study ~~in radiography, radiation therapy, nuclear medicine technology, radiologist assistant, or sonography, or its equivalent to be determined by the board~~appropriate for the specified modality. The curriculum for each course of study may not be less stringent than the standards approved by the joint review committee on education in radiologic technology, joint review committee on nuclear medicine technology, commission on accreditation of allied health education programs, or any other appropriate accreditation agency approved by the board, provided the standards are not in conflict with board policy.

   b. Pass a certification examination established or approved by the board given by a certification organization recognized by the board.

   c. Show evidence of compliance with continuing education or recertification requirements required for registration of certification by a certification organization recognized by the board.

3. A licensee under subsection 2 may not practice a primary modality without meeting the requirements for each specific primary modality being practiced. However, a licensee under subsection 2 may practice other modalities recognized by rule upon meeting the continuing education requirements for each modality practiced by the licensee.

4. An applicant who is not licensed for a primary modality under subsection 2 may qualify for licensure to practice a modality recognized by the board, other than the primary modalities, by complying with certification or registration requirements established by the board by rule. The scope of a license issued under this subsection limits the licensee to the practice of the specific modality for which the applicant meets the requirement. However, a license issued under this subsection may be issued in

conjunction with a license for additional modalities issued under subsection 7.

5. The board may establish by rule specific changes or exceptions for those modalities in which the accreditation agency or certification organization differs in certification or registration requirements from this chapter.

~~3.~~6. The board~~, upon application and payment of proper fees,~~ may grant a license to an ~~individual~~applicant who submits the necessary application and fees who has been licensed, certified, or registered to perform or administer medical imaging or radiation therapy ~~procedures~~ in another jurisdiction if that jurisdiction's standards of licensure are substantially equivalent to those provided in this chapter in accordance with rules adopted by the board.

7. The board may establish unique individualized licensing and practice standards and requirements for an applicant who does not meet the licensure requirements to receive a license in at least one primary modality of medical imaging or radiation therapy under subsection 2, or who meets the licensure requirements for one primary modality but not for another primary modality the applicant desires to practice.

   a. The board may grant a license limited to one or more modalities practiced by an applicant for three or more of the five years preceding January 1, 2017. The board may establish standards and requirements for the licensee designed to maintain reasonable access to public services and to promote public safety, including continuing education. A license granted for a specified modality under this subdivision expires and may not be renewed if the licensee attains a license in that modality under subsection 2 or 4.

   b. The board may grant a license to an applicant who began practice after December 31, 2016, for a specified modality or modalities if the applicant passes a board-approved examination and maintains specified continuing education requirements for each modality. The board may grant a conditional license allowing an applicant under this subdivision to practice before passing the examination.

SECTION 9. AMENDMENT. Section 43-62-15 of the North Dakota Century Code is amended and reenacted as follows:

43-62-15. Scope of practice.

1. A license issued by the board under this chapter must specify each medical imaging or radiation therapy modality for which the licensee is qualified to practice under section 43-62-14.

2. The board shall ~~establish licensure~~adopt by rule standards concerning scope of practice for ~~the following~~ medical imaging and radiation therapy modalities, including:

   a. Nuclear medicine technologist~~.~~;

   b. Radiation therapist~~.~~;

   c. Radiographer~~.~~;

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d. Radiologist assistant~~.~~;

e. Sonographer; and

f. Magnetic resonance imaging technologist.

~~2.~~3. ~~An individual holding a license under this chapter may perform~~A licensee's performance of medical imaging or radiation therapy ~~procedures~~ on humans for diagnostic or therapeutic purposes ~~only~~must be by written, facsimile, electronic, or verbal prescription of an individual authorized by this state to prescribe medical imaging or radiation therapy ~~procedures~~ and must be under the supervision of a licensed practitioner.

~~3.~~4. ~~An individual holding a license under this chapter may perform~~A licensee's performance of medical imaging and radiation therapy ~~procedures~~ on humans for diagnostic or therapeutic purposes ~~only within~~is limited to the scope of the medical imaging and radiation therapy modality of that license as specified under the rules adopted by the board.

SECTION 10. AMENDMENT. Section 43-62-18 of the North Dakota Century Code is amended and reenacted as follows:

43-62-18. Disciplinary action.

The board may take disciplinary action against a licensee by any of the following means:

1. Revocation of license.
2. Suspension of license.
3. Probation.
4. Imposition of stipulations, limitations, or conditions relating to the performance of medical imaging or radiation therapy ~~procedures~~.
5. Letter of censure.
6. Imposition of a penalty, not to exceed one thousand dollars for any single disciplinary action~~.~~

~~Any fines collected by the board~~, which must be deposited in the state general fund.

7. Payment of the board's expenses, including legal fees, which may be deposited in the board's operating fund.

SECTION 11. AMENDMENT. Subsections 7 and 13 of section 43-62-19 of the North Dakota Century Code are amended and reenacted as follows:

7. The violation of any provision of this chapter ~~or~~, any rule of the board, or any federal or state law applicable to the practice of medical imaging or radiation therapy, or any action, stipulation, limitation, condition, or agreement imposed by the board or its investigative panels.

13. The failure to maintain in good standing, including completion of continuing education or recertification requirements, a certification from a ~~nationally-recognized~~ certification organization recognized by the board for the medical imaging or radiation therapy modality for which a license has been issued by the board.

SECTION 12. EMERGENCY. This Act is declared to be an emergency measure."

Renumber accordingly

Date: 2/7 2017

Roll Call Vote #: 1

2017 SENATE STANDING COMMITTEE
ROLL CALL VOTES
BILL/RESOLUTION NO. 2198

Senate Human Services Committee

☐ Subcommittee

Amendment LC# or Description: Mr. Ericksons proposed amendment, attach. #1

Recommendation: ☑ Adopt Amendment
☐ Do Pass ☐ Do Not Pass ☐ Without Committee Recommendation
☐ As Amended ☐ Rerefer to Appropriations
☐ Place on Consent Calendar

Other Actions: ☐ Reconsider ☐ _____

Motion Made By Sen. Heckaman Seconded By Sen. Larsen

Senators	Yes	No	Senators	Yes	No
Senator Judy Lee (Chairman)	X		Senator Joan Heckaman	X	
Senator Oley Larsen (Vice-Chair)	X		Senator Merrill Piepkorn	X	
Senator Howard C. Anderson, Jr.	X				
Senator David A. Clemens	X				
Senator Curt Kreun	X				

Total (Yes) 7 No 0

Absent 0

Floor Assignment _____

If the vote is on an amendment, briefly indicate intent:

Date: 2/1 2017

Roll Call Vote #: 2

2017 SENATE STANDING COMMITTEE
ROLL CALL VOTES

BILL/RESOLUTION NO. 2198

Senate Human Services Committee

☐ Subcommittee

Amendment LC# or Description: _____

Recommendation: ☐ Adopt Amendment
☒ Do Pass ☐ Do Not Pass ☐ Without Committee Recommendation
☒ As Amended ☐ Rerefer to Appropriations
☐ Place on Consent Calendar

Other Actions: ☐ Reconsider ☐ _____

Motion Made By Sen. Heckaman Seconded By Sen Larsen

Senators	Yes	No	Senators	Yes	No
Senator Judy Lee (Chairman)	X		Senator Joan Heckaman	X	
Senator Oley Larsen (Vice-Chair)	X		Senator Merrill Piepkorn	X	
Senator Howard C. Anderson, Jr.	X				
Senator David A. Clemens	X				
Senator Curt Kreun	X				

Total (Yes) 7 No 0

Absent 0

Floor Assignment Sen. Lee

If the vote is on an amendment, briefly indicate intent:

Date: 2/13 2017

Roll Call Vote #: 1

2017 SENATE STANDING COMMITTEE
ROLL CALL VOTES

BILL/RESOLUTION NO. 2198

Senate Human Services Committee

☐ Subcommittee

Amendment LC# or Description: _____

Recommendation: ☐ Adopt Amendment
☐ Do Pass ☐ Do Not Pass ☐ Without Committee Recommendation
☐ As Amended ☐ Rerefer to Appropriations
☐ Place on Consent Calendar

Other Actions: ☒ Reconsider ☐ _____

Motion Made By Sen. Heckaman Seconded By Sen. Larson

Senators	Yes	No	Senators	Yes	No
Senator Judy Lee (Chairman)			Senator Joan Heckaman		
Senator Oley Larsen (Vice-Chair)			Senator Merrill Piepkorn		
Senator Howard C. Anderson, Jr.					
Senator David A. Clemens					
Senator Curt Kreun					

Total (Yes) Passes No _____

Absent _____

Floor Assignment _____

If the vote is on an amendment, briefly indicate intent:

Voice Vote

Date: 2/13 2017

Roll Call Vote #: 2

2017 SENATE STANDING COMMITTEE
ROLL CALL VOTES
BILL/RESOLUTION NO. 2198

Senate Human Services Committee

☐ Subcommittee

Amendment LC# or Description: 17.8044.02002

Recommendation: ☒ Adopt Amendment
☐ Do Pass ☐ Do Not Pass ☐ Without Committee Recommendation
☐ As Amended ☐ Rerefer to Appropriations
☐ Place on Consent Calendar

Other Actions: ☐ Reconsider ☐ _____

Motion Made By Sen. Heckaman Seconded By Sen. Larsen

Senators	Yes	No	Senators	Yes	No
Senator Judy Lee (Chairman)	X		Senator Joan Heckaman	X	
Senator Oley Larsen (Vice-Chair)	X		Senator Merrill Piepkorn	X	
Senator Howard C. Anderson, Jr.	X				
Senator David A. Clemens	X				
Senator Curt Kreun	X				

Total (Yes) 7 No 0

Absent 0

Floor Assignment _____

If the vote is on an amendment, briefly indicate intent:

Date: 2/13 2017

Roll Call Vote #: 3

2017 SENATE STANDING COMMITTEE
ROLL CALL VOTES
BILL/RESOLUTION NO. 2198

Senate Human Services Committee

☐ Subcommittee

Amendment LC# or Description: _____

Recommendation: ☐ Adopt Amendment
☒ Do Pass ☐ Do Not Pass ☐ Without Committee Recommendation
☒ As Amended ☐ Rerefer to Appropriations
☐ Place on Consent Calendar

Other Actions: ☐ Reconsider ☐ _____

Motion Made By Sen. Heckaman Seconded By Sen. Larsen

Senators	Yes	No	Senators	Yes	No
Senator Judy Lee (Chairman)	X		Senator Joan Heckaman	X	
Senator Oley Larsen (Vice-Chair)	X		Senator Merrill Piepkorn	X	
Senator Howard C. Anderson, Jr.	X				
Senator David A. Clemens	X				
Senator Curt Kreun	X				

Total (Yes) 7 No 0

Absent 0

Floor Assignment Sen. Lee

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

SB 2198: Human Services Committee (Sen. J. Lee, Chairman) recommends **AMENDMENTS AS FOLLOWS** and when so amended, recommends **DO PASS** (7 YEAS, 0 NAYS, 0 ABSENT AND NOT VOTING). SB 2198 was placed on the Sixth order on the calendar.

Page 1, line 1, after "A BILL" replace the remainder of the bill with "for an Act to amend and reenact sections 43-62-01, 43-62-02, 43-62-03, 43-62-04, 43-62-08, 43-62-09, 43-62-11, 43-62-14, 43-62-15, and 43-62-18, and subsections 7 and 13 of section 43-62-19 of the North Dakota Century Code, relating to the regulation of medical imaging and radiation therapy; and to declare an emergency.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. AMENDMENT. Section 43-62-01 of the North Dakota Century Code is amended and reenacted as follows:

43-62-01. Definitions.

As used in this chapter:

1. "Board" means the North Dakota medical imaging and radiation therapy board ~~of examiners~~.

2. "Certification organization" means a national certification organization that specializes in the certification and registration of ~~certification of~~ medical imaging and radiation therapy technical personnel and which has programs accredited by the national commission for certifying agencies, American national standards institute or the international organization for standardization, or other accreditation organization recognized by the board.

3. "Licensed practitioner" means a licensed physician, advanced practice registered nurse, ~~surgeon,~~ chiropractor, dentist, or podiatrist.

4. "Licensee" means an individual licensed by the board to perform medical imaging or radiation therapy ~~procedures~~ and operate medical imaging or radiation therapy equipment, including a nuclear medicine technologist, radiation therapist, radiographer, radiologist assistant, ~~or~~ sonographer, or magnetic resonance imaging technologist.

5. "Medical imaging" means the performance of any diagnostic or interventional procedure or operation of medical imaging equipment intended for use in the diagnosis or visualization of disease or other medical conditions in human beings, including magnetic resonance imaging, fluoroscopy, nuclear medicine, sonography, or x-rays.

6. "Medical physicist" means an individual who is certified by the American board of radiology, American board of medical physics, American board of science in nuclear medicine, or Canadian college of physics in medicine in radiological physics or one of the subspecialties of radiological physics.

7. "Primary modality" means an individual practicing as a nuclear medicine technologist, radiation therapist, radiographer, radiologist assistant, sonographer, or magnetic resonance imaging technologist.

8. "Protected health information" has the same meaning as provided under section 23-01.3-01.

9. "Radiation therapy" means the performance of any procedure or operation of radiation therapy equipment intended for use in the treatment of disease or other medical conditions in human beings.

~~8.~~10. "Radiation therapist" means ~~a nonphysician licensed by the board to perform radiation therapy~~an individual, other than a licensed practitioner or authorized user, who performs procedures and ~~operate~~applies ionizing radiation ~~therapy equipment~~emitted from x-ray machines, particle accelerators, or sealed radioactive sources to human beings for therapeutic purposes.

SECTION 2. AMENDMENT. Section 43-62-02 of the North Dakota Century Code is amended and reenacted as follows:

43-62-02. License required.

~~After December 31, 2015, an~~An individual may not perform or offer to perform medical imaging or radiation therapy ~~procedures~~ on humans for diagnostic or therapeutic purposes ~~as defined in this chapter~~ or otherwise indicate or imply that the individual is licensed to perform medical imaging or radiation therapy unless that individual is licensed under this chapter.

SECTION 3. AMENDMENT. Section 43-62-03 of the North Dakota Century Code is amended and reenacted as follows:

43-62-03. Exemptions.

This chapter does not apply to the following:

1. A licensed practitioner performing medical imaging or radiation therapy.
2. A dental assistant or dental hygienist licensed under chapter 43-20.
3. A student enrolled in and attending a school or college of medicine, medical imaging, or radiation therapy who performs medical imaging or radiation therapy ~~procedures~~ on humans while under the supervision of a licensed practitioner or a radiographer, radiation therapist, nuclear medicine technologist, radiologist assistant, ~~or~~ sonographer, or magnetic resonance imaging technologist holding a license in the medical imaging or radiation therapy modality for which the student is enrolled or attending ~~under this chapter~~.
4. An individual administering medical imaging or radiation ~~procedures~~therapy and who is employed by the United States government when performing duties associated with that employment.
5. A nurse licensed under chapter 43-12.1 who performs sonography on a focused imaging target to assess specific and limited information about a patient's immediate medical condition or to provide real-time visual guidance for another procedure.
6. A limited x-ray machine operator who meets the requirements of rules adopted by the state department of health under section 23-20.1-04.
7. Medical imaging performed as a part of a post-mortem examination or on other nonliving remains.
8. Medical imaging performed by emergency medical services personnel certified or licensed under section 23-27-04.3.

SECTION 4. AMENDMENT. Section 43-62-04 of the North Dakota Century Code is amended and reenacted as follows:

43-62-04. North Dakota medical imaging and radiation therapy board ~~of examiners~~.

1. The governor shall appoint a ~~state board of~~North Dakota medical imaging and radiation therapy ~~medical examiners~~board consisting of nine members including:

   a. Five medical imaging or radiation therapy professionals~~, one each from~~ chosen to represent the areas of radiography, radiation therapy, nuclear medicine technology, sonography, magnetic resonance imaging, and medical imaging or radiation therapy education;

   b. One radiologist;

   c. One medical physicist;

   d. One physician from a rural area; and

   e. One public member.

2. Each medical imaging or radiation therapy member of the board must:

   a. Be a practicing medical imaging or radiation therapy licensee of integrity and ability.

   b. Be a resident of and currently licensed pursuant to subsection 2 of section 43-62-14 in the member's ~~medical imaging or radiation therapy~~primary modality in this state.

   c. Be currently certified by a ~~nationally recognized~~ certification organization in the member's ~~medical imaging or radiation therapy~~primary modality.

   d. Have been engaged in the active practice of the medical imaging or radiation therapy profession within this state for a period of at least five years.

3. Each public member of the board must:

   a. Be a resident of this state.

   b. Be at least twenty-one years of age.

   c. Not be affiliated with any group or profession that provides or regulates health care.

4. The radiologist, medical physicist, and physician members of the board must:

   a. Be a practicing radiologist, medical physicist, or physician of integrity and ability.

   b. Be a resident of and be licensed to practice as a physician or registered as a medical physicist in this state.

5. An individual appointed to the board shall qualify by taking the oath required of civil officers.

SECTION 5. AMENDMENT. Section 43-62-08 of the North Dakota Century Code is amended and reenacted as follows:

43-62-08. Meetings of the board.

The board shall hold at least two meetings each year to conduct business and to review the standards and rules for improving the administration of medical imaging or radiation therapy ~~procedures~~. The board shall establish the procedures for calling, holding, and conducting regular and special meetings. A majority of board members constitutes a quorum.

SECTION 6. AMENDMENT. Section 43-62-09 of the North Dakota Century Code is amended and reenacted as follows:

43-62-09. Powers of the board.

In addition to any other powers, the board may:

1. Administer this chapter.
2. Issue interpretations of this chapter.
3. Adopt rules as may be necessary to carry out this chapter.
4. Employ and fix the compensation of personnel the board determines necessary to carry into effect this chapter and incur other expenses necessary to effectuate this chapter.
5. Issue, renew, deny, suspend, or revoke licenses and carry out any disciplinary actions authorized by this chapter.
6. Set fees for licensure, license renewal, and other services deemed necessary to carry out the purposes of this chapter.
7. Conduct investigations for the purpose of determining whether violations of this chapter or grounds for disciplining licensees exist. The board may establish an investigative panel to conduct an investigation under this subsection and may subpoena records.
8. Develop standards and adopt rules for the improvement of the administration of medical imaging or radiation therapy ~~procedures~~ in this state.
9. Employ or contract with one or more certification organizations known to provide acceptable examinations leading to certification of technical personnel performing medical imaging or radiation therapy ~~procedures~~.
10. Impose sanctions, deny licensure, levy fines, or seek appropriate civil or criminal penalties against anyone who violates or attempts to violate examination security, anyone who obtains or attempts to obtain licensure by fraud or deception, or anyone who knowingly assists in that type of activity.
11. Require information on an applicant's or licensee's fitness, qualifications, and previous professional record and performance from recognized data sources, licensing and disciplinary authorities of other jurisdictions, certification organizations, professional education and training institutions, liability insurers, health care institutions, or other employers, and law enforcement agencies be reported to the board. The board or its investigative panels may require an applicant for licensure or a licensee who is the subject of a disciplinary investigation to submit to a statewide

and nationwide criminal history record check. The nationwide criminal history record check must be conducted in the manner provided by section 12-60-24. All costs associated with the criminal history record check are the responsibility of the licensee or applicant.

12. Require the self-reporting by an applicant or a licensee of any information the board determines may indicate possible deficiencies in practice, performance, fitness, or qualifications.

13. Establish a mechanism for dealing with a licensee who abuses or is dependent upon or addicted to alcohol or other addictive chemical substances, and enter an agreement with a professional organization possessing relevant procedures and techniques the board has evaluated and approved for the organization's cooperation or participation.

14. Issue a cease and desist order, obtain a court order, or an injunction to halt unlicensed practice, a violation of this chapter, or a violation of the rules of the board.

15. Issue a conditional, restricted, or otherwise circumscribed license as the board determines necessary.

SECTION 7. AMENDMENT. Section 43-62-11 of the North Dakota Century Code is amended and reenacted as follows:

43-62-11. Records of the board.

The board shall keep a record of its proceedings and applications for licensure. An application record must be preserved for at least six years beyond the disposition of the application or the last annual registration of the licensee, whichever is later. Protected health information in the possession of the board is an exempt record.

SECTION 8. AMENDMENT. Section 43-62-14 of the North Dakota Century Code is amended and reenacted as follows:

43-62-14. License requirements.

1. The board ~~may~~shall issue a license to ~~any~~a qualified applicant ~~who has submitted~~. To qualify for licensure, an applicant shall comply with the modality licensure requirements under subsection 2, 3, 4, or 7, comply with board requirements adopted by rules, and submit satisfactory evidence, verified by oath or affirmation, that the applicant:

   a. At the time of the application is at least eighteen years of age.

   b. Has successfully completed a four-year course of study in a ~~secondary~~high school ~~approved by the state board of higher education~~ or passed an approved equivalency test.

2. ~~In addition to the requirements of subsection 1~~To qualify for licensure to practice one or more of the primary modalities as a nuclear medicine technologist, radiation therapist, radiographer, radiologist assistant, sonographer, or magnetic resonance imaging technologist, an ~~individual seeking to obtain a license~~applicant shall meet the requirements for ~~a~~the applicable specific modality ~~of medical imaging or radiation therapy shall comply with the following requirements~~, including:

   a. Provide satisfactory completion of a course of study ~~in radiography, radiation therapy, nuclear medicine technology, radiologist assistant, or sonography, or its equivalent to be determined by the~~

~~board~~appropriate for the specified modality. The curriculum for each course of study may not be less stringent than the standards approved by the joint review committee on education in radiologic technology, joint review committee on nuclear medicine technology, commission on accreditation of allied health education programs, or any other appropriate accreditation agency approved by the board, provided the standards are not in conflict with board policy.

b. Pass a certification examination established or approved by the board given by a certification organization recognized by the board.

c. Show evidence of compliance with continuing education or recertification requirements required for registration of certification by a certification organization recognized by the board.

3. A licensee under subsection 2 may not practice a primary modality without meeting the requirements for each specific primary modality being practiced. However, a licensee under subsection 2 may practice other modalities recognized by rule upon meeting the continuing education requirements for each modality practiced by the licensee.

4. An applicant who is not licensed for a primary modality under subsection 2 may qualify for licensure to practice a modality recognized by the board, other than the primary modalities, by complying with certification or registration requirements established by the board by rule. The scope of a license issued under this subsection limits the licensee to the practice of the specific modality for which the applicant meets the requirement. However, a license issued under this subsection may be issued in conjunction with a license for additional modalities issued under subsection 7.

5. The board may establish by rule specific changes or exceptions for those modalities in which the accreditation agency or certification organization differs in certification or registration requirements from this chapter.

~~3.~~6. The board~~, upon application and payment of proper fees,~~ may grant a license to an ~~individual~~applicant who submits the necessary application and fees who has been licensed, certified, or registered to perform or administer medical imaging or radiation therapy ~~procedures~~ in another jurisdiction if that jurisdiction's standards of licensure are substantially equivalent to those provided in this chapter in accordance with rules adopted by the board.

7. The board may establish unique individualized licensing and practice standards and requirements for an applicant who does not meet the licensure requirements to receive a license in at least one primary modality of medical imaging or radiation therapy under subsection 2, or who meets the licensure requirements for one primary modality but not for another primary modality the applicant desires to practice.

a. The board may grant a license limited to one or more modalities practiced by an applicant for three or more of the five years preceding January 1, 2017. The board may establish standards and requirements for the licensee designed to maintain reasonable access to public services and to promote public safety, including continuing education. A license granted for a specified modality under this subdivision expires and may not be renewed if the licensee attains a license in that modality under subsection 2 or 4.

b. The board may grant a license to an applicant who began practice after December 31, 2016, for a specified modality or modalities if the

applicant passes a board-approved examination and maintains specified continuing education requirements for each modality. The board may grant a conditional license allowing an applicant under this subdivision to practice before passing the examination.

SECTION 9. AMENDMENT. Section 43-62-15 of the North Dakota Century Code is amended and reenacted as follows:

43-62-15. Scope of practice.

1. A license issued by the board under this chapter must specify each medical imaging or radiation therapy modality for which the licensee is qualified to practice under section 43-62-14.

2. The board shall ~~establish licensure~~adopt by rule standards concerning scope of practice for ~~the following~~ medical imaging and radiation therapy modalities, including:

   a. Nuclear medicine technologist~~.~~;

   b. Radiation therapist~~.~~;

   c. Radiographer~~.~~;

   d. Radiologist assistant~~.~~;

   e. Sonographer; and

   f. Magnetic resonance imaging technologist.

~~2.~~3. ~~An individual holding a license under this chapter may perform~~A licensee's performance of medical imaging or radiation therapy ~~procedures~~ on humans for diagnostic or therapeutic purposes ~~only~~must be by written, facsimile, electronic, or verbal prescription of an individual authorized by this state to prescribe medical imaging or radiation therapy ~~procedures~~ and must be under the supervision of a licensed practitioner.

~~3.~~4. ~~An individual holding a license under this chapter may perform~~A licensee's performance of medical imaging and radiation therapy ~~procedures~~ on humans for diagnostic or therapeutic purposes ~~only within~~is limited to the scope of the medical imaging and radiation therapy modality of that license as specified under the rules adopted by the board.

SECTION 10. AMENDMENT. Section 43-62-18 of the North Dakota Century Code is amended and reenacted as follows:

43-62-18. Disciplinary action.

The board may take disciplinary action against a licensee by any of the following means:

1. Revocation of license.
2. Suspension of license.
3. Probation.
4. Imposition of stipulations, limitations, or conditions relating to the performance of medical imaging or radiation therapy ~~procedures~~.

5. Letter of censure.

6. Imposition of a penalty, not to exceed one thousand dollars for any single disciplinary action.

~~Any fines collected by the board~~, which must be deposited in the state general fund.

7. Payment of the board's expenses, including legal fees, which may be deposited in the board's operating fund.

SECTION 11. AMENDMENT. Subsections 7 and 13 of section 43-62-19 of the North Dakota Century Code are amended and reenacted as follows:

7. The violation of any provision of this chapter ~~or~~, any rule of the board, or any federal or state law applicable to the practice of medical imaging or radiation therapy, or any action, stipulation, limitation, condition, or agreement imposed by the board or its investigative panels.

13. The failure to maintain in good standing, including completion of continuing education or recertification requirements, a certification from a ~~nationally recognized~~ certification organization recognized by the board for the medical imaging or radiation therapy modality for which a license has been issued by the board.

SECTION 12. EMERGENCY. This Act is declared to be an emergency measure."

Renumber accordingly

2017 HOUSE HUMAN SERVICES

SB 2198

2017 HOUSE STANDING COMMITTEE MINUTES

Human Services Committee
Fort Union Room, State Capitol

SB 2198
3/7/2017
28980

☐ Subcommittee
☐ Conference Committee

Committee Clerk Signature Jeanette

Explanation or reason for introduction of bill/resolution:

Relating to the regulation of medical imaging and radiation therapy; and to declare an emergency.

Minutes: 1-10 attachments

Chairman Weisz: We are opening the hearing on SB 2198.

Judy Lee: Senator from District 13 West Fargo and I'm here to introduce you to SB 2198. You may recall that we had legislation about medical imaging. In other words, licensing or certifying those individuals who are doing various kinds of, loosely called x-ray technicians. They're talking about human radio isotopes. There are many specialties now, Porter, who is the president of the president of the board of medical imaging, will go through the details of the bill. We work closely together with the house bill association.

It's very important to make sure that while we are looking at the certification of these bills., that we're also making sure that we're not intruding into the abilities of the rural hospitals and clinics in particular, to have the staffing that they need in order to make sure that things are done properly. You know about sonograms, and you know about MRI's, and you probably know about treatments that are given for a cancer patient with radiation as well. It's really important to consider how different each of those is different from each other. And how important it is for those technicians who are doing these various modalities, know exactly what they're doing. These are remarkably sophisticated equipment that are used for these particular procedures. They are very different from one another, as is true of everything, but certainly in medical equipment.

If someone is doing an ultrasound on a pregnant woman, the way that wand is used is an extremely important thing, because the physician is going to read the test results of that scan. If that scan isn't done properly, something will be missed.
We learned in the committee hearing, that the power of the magnetic force and in MRI's is 20,000 times that of a bar magnet.

So what this bill is calling for, is that the certification by those individuals who are doing these

procedures have to be certified in those procedures or modalities that they are performing.

The board of medical imaging and the ND Hospital Association is behind this or work together and are here to support this. This is important for the safety and well-being of the people of ND. We need to make sure the folks who are currently doing this work, are encouraged and required to make sure they are working on certification and with continuing education.

Chairman Weisz: Are there any questions?

Vice Chairman Rohr: On page 5 it says the board may establish an investigative panel to conduct an investigation under the subsection and may subpoena records. Wouldn't it have to go through a court of law to get that? Or would the board just be able to do that?

Senator Judy Lee: I'm going to defer that to Shirley Porter. But I believe that this will give them the ability to request the records that would be applicable to a situation in which they would be investigating.

Chairman Weisz: Any questions from the committee? Further testimony in support of 2198?

Shirley Porter: I currently serve as president of the ND Medical Imaging and Radiation Therapy board. The Imaging and Medical board has a responsibility to protect the public by licensing and regularly personnel performing medical imaging procedures in radiation therapy treatment. (See attachment 1) 8:06-17:34 Once again compromises have been discussed and agreed upon by the NDMIRT Board and by the ND Hospital Association in the Senate as the most efficient and safest standard for medical imaging.

Representative Weisz: In section 8, if they're certified in primary modalities, you'll let them practice the other modalities forever, as long as they do continuing education. So they never have to get certified in the other modalities? Is that correct?

Shirley Porter: You are correct.

Chairman Weisz: But going forward will they need to be certified in each modality?

Shirley Porter: Only the 6 primary modalities after the date. Going forward they will need to have their registry if they're practicing in more than the 6. The other modalities, such as the CT and the mammograms they would not have to have the (18:49) certification in those, only performing continuing education.

Chairman Weisz: We'll go back to the section to investigating subpoena records, and I know some boards do that, if they come to this committee, we normally make sure the records are limited to members, not to the ability to subpoena some other party. If you wanted to do that, it would have to be through the state's attorney. I know other boards have that ability.

Shirley Porter: I will leave that for Edward Erickson?

Representative Westlind: In Cando, with 3 radiologists and 3 x-ray techs., what modalities would they be able to practice? Only one is on at a time, so if they have mammograms or x-rays, CT scans, what areas would they be able to practice or do those procedures in?

Shirley Porter: Those who are not registered in the 6 primary modality areas, those individuals would be grandfathered into still performing them, but with continuing education. They currently are not required to do continued education, specifically relevance, they could just be under the umbrella of radiography. If you have individuals moving forward, after the date, January 17th, those individuals if you have a radiographer, who is also doing nuclear medicine or ultrasound stenography, they will be to gain registry.
I do have hand-outs from Dr. Fogerty. He is working in Jamestown, and he submitted a 1-page testimony. (See attachment 2) (21:42)

Chairman Weisz: Is there further testimony in support?

Assistant Attorney General Edward Erickson: I work with the board. The attorney general's office isn't taking position one way or the other on the bill. But I'm here to answer technical questions on behalf of the board. I understand you have some questions about the subpoena authority and investigative panels.

Chairman Weisz: What authority would the board have under the purposed legislation?

Assistant Attorney General Edward Erickson: Additional language on page 5 line 21-23 would allow the board to establish an investigative panel similar to investigative panels on other health care related boards where the board would appoint experts in the field to investigate a claim of malpractice. This is very useful thing because we don't want the board members who will ultimately be in the initial state of judgement in a disciplinary matter from investigating matters. You want to separate the investigator from the decision maker. The investigative panel gives us that authority to have an independent committee review medical records for malpractice issues. The additional law requests to subpoena records is primarily the need to obtain records from hospitals and clinics. There is an exception in the federal HIPA law that protects medical information or providing information to regulatory boards. However, in my experience most hospitals and clinics would prefer to have a subpoena to protect them against claims relating to HIPA. That's the reason, for that being added.
The subpoena would come from the Attorney General's officer.

Chairman Weisz: Would that apply if I was a client of Miss Porter, the board could subpoena me?

Assistant Attorney General Edward Erickson: Yes, if there were relevant medical records that we were seeking to obtain.

Chairman Weisz: Would the language go beyond medical records?

Assistant Attorney General Edward Erickson: Yes, the language does not review medical records, because their might be records relating to other things that are necessary to look at. The first complaint the board had to handle, wasn't so much about a medical (24:36) issue, but was about the licensee's conduct with a patient. It was a male licensing with a female

patient performing an ultrasound in a sensitive area. The patient complained about the licensee's behavior. We were able to obtain records from the hospital about their internal investigation to the matter.

Chairman Weisz: Any questions for the committee?

Vice Chairman Karen M. Rohr: Would that include the Human Service records?

Assistant Attorney General Edward Erickson: Yes, in that case, we need to look at those records.

Chairman Weisz: Further questions for the committee? Further testimony in support?

Tim Blasl from the ND Hospital Association: I don't have any formal testimony today, just to say that we support the bill as amended. Senator Lee said we did meet quite a few times and did compromise. So again, based on that, we support the bill as amended. I just wanted to be on record.

Chairman Weisz: Questions for the committee? Further testimony in support? (26:11)

Amy Hofmann: I am a medical imaging practitioner that has been trained and educated **in** North Dakota; Testimony in support of SB 2198 (See Attachment 3) (28:15) - (38:07) SB2198 clarifies chapter 43-26 of the North Dakota Century Code allowing the NDMIRT imaging board to fully enact the law and ensure that technologists have been appropriately educated and are clinically competent to perform medical imaging procedures in their area of practice,

Chairman Weisz: Any questions? Any further testimony in support?

Brenda Krogen: Chairman of the North Dakota Society of Radiologic Technologists Board: Testimony in support of SB 2198 **(**attachment 4-8) (38:07-47:02) Specific education, knowledge and competency requirements are needed to ensure our patients are taken care of to the best of our ability. Attachments 5-8 handed in by Brenda Krogen.

Donna Newman: Lead Tech in a Nuclear Medicine Department. (attachment 5) written testimony only.

Greg Morrison: M.A.R.T. (attachment 6) written testimony only.

Cynthia Milkey: BSRT (attachment 7) written testimony only.

Donald E. Kerns: (attachment 8) written testimony only.

Chairman Weisz: Any questions from the committee? Is there further testimony in support? (47:58)

Ann Bell-Pfeifer: (attachment 9) I've served the Dakota Society of Radiological Technologists as Chairman of the board president, and licenser. It is vitally important that we deliver optimal patient care in every North Dakota healthcare facility.

Brent Colby: Diagnostic Radiological Physicist (attachment 10) written testimony only.

Chairman Weisz: Is there any other support for SB 2198? We will close the hearing on SB 2198.

2017 HOUSE STANDING COMMITTEE MINUTES

Human Services Committee
Fort Union Room, State Capitol

SB 2198
3/7/2017
28833

☐ Subcommittee
☐ Conference Committee

Committee Clerk Signature Jodey Kopple

Explanation or reason for introduction of bill/resolution:

Relating to the regulation of medical imaging and radiation therapy; and to declare an emergency.

Minutes:

Chairman Weisz: opened the discussion on SB 2198.

Representative Schneider: I move a do pass on SB 2198

Representative McWilliams: second

Chairman Weisz: Roll call vote for a do pass on SB 2198.

Roll call vote taken yes 10 No 2 Absent 2

Chairman Weisz: Do I have a volunteer to carry this one.
Representative Seibel: I will carry this one.

Chairman Weisz: closed.

Date: 3/7/17
Roll Call Vote #: 1

2017 HOUSE STANDING COMMITTEE
ROLL CALL VOTES
BILL/RESOLUTION NO. SB. 2198

House Human Services Committee

☐ Subcommittee

Amendment LC# or Description: _____

Recommendation: ☐ Adopt Amendment
☑ Do Pass ☐ Do Not Pass ☐ Without Committee Recommendation
☐ As Amended ☐ Rerefer to Appropriations
☐ Place on Consent Calendar

Other Actions: ☐ Reconsider ☐ _____

Motion Made By Rep. Schneider Seconded By Rep. McWilliams

Representatives	Yes	No	Representatives	Yes	No
Chairman Weisz		✓	Rep. P. Anderson	✓	
Vice Chairman Rohr		✓	Rep. Schneider	✓	
Rep. B. Anderson	absent				
Rep. D. Anderson	✓				
Rep. Damschen	✓				
Rep. Devlin	absent				
Rep. Kiefert	✓				
Rep. McWilliams	✓				
Rep. Porter	✓				
Rep. Seibel	✓				
Rep. Skroch	✓				
Rep. Westlind	✓				

Total (Yes) 10 No 2

Absent 2

Floor Assignment Rep. Seibel

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

SB 2198, as engrossed: Human Services Committee (Rep. Weisz, Chairman) recommends **DO PASS** (10 YEAS, 2 NAYS, 2 ABSENT AND NOT VOTING). Engrossed SB 2198 was placed on the Fourteenth order on the calendar.

2017 TESTIMONY

SB 2198

SB 2198
Attach #1
1/24

Senate Human Services Committee

SB2198

January 24, 2017

Chairman Lee and Committee Members, I am Shirley Porter and I serve as President of the North Dakota Medical Imaging and Radiation Therapy Board. Thank you, Senator Lee, for sponsoring our licensing act legislation.

The North Dakota Medical Imaging and Radiation Therapy Board has the responsibility to protect the public by licensing and regulating personnel performing medical imaging procedures and radiation therapy treatments. This responsibility includes setting minimum standards for licensure, establishing scopes of practice, enforcing disciplinary actions, further developing standards, and adopting rules for the improvement of the administration of medical imaging or radiation therapy procedures in North Dakota.

We appear before you this session with updates to our chapter in order to clarify the intent of the legislation last session in SB2236. Let me walk you through the bill.

Section 1 amends definitions to reflect current standard nationally recognized definitions and remove any redundancies.

Section 1, Sub 4 had attempted to list the individual modalities covered under the chapter. This update allows the board to continue to focus on the patient safety and training of all individuals practicing medical imaging. National credentialing organizations such as the American Registry of Radiologic Technologists (ARRT) recognizes well-over 10 modalities; including computed tomography (CT), magnetic resonance imaging (MRI), and cath lab to only mention a few, as specialty trained areas of imaging. This allows the board to stay fluid with the ever-changing practice of medical

imaging and radiation therapy as new areas evolve and other areas may phase out with the arrival of new technologies.

Example: Imagine the ultrasound technologist, scanning your carotid arteries holding a current ultrasound registry also performs your pre-op Chest x-ray. The ultrasound technologist has NO background or education in the use of ionizing radiation. The education, training, and scopes of practice between radiography and ultrasound are starkly different.

Section 1, sub 5 now would include Magnetic Resonance Imaging (MRI) specifically as another modality of specialty training and certification required to practice the medical imaging technology of MRI on humans.

Section 1, sub 7 makes reference to HIPPA.

Section 1 sub 9 updates the definition of a radiation therapist. These individuals are trained to perform radiation therapy, usually on cancer patients aiming high doses of precision radiation at the affected area.

Section 2 simply removes the starting date from the inception bill.

Sections 3, 4, and 5 updates the language that is now common of other licensing boards.

Section 6, sub 7 allows the board to use a panel to investigate violations. This method of investigation is allowed in other professional boards, such as the board of medicine.

Section 6, sub 11 would also require employers to report violations.

Section 7 allows the board to exempt protected health information collected from the licensee. This allows the Board to keep a patient's protected medical information private during complaint investigations but release it as necessary for any legal action.

Section 8, sub 1 assures the applicants are qualified and comply with requirements as adopted by rule.

Section 8, sub 1b removes and corrects that an applicant must have completed high school, and removes the reference to state board of higher education.

Section 8 sub 2, 3, and 4 allows the board to use rule making process to recognize specific changes or exceptions for organizations that vary in their standards and certifications with the necessary applications submitted by the applicant with appropriate fee. This will ensure the licensee will have the correct title, appropriate to their qualified certification, printed on their license ensuring they are practicing within their scope of practice.

The new subsection 3 also allows the Board to accommodate applicants in fields which have different educational or training requirements established by their national certifying or registration agency than those generally recognized by statute. For example, most modalities follow the statutory requirement where a student is certified and ready for licensure upon graduation, but in sonography a student graduates and passes the licensure test but is still required to complete a year's internship before being eligible to receive certification.

Section 8 sub 5 allows some flexibility to the board, which it currently does NOT have, on an individualized basis for an applicant practicing within a critical access hospital. We are asking to be allowed to license these individuals and assure the public that they are properly trained to perform within, at many times, multiple modalities; establish continuing education requirements specific to the modalities they are practicing. The board has been meeting with the North Dakota Hospital Association (NDHA) since August to assist the critical access hospitals with their concerns of retention

and recruitment of qualified individuals. The board wants to continue to assist rural ND in providing medical imaging services while protecting the patient at all times.

Section 9 sub 1-4 assures that "one registry fits all" within medical imaging does not apply. In order to assure the unknowing public that the person performing their examination is qualified and certified the board needs the ability to regulate all medical imaging performed on humans.

Section 10 allows the board to deposit into their operating fund any expenses collected during a disciplinary action. This includes board expenses and legal fees.

Section 11 removes any redundancies.

Section 12 is the emergency clause necessary for the board to enact the rules necessary to fulfill the intent of the legislature.

Madam Chair and Committee Members this concludes my "walk through" of section by section of the bill. Next is a brief overview of the board of medical imaging.

2198
#1
1/24

Senate Human Services Committee

SB2198

January 24, 2017

First of all I want to thank you for recognizing my profession last legislative session by creating a board and licensing process. I have included an attachment I hope you find useful as a quick reference.

The ND Medical Imaging and Radiation Therapy Board (NDMIRT) was created last legislative session with nine members appointed by Governor Dalrymple. I am the Radiography representative that was appointed and was elected President, I am also certificated in Mammography. The board has contracted with a local board management firm for the daily board operations and management. As of this month, January 2017 we currently have about 1215 medical imaging and radiation therapy professionals licensed. Also as of January 2017, North Dakota was the 40th of 41 states that now have standards of regulation for imaging professionals, which leaves only ten states with no standards of regulation for imaging professionals, our neighbor South Dakota is one those states. It is becoming a common precedent of licensure states to license by modality.

Due to 21st century accelerated advancements in technology, patient safety becomes even more of a concern. The time is now and the urgency to promote education and safety is paramount; the mindset of "see one, do one, teach one" is of years past. Ongoing education is readily available, reasonable priced, and at the touch of the fingertips on-line. We want to do better for the citizens of ND, no matter where they live – elevating their level of care can be achieved by elevating the standards of medical imaging. Continuous quality improvement is something all imaging facilities work for on a daily basis.

The board has repeatedly assisted applicants by issuing Conditional Licenses to individuals allowing them to continue to practice in their facilities while either regaining their registry they allowed to lapse or while gaining a registry they do not even currently possess. The board has not caused any imaging services to be discontinued at any facility at any time – we have required education of individuals before we would allow them to continue practicing after we found critical access hospital employees using radiation doses being 3-times what they should be for CT scans of the head. Of the 1215 licenses issued only 20 are Conditional, with only 6 in the modality of radiography. The majority are in sonography (which is Ultrasound) for those individuals who have finished the formal ultrasound program but are required to have one year of work experience before they are allowed to take the ultrasound registry.

It is important to clarify modality certification is ONLY in the areas you are actually performing – you do NOT need to be certified or become certified if you are NOT performing in the modality. The cross-training process to earn certification is 6 years with a one-time renewal of 2 years this equates to 8 years to earn certification again ONLY if you are actually performing in that modality do you need certification. Certification is on-the-job training (OJT) that is done *within* your facility and then an examination through a national organization, American Registry of Radiologic Technologists (ARRT). This is the same national organization that registers radiographers, and other imaging professionals. This is the same organization the board may contract with to provide "state certification" for those individuals that may not meet the eligibility requirements of the national organization, ARRT. The Board may contract with ARRT for **ANY** registry or certification modality exam that ARRT currently has to offer. This can be offered as a "state administered" exam. This would be a perfect avenue for the on-the-job trained (OJT) Ultrasound and Nuclear Medicine technologists to be able to earn registry through the state administered process because currently some individuals do not meet national

eligibility requirements. "Certification attests to the fact that the individual has met initial education, examination, and ethics requirements. Annual registration demonstrates that the individual continues to meet continuing education and ethics requirements. ARRT certification is the best indicator of qualifications to perform radiologic imaging and radiation therapy procedures." – statement by ARRT.

Certification is important. It represents competency and is only needed in the modalities you are currently practicing ensures an applicant has met initial education, examination, and ethics requirements. This practice of licensing by modality is becoming standard practice across the nation especially with the rapid pace of new technologies. The concerns of recruitment to North Dakota should not be an issue, the applicants can be recruited and on-the-job trained (OJT) to the areas needed for certification within your facility.

An example: you recruit a registered radiographer from Montana, which is a licensure state, you on-the-job (OJT) that individual in computed tomography (CT) the way your department has set protocols and procedures with the ability to cover call. That recruit would have 8 years to earn their CT certification under our proposed guidelines. It is common practice within facilities that certification must be completed within 2 years; that is an instructional policy which is more stringent the board's guidelines.

Radiography programs across our state have also recognized the need for more radiographers in the workplace and have risen to the challenge by accepting more students into their radiography programs. This will assist in the shortage of registered radiographers and help to ease the burden of recruitment. There is simply nothing better than North Dakota trained, the work ethic is superior, and our radiography programs are top-notch.

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As you may be aware from your own personal experiences medical imaging is extremely useful to help diagnosis and treat. My desire for each of you and all the citizens of North Dakota is to have a qualified and educated individual performing your imaging. Education and continuing education are the keys to patient safety.

In closing, **I would like to leave you with the thought that the overall general impression the public has of licensed individuals is that they already possess the proper training, have the education, and are staying up to date by doing continued education**. SB2198 would help to ensure that impression the public already holds. As an advocate for the patient, their care and safety come first.

Madam Chair and Committee members, that concludes my formal testimony and I would be happy to answer any questions you may have.

Thank you

Shirley Porter BS RT (R) (M) ARRT

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Medical Imaging Quick Reference Handout

-this is not an all-inclusive list of imaging modalities

-this is intended to be a Quick Reference overview only

Modality	Brief explanation	Common exams	Length of training to earn certification or registry	Required continuing education hours (CEUs)	State-administered exam pathway intention
Radiography (Registry) *(*one registry: American Registry of Radiologic Technologists ARRT)*	x-ray equipment used to produce 2D & 3D images of tissue, organs, bones & vessels	-Chest X-rays, Abdominal X-rays -Hand & Wrist -Leg or Ankle	Associates OR Bachelor degree *24 month program	24 CEUs in 2 years	Eligible to use pathway, do continuing education requirements
Nuclear Medicine (Registry) **2 different competing registries: (ARRT) & Nuclear Medicine Technology Certification Board(NMTCB)*	Uses radiopharmaceuticals & special cameras to produce images of organs & reveal their function	-Gallbladder scan -Bone scan -Heart scan	Associates OR Bachelor degree *24 month program	24 CEUs in 2 years *(*ARRT & NMTCB registry have same CEU requirements)*	Eligible to use pathway, do continuing education requirements
Ultrasound *(sonography is same thing)* (Registry) *(*3 different competing registries: ARRT, American Registry of Diagnostic Medical Sonographers(ARDMS), & Cardiovascular Credentialing International(CCI)*	Uses high-frequency sound waves to create images of anatomy	-OB -Carotid Arteries -Echo -Abdomen -Breast	Associates OR Bachelor degree *24 month program	24 CEUs in 2 years for *ARRT* *OR* 30 CEUs in 3 years for *ARDMS* *OR* 36 CEUs in 3 years for CCI	Eligible to use pathway, do continuing education requirements
Radiation Therapy (Registry) *(one registry: ARRT)*	Administers highly focused forms of radiation to treat cancer & other diseases	-Breast -Prostate	Associates OR Bachelor degree *24 month program	24 CEUs in 2 years	Eligible to use pathway, do continuing education requirements
Radiologist Assistant (RA) (Registry) **two competing registries: ARRT & Certification Board for Radiology Practitioner Assistants(CBRPA)*	Experienced radiographers with additional training that are radiologist extenders	-Performing imaging exams -Joint injections -Barium studies	Master's Degree *must be a radiographer first & complete formal RA program	ARRT:50 CEUs in 2 years *OR* CBRPA: 50 CEUs every year OR Recertify by exam	Eligible to use pathway, do continuing education requirements
Bone Densitometry (BD) (Certification) **OR** International Society of Clinical Bone Densitometry (ISCD) (Certification) *(*two competing pathways: ARRT & ISCD)*	Uses x-ray to measure bone mineral density of a specific site **ARRT Certification is on-the-job (OJT) training, examination, & CEU.*	-Spine -Hip -Heel -Wrist	ARRT Registry *must be a Radiographer, Nuclear Medicine or Radiation Therapist first **OR** ISCD certification *must have a degree in Allied Health field	ARRT: 24 CEUs in 2 years *OR* ISCD: 35 CEUs in 5 years OR Recertify by examination	Eligible to use pathway, do continuing education requirements

Modality	Brief Explanation	Common Exams	Length of training to earn certification or registry	Required continuing education hours (CEUs)	State-administered exam pathway
Computed Tomography (CT) (Certification)	Uses rotating x-ray unit to obtain "slices" of body to view inside of organs	-Head CT -Abdomen CT	*must be a radiographer first, Pass certification exam **ARRT Certification is on-the-job (OJT) training, examination, & CEU.*	12 of 24 CEUs must be specific to CT	Eligible to use pathway, do continuing education requirements
Magnetic Resonance Imaging (MRI) (Certification)	Uses radiofrequency pulses & powerful magnetic field to create detailed images of anatomy	-Breast MRI -Knee MRI -Brain MRI	*must be a radiographer first, Pass certification exam **ARRT Certification is on-the-job (OJT) training, examination, & CEU.*	12 of 24 CEUs must be specific to MRI	Eligible to use pathway, do continuing education requirements
Mammography (Certification)	Uses x-rays to image breast tissue to diagnosis cancer	-Screening mammogram -Diagnostic mammogram	*must be a radiographer first, Pass certification exam **ARRT Certification is on-the-job (OJT) training, examination, & CEU.*	24 CEUs in 2 years plus: (15 CEUs specific to Mammography in 3 years): *Federal requirement*	*Eligible to use pathway, do continuing education requirements (*still checking on Federal requirements if possible)
Quality Management (QM) (Certification)	Individuals that monitor the quality of process & system in an imaging department	-Quality Control tests, monitor timer accuracy & reproducibility	*must be a radiographer first, Pass certification exam **ARRT Certification is on-the-job (OJT) training, examination, & CEU.*	12 of 24 CEUs must be specific to QM	Eligible to use pathway, do continuing education requirements
Cardiac-Interventional Radiology (CI) (Certification)	Fluoroscopic procedures specifically targeted for diagnosis & treatment of cardiac diseases	-Cardiac Cath -Angioplasty	*must be a radiographer first, Pass certification exam **ARRT Certification is on-the-job (OJT) training, examination, & CEU.*	12 of 24 CEUs must be specific to CI	Eligible to use pathway, do continuing education requirements
Vascular-Interventional Radiology (VI) (Certification)	Fluoroscopic procedures specifically targeted for catheter placement & the treatment of vascular diseases	-Stent placement -Vena cava filter placement -Guidance for catheters	*must be a radiographer first, Pass certification exam **ARRT Certification is on-the-job (OJT) training, examination, & CEU.*	12 of 24 CEUs must be specific to VI	Eligible to use pathway, do continuing education requirements

Again this is NOT an all-inclusive list of modalities, this is only meant to be a quick reference guide to help in the understanding of the imaging field and level of education and continuing education.

Sorry for the brevity of handout and/or errors it may contain

Hope you find it helpful

Thank you, Shirley Porter

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Two Categories: Primary and Post-Primary

Primary

ARRT offers a primary category of certification and registration in five disciplines of radiologic technology:

Radiography
Radiographers apply ionizing radiation to demonstrate portions of the human body — on a radiograph, fluoroscopic screen, or other imaging system — to assist physicians in diagnosis of disease and injury.

Nuclear Medicine Technology
Nuclear medicine technologists use radioactive materials in specialized studies of body organs to assist physicians in diagnosis and treatment of disease.

Radiation Therapy
Radiation therapists use ionizing radiation-producing equipment to administer therapeutic doses of radiation as prescribed by physicians for treatment of disease.

Magnetic Resonance Imaging
Magnetic resonance imaging technologists utilize the resonant frequency properties of atoms within a magnetic field to image anatomic and/or physiologic conditions of the body to assist physicians in the diagnosis of disease.

Sonography
Sonographers use nonionizing, high-frequency sound waves to image portions of the human body to assist physicians in making diagnoses.

Post-Primary

ARRT offers a post-primary category of certification and registration in mammography, computed tomography, magnetic resonance imaging, quality management, bone densitometry, cardiac-interventional radiography, vascular-interventional radiography, sonography, vascular sonography and breast sonography. ARRT also offers certification and registration for radiologist assistants.

Post-primary candidates must be certified and registered by ARRT (except where noted) in the appropriate disciplines as indicated below.

	Radiography is a supporting discipline for	**Nuclear Medicine Technology*** is a supporting discipline for	**Radiation Therapy** is a supporting discipline for	**Sonography**** is a supporting discipline for	**Magnetic Resonance Imaging** is a supporting discipline for
Mammography	■				
Computed Tomography	■	■	■		
Magnetic Resonance Imaging	■	■	■	■	
Quality Management	■	■	■		
Bone Densitometry	■	■	■		
Cardiac-Interventional Radiography	■				
Vascular-Interventional Radiography	■				
Sonography	■	■	■	■	■
Vascular Sonography	■	■	■	■	
Breast Sonography	■***			■	
Radiologist Assistant	■				

** Supporting discipline of Nuclear Medicine Technology may be through ARRT or NMTCB.*
*** Supporting discipline of Sonography may be through ARRT or ARDMS.*
**** Certification and registration in both Radiography and Mammography as supporting disciplines is needed for Breast Sonography eligibility.*

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Testimony for Public Hearing
Human Services Committee
Public Hearing on Senate Bill 2198
January 24, 2017

Good morning Chairman Lee and members of the Senate Health and Human Services. My name is Donna Newman and I am representing myself. I am a Lead Technologist in a Nuclear Medicine department at a community based hospital. I also am the representative for nuclear medicine on the Medical Imaging and Radiation Therapy Board of Examiners. I am a life member of the North Dakota State Society of Radiologic Technologists I have been practicing in nuclear medicine for the past 25 years. I appreciate this opportunity to offer testimony in support of Senate Bill 2198.

Licensure, when properly implemented, has the potential to improve radiation safety for needed medical procedures and aid in diagnosis and care of patients undergoing radiologic imaging and radiation therapy Treatments; however this happens only when radiation is administered properly. It is important to understand that when radiation is administered incorrectly or inadequately, it carries the potential for health risk and can be harmful to the patient through if an overdose takes place or if an examination must be repeated.

In medical imaging, technology is constantly changing and updating the equipment which medical imaging professionals like myself operate. As radiologic technologists we are expected to be knowledgeable about technical advances in our field and how to apply them in the delivery of care to patients. We all get new equipment to work on and with this new equipment we receive application training from the manufacture's where they teach the technologist what all the buttons do on a piece of equipment that you will be performing the x-ray on. They are allow to teach you what the buttons do but not the theory of what happens to the radiation delivery when you push two or more buttons this isn't par of the applications scope. The base knowledge, and board base knowledge of the modality and procedure is expected to be there already with the technologist or come from a different source. I have been involved in all applications training on our equipment for the last 15 years of my career. One factor that helps ensure that a technologist can keep up with these technical advances is documented educational preparation and clinical competence evidenced by passing of a nationally recognized certification examination that indicates that the individual has specialized in a particular modality of medical imaging or radiation therapy practice. Certification tests are based on competencies in a specific imaging discipline that a radiologic technologist needs to perform successfully procedures.

Nuclear medicine, radiation therapy, radiography, radiologist assistant and sonography are just a few of the 10 disciplines using different imaging modalities like x-rays, radioisotopes, ultrasound within the medical imaging profession.

Each discipline has its own scope of practice, practice standards, curriculum and certification examination. Each of these discipline are different from each other in the way the radiation is delivered, how the images are produced, and how the information is used to aid the physician in the diagnosis and treatment of the patient.

Because each of the modalities are so different and highly specialized they also have very different educational program content and competency assessment which the national and international certification examinations assess to ensure the technologist at least met the minimal educational requirements to perform their assigned examinations.

After the technologist passes the certification examination continuing educational requirements are mandated per certification cycle. Continuing educations is there to ensure that technologist keeps up with the constantly added new technology that is evolving in our field. Not all of the disciplines require you to attend a formal education program or school, but rather that the technologist completes supervised examinations demonstrating his or her ability. Certification in your area of practice is the most efficient way to ensure patient safety and quality patient care which is why the ability to cross-train in a clinical setting is needed and can be obtained through on the job training with certification as the end goal.

Some of the imaging disciplines that allow cross training include CT, MRI and interventional radiology. Cross-training requires that you work your regular job in your department, take your usual call and learn about the procedures in the field from another trained technologist at the same time studying the theory of the specialty through books, presentations and online courses.

I was cross-trained and achieved certification in the field of nuclear medicine. You may ask how I accomplish this? I worked for 4 years in the nuclear medicine department and learned about the procedures from other trained technologists. I took call after I had been assessed and signed off on a particular procedure but I also studied on my own, read books, reviewed continuing education about nuclear medicine and did online modules to learn about the theory of nuclear medicine. After four years of working I took the national certification examination in nuclear medicine. I can attest to the fact that I learned a lot in this course of training and it also made me a better technologist. As the representative for nuclear medicine on the Board, I understand that we have technologists working in nuclear medicine that aren't currently certified. To accommodate this situation, the Board has worked out a state-issued nuclear medicine test for these technologists so they would do the same thing I did - study for their test while working their daily jobs, take call to learn how to do the procedure, just the way I did, and sit for the state-issued nuclear medicine test.

In closing, I ask you to think about the impact can licensure can have on critical access hospitals in the State of North Dakota. The cross-training pathway created by the Board can create opportunities for technologists to be able perform more procedures for patients; allowing for quicker diagnosis, faster patient care and fewer outside referrals for examinations which keeps the procedure revenue right in your own community. Most importantly it can improve the delivery of care and diagnosis when a timely diagnostic imaging procedure needs to be performed to secure a diagnosis of a patient in your own facility instead of sending the patient to a larger institution because your local hospital does not provide the procedure.
In summary, licensure for radiographers, radiation therapists, nuclear medicine technologists, radiologist assistants and sonographers is needed in North Dakota. The enactment of Senate Bill 2198 allows the Board to refine the licensing process and make it a win-win for the technologist, hospital, community and patient.

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January 20, 2017

Dear Chairman Lee and Senators,

The North Dakota chapter of the American College of Radiology is in full support of Senate bill 2198 in establishing medical imaging technologist and radiation therapist licensure.

On a national level and as a matter of policy, the Council of the American College of Radiology supports licensure and certification of all persons operating equipment emitting ionizing radiation. The norm in most states is in support of radiologic technologist licensure and the delivery of healthcare to support a culture of safety and quality. Most importantly, insuring radiologic technologists are certified in the modalities where they practice is in the best interest of the patient. Radiologists work with technologists collaboratively to insure patients are receiving accurate diagnosis for medical testing and treatment. Imaging is a complex field with specialized imaging modalities that include: nuclear medicine, positron emission tomography (PET), interventional radiography, ultrasound, magnetic resonance imaging (MRI), computed tomography (CT), cardiovascular radiography, fluoroscopy, and general radiology. Each of these areas requires special skills and continuing education to insure the most current medical practices are performed at the highest level of competency. It is in the best interest of patients for radiologic technologist to utilize certifying bodies to insure competency. The North Dakota chapter of the American College of Radiology is in full support in Senate bill 2198 medical imaging technologist and radiation therapist licensure primarily because of its positive impact to the medical care of North Dakotans.

Sincerely,

Donald Stallman, MD
North Dakota Chapter of the American College of Radiology

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Testimony for Public Hearing
HUMAN SERVICES COMMITTEE
Public Hearing on Senate Bill 2198
January 24th, 2017

SB No. 2198 - An Act to amend sections of the North Dakota Century Code, relating to the regulation of medical imaging and radiation therapy; and to declare an emergency

Good Morning, my name is Chris Walski. I am a Radiology manager of a large imaging department in North Dakota, a Diagnostic Medical Sonographer and registered Radiographer. I want to thank Senator Lee and fellow members of the Human Services Committee for the opportunity to speak to you today about Senate Bill 2198. Our goal is to create a standard of care for patients in the state of North Dakota. To meet that goal we expect healthcare employees to be trained, credentialed and follow proper regulations.

First, Senate Bill 2198 discusses regulations for imaging professionals to be credentialed to perform diagnostic imaging in North Dakota. As a Registered Diagnostic Medical Sonographer who has been actively in the profession for over 15 years I know the importance of receiving specific instruction to perform ultrasound exams and continued education on the advances and changes that occur with the technology of equipment over the years. Ultrasound is a unique modality that it is completely operator dependent for both the quality of images and images archived. Being able to distinguish normal anatomy from abnormal is key and often under estimated. An example is an OB ultrasound in the emergency department for pain. I hear comments from other staff learning to scan "I just look for the black hole on the screen," meaning the pregnancy. The important piece of this situation is where the "black hole on the screen" is located. Is it in the uterus, outside of the uterus, or is the black hole really blood in the pelvis from a ruptured pregnancy? A sonographer knows the anatomy and can distinguish what the "black" on the screen represents, which leads to accurate and timely treatment.

Secondly, SB2198 states the applicants will need to meet the requirements for each specific modality which includes course work, passing certification exams and continued education. There are different options to meet these requirements. American Registry of Radiologic Technologists (ARRT) offers a

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registry exam specific to ultrasound for reregistered radiographers who perform ultrasound exams. Another option is the American Registry of Diagnostic Medical Sonography offers credentialing which requires passing a physics and specialty exam. In the letter of support from Don Kerns from SDMS he mentions grants are available for those eligible to take exams to be registered. Both options would require continuing education credits to maintain certification to ensure professional competency.

Finally, quality has become a national focus as CMS has guidelines regarding vascular ultrasound and criteria for reimbursement. Directly from the CMS Credentialing and Accreditation Standards, "The accuracy of non-invasive vascular diagnostic studies depends on the knowledge, skill, and experience of the technologist and interpreter. A vascular diagnostic study may be personally performed by a physician, a certified technologist, or in a certified vascular testing lab." It goes on to specify, "Nonphysician personnel performing tests must demonstrate basic qualifications to perform tests and have training and proficiency as evidenced by licensure or certification by an appropriate State health or education department."[1]

In conclusion, I believe that Senate Bill 2198 will satisfy both imaging professionals and the need to provide service in rural areas of North Dakota. Allowing case by case review, individuals could meet the criteria set by the state board allowing rural areas to maintain imaging services. Those rural facilities would meet and maintain the expectation of all imaging professionals to be educationally prepared and clinical competent. I urge you to support the bill for consideration by the Senate.

Thank you for your time.

Chris Walski, BS, RT (R), RDMS, RVT
4395 45th Avenue S.
Fargo, ND 58104
701-893-6223

[1] "Local Coverage Determination (LCD): Non-Invasive Abdominal / Visceral Vascular Studies (L35755)." Local Coverage Determination (LCD): Non-Invasive Abdominal / Visceral Va01scular Studies (L35755). Centers for Medicare and Medicaid Services, 01 Oct. 2016. Web. 18 Jan. 2017.

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SOCIETY OF DIAGNOSTIC MEDICAL SONOGRAPHY
2745 N Dallas Pkwy Ste 350, Plano, TX 75093-8730
(214) 473-8057 | (800) 229-9506 | (214) 473-8563 FAX | sdms.org

January 23, 2017

Chris Walski, RT(R), RDMS, RVT
Ultrasound Services Manager
Sanford Health Fargo
801 Broadway North
Fargo, ND 58104

Dear Ms. Walski:

Thank you for contacting the Society of Diagnostic Medical Sonography (SDMS) regarding the recent introduction of legislation in North Dakota that would impact the sonography profession and the use of ultrasound in medical imaging. Unfortunately, I will not be able to attend the Committee hearings scheduled in Bismarck on January 24th. But the SDMS would be happy to provide you, the Human Resources Committees, or the Legislative Assembly with any assistance necessary. As you know, the SDMS does not have state chapters, but rather works closely with our members in each state, as we did on the 2015 North Dakota bill (SB 2236) that established medical imaging and radiation therapy licensure. Since then, we have continued to work with our members and the North Dakota Medical Imaging and Radiation Therapy Board of Examiners ("NDMIRTB") on administrative rules to implement this important program.

SENATE BILL 2198

THE SDMS SUPPORTS PASSAGE OF SB 2198 (introduced by Senators Judy Lee and Dick Dever and Representatives Thomas Beadle and Robin Weisz). The proposed bill incorporates several "clean-up" provisions that strengthen and clarify the original statute. It maintains the integrity of the medical imaging and radiation therapy licensure program to protect the citizens of (and visitors to) North Dakota and ensures patients will receive the safe and effective medical imaging and radiation therapy they expect (and deserve).

HOUSE BILL 1371

THE SDMS STRONGLY OPPOSES HB 1371 (introduced by Representatives Jon Nelson, Tracy Boe, Robin Weisz, Greg Westlind and Senators Brad Bekkedahl, Larry Robinson, David Rust). We do not believe the bill language is salvageable and would encourage our members to oppose HB 1371 and support SB 2198 instead.

The reality is that most of the individuals who were practicing within the medical imaging and radiation therapy professions in North Dakota had voluntarily become certified and registered by a recognized certification organization. The proposed bill devalues the hard work of these professionals by permitting the least common denominator (no certification) to become North Dakota's standard.

It is critically important that legislators and the public understand that medical imaging and radiation therapy procedures have risks and improper application of ionizing radiation can be harmful both to the patient and to the person performing the procedure. Although sonography uses non-ionizing radiation (i.e., high-frequency sound waves), it is not without risk, particularly when applied improperly. Physicians rely on the medical images obtained by the sonographer – if the examination is not performed properly, the physician may make the wrong diagnosis or treatment decision based on incorrect information, leading to unnecessary and costly invasive procedures (e.g., surgery) or the physician may discharge a patient (e.g., when the carotid artery is actually blocked) and the patient subsequently experiences a stroke or dies.

The following highlights just a few of the many areas of concerns we have regarding HB 1371:

Section 1. This section incorrectly deletes the existing statutory definition of "certification organization" and replaces it with "registration organization." While the medical imaging and radiation therapy organizations often require maintaining an annual "registration," they are in fact "certification organizations" (i.e., accredited certification bodies by the *National Commission for Certifying Agencies* (NCCA) or the *American National Standards Institute* (ANSI) based on the International Standard ANSI/ISO/IEC 17024). These accredited medical imaging and radiation therapy certification organizations issue both certifications and credentials to those who have met their requirements. To our knowledge, no state or federal statute uses "registration organizations" to describe these entities. This erroneous phrase is used throughout the bill.

Section 3: This section removes the power of the NDMIRTB to issue interpretations of the statute, effectively restricting the NDMIRTB in its purpose and function. Thus, the only interpretation of the statute allowed would be through the Courts or by returning to the Legislative Assembly each year in hopes of modifying the statute to clarify an issue. This will undoubtedly lead to unnecessary litigation and expense for the State of North Dakota. It will also cause unnecessary and complicated legislation that explicitly states every possible requirement and interpretation, effectively negating the Administrative Procedures Act (APA) and creating an unnecessary future burden on the Legislative Assembly.

This section also unnecessarily adds an explicit requirement that the NDMIRTB must collaborate and consult with affected parties – yet this requirement already exists under APA. The APA also provides for the petition for reconsideration of rules, Administrative Rules Committee objection and action, publication, and adjudicative proceedings related to proposed or adopted rules, etc. It is our understanding that the NDMIRTB followed the procedures outlined in the APA. The APA should not be undermined because a bill's supporters disagree with the administrative rules proposed or adopted by an agency established by the Legislative Assembly.

Section 4: This section adds a broad "Grandfathered Licenses" paragraph that negates both the purpose and the intent of the original statute – those who are entrusted with performing medical imaging and radiation therapy must have completed the appropriate education and training and demonstrated minimum competency through a recognized certification examination. The proposed grandfathered licenses would shift the burden to each patient to ask (if conscious) whether the person performing the medical imaging or radiation therapy procedure is certified or not (since both certified and non-certified individuals would be granted licenses by the State of North Dakota under this bill). Most patients simply would not know to ask this critical question.

A review of Title 43 (Occupations and Professions), North Dakota Century Code finds only two references to grandfathering provisions among the many occupations and professions regulated. The first, Section 43-15-16, relates to a pharmacist who failed to take an examination before the law became effective (almost 90 years ago, on July 1, 1927) to become licensed, but still only after taking and passing the examination. The second, was repealed in 2013 (by section 3 of chapter 334, S.L. 2013 –effective August 1, 2013).

Section 5: This section codifies two different standards, yet seems to recognize the importance of certification (but only for those entering the profession after 2015). The medical imaging certification programs are not new – they have been in place for decades and hundreds of thousands of medical imaging and radiation therapy professionals have been certified. All medical imaging and radiation therapy professionals should be expected to meet the same licensure standards.

Section 6: This section removes the authority of the Board to adopt a scope of practice for each medical imaging and radiation therapy modality. It even removes the requirement that a medical imaging or radiation therapy professional operate within any scope of practice.

Section 7: This removes the requirement that a licensee comply with continuing education or other requirements – in fact, the licensee would not have to comply with <u>any</u> rule adopted by the NDMIRTB – licensees would only be required to comply with the statutory provisions of Chapter 43-62. However, those entering the medical imaging and radiation therapy professions after 2015 would still be required to comply with the applicable certification organization's continuing education or recertification requirements.

Living in a rural state should not mean the citizens (or visitors) must settle for lower standards related to medical imaging and radiation therapy quality and patient safety. A pregnant woman should not have to ask if the person who is about to perform a sonogram has had adequate education, training, and experience to competently perform the procedure. And, when a patient goes to a hospital or other medical facility, they simply expect that the healthcare providers (i.e., physicians, nurses, respiratory therapists, speech therapists, radiologic technologists, radiation therapists, sonographers, etc.) have met the standards established for each profession.

I would also ask that you share with any North Dakota sonographers who wish to become certified (for the first time or to obtain an additional sonography specialty certification), that the SDMS Foundation (a public charity affiliated with the SDMS) continues to provide Certification Examination Grants to SDMS members each year. These grants include print and online study materials, as well as funds to help cover the cost of the certification examination. More information is available on the SDMS Foundation website at http://www.sdms.org/?ID=17.

Again, the SDMS is available to provide any assistance that may be needed as these bills are considered by the Legislative Assembly. Please feel free to contact me at 800-229-9506 x184 or dkerns@sdms.org. Thank you again for your continued support of the sonography profession and helping to protect the patients that sonographers serve in North Dakota.

Sincerely,

Donald E Kerns

Donald E. Kerns, JD, CAE
Chief Executive Officer/Executive Director

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Senate Human Services Committee

SB2198

January 24, 2016

Chairman Lee and Committee Members:

I appreciate the opportunity to speak to you today.

My name is Diane Nelson. I am the Radiology Manager at Jamestown Regional Medical Center. I am a registered radiologic technologist and have certifications in Radiology, Mammography, CT, Nuclear Medicine, Ultrasound, and Quality Management.

I would like to express my support of Senate Bill 2198 with delineation of the modalities and the requirement for licensure specific to the modality the licensee is practicing in.

I have worked in the field of Radiology for over 45 years. I have experienced a great deal of change and I have observed the evolution of what was once simply "X-ray" to the multiple, individual modalities that are now under the "Medical Imaging" umbrella. Radiology modalities are essential in the assessment of pain and the diagnosis and treatment of trauma-related injuries and disease processes. Each of those modalities- Radiology, Mammography, CT, MRI, Nuclear Medicine, Ultrasound, Cardiovascular/Cath Lab, and Radiation Therapy- is unique; each requires a specific technical skill set for performing exams and utilizes specific concepts for image production. Misunderstanding those concepts or using them inappropriately can have serious consequences that could result in a life or death missed or delayed diagnosis. Mis-use of radiation or magnetic fields can create serious health and safety risks to the patient, the imaging professional, and the general public.

As an individual, I believe it is essential that imaging and radiation therapy professionals be required to demonstrate competence by acquiring modality-specific licensure.

As a manager of a Radiology department in a rural, critical access hospital, I struggle with the challenges that requirement would create. The number of staff we employ and the need to provide services 24 hours a day has required cross-training of radiology technologists into the other modalities. We have invested time, effort, and funding for those individuals to obtain the education and training both on-site and off-site to prepare them for certification testing in CT, MR, mammography, and ultrasound and have provided mentors to aid in assuring competency. We have demonstrated that, with effort, planning, and support, the certification needed for modality specific licensure can be attainable.

It has been said that this requirement is more stringent than the licensing requirements in any other state. I believe that we have an obligation to our patients to "raise the bar" to assure them that their Radiology procedures are being performed in a safe environment by qualified modality-specific licensed technologists.

Thank you,

Diane Nelson CRA RT R M CT QM RDMS RVT CNMT

SB2198
Attach #6
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Testimony for Public Hearing
HUMAN SERVICES COMMITTEE
Public Hearing on Senate Bill 2198
January 24th, 2017

Senate Bill # 2198, a bill for an Act to amend and reenact sections 43-62-01, 43-62-02, 43-62-03, 43-62-04,43-62-08, 43-62-09, 43-62-11, 43-62-14, 43-62-15, and 43-62-18, and subsection 13 of section 43-62-19 of the North Dakota Century Code, relating to the regulation of medical imaging and radiation therapy; and to declare an emergency.
Good morning Madam Chairman and members of the committee, my name is Ann Bell-Pfeifer. Thank you to Chairman Lee for sponsoring SB 2198, and to the members of the Human Services Committee for listening to my testimony today. I have served the North Dakota Society of Radiologic Technologists (NDSRT) as chairman of the board, president and licensure chair. Today I am speaking on my behalf in full support of SB 2198. As one of more than 1000 registered radiologic technologists in the state of North Dakota, I have been serving patients in radiology for the past 23 years. My roles as a radiologic technologist have allowed me to experience first-hand patient care as in general radiology and mammography. I believe in providing the best possible patient care and have focused many years of my career focusing on optimal image quality and patient safety.

SB 2198 supports and insures quality patient care for every North Dakotan who receives imaging services. The imaging field is constantly changing as new technology is applied to the equipment which medical imaging professionals operate. New imaging procedures are also used to diagnosis and treat patients. As experts in our field, radiologic technologists, sonographers, and radiation therapists are required to be knowledgeable about technical advances in radiology as well as deliver patient care in the most timely and effective manner.

SB 2198
#6
1/24

Today more than 32 states in the United States have licensure laws for medical imaging technologists and radiation therapists. The intent of SB 2198 allows medical imaging and radiation therapy technologists to work within the full scope of practice for which they are qualified and educationally prepared. SB 2198 does not affect the scope of practice of any other medical professional in North Dakota.

As stated in SB 2198, on a case - by - case basis, the board may establish unique individualized licensing and practice standards and requirements for an applicant who does not meet the licensure requirements to receive a license in one or more modalities of medical imaging or radiation therapy. This subsection is limited to an applicant who was practicing at a critical access hospital before January 1, 2017. Under this subsection, standards and requirements the board requires of a licensee must be designed to maintain reasonable services and public safety at a critical access hospital. This section of the bill offers a path for imaging professionals in small communities to practice safely with provisions for educational requirements.

The Radiation Control section 33-10-06, and 33-10-15 of the North Dakota Department of Health rule, defines minimum training requirements, for limited scope x- ray operators, and other health care providers. This bill will not affect their scope or practice and will allow them to serve patients in the manner they are practicing today.

Thank you for listening to our concerns. Your support in recommending the passing of Senate Bill #2198 is greatly appreciated.

Ann Bell-Pfeifer, BS RT (R) (M) (QM)
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(701) 361-3897
abellpfeifer@gmail.com

SB2198
Attach #7
1/24

Senate Human Services Committee

SB 2198

January 24, 2017

My name is Brent Colby. I was born and raised in Williston and Crosby, ND, and have lived in Fargo, ND for the past 24 years. I am a Diagnostic Radiological Physicist, and am certified in Diagnostic Radiological Physics by the American Board of Radiology. I have been a Diagnostic Radiological Physicist since 1991, and have served as the Physicist for facilities in the States of ND, SD, MN, IA, WI, MT and CO. I currently serve as the Physics member of the North Dakota Medical Imaging and Radiation Therapy Board. I also serve as a member of the examination writing committee for the American Registry of Radiologic Technologists (ARRT), specifically as a member of the Registered Radiologist Assistant examination committee.

As a Physicist and lifelong North Dakota resident, I am fully in support of SB 2198. I am convinced that this is necessary to ensure access to high quality Radiology and Radiation Oncology within the State of North Dakota.

Medical radiation is now the largest source of manmade, and therefore controllable, radiation exposure to the US population. Average US medical radiation exposures have increased from approximately 0.5 mSv (50 mRem) per person per year in the 1990s to approximately 3.0 mSv (300 mRem) per person per year in 2017 (they have increased by a factor of six). For perspective, the average radiation dose from Radon is approximately 2 mSv (200 mRem) per person per year in the US.

The biological consequences of radiation exposure include, but are not limited to:

Cancer

Cataracts

Hair loss

Skin damage (generally characterized as radiation burns)

While somewhat controversial, we generally describe the risk of radiation induced cancer exposure as linear, with no threshold. Rephrased, any dose carries with it a risk, and the risk is proportional to the dose

(twice the dose equals twice the risk). The other risks (cataracts, hair loss, skin damage, etc) generally happen only above a very high "threshold" dose. All of these effects are well described in the medical literature, in a recent series by Bogdanich in the New York Times in 2011, and in Congressional hearings in 2010.

Diagnostic Radiological Physicists are generally charged with oversight of medical radiation exposures. Medical exposures can and do vary for many reasons, for example, equipment characteristics, Physician preferences and operator training. I have personally seen medical radiation exposures vary for the same procedure by more than a factor of thirty (recall that the cancer risk is proportional to dose, so it, too would vary by a factor of thirty).

It is my view that the variation in medical radiation exposure within the State of ND is unwarranted. One significant and preventable cause of this variation is insufficient training in the theory and operation of medical radiation equipment. All too frequently, when insufficient knowledge and/or training are the cause of an unnecessarily high radiation exposure, the people running the equipment have little idea of the dose used, the cause of the high dose, or an appropriate remedy to the high dose.

It is my observation that the Technologists possessing advanced registry in their specific areas of work generally have a better grasp of their technology, the radiation doses used and how to properly control those doses. Because I help write one of the ARRT's advanced registry examinations, I am reasonably acquainted with the content of the advanced registries and I am not surprised that those examinations help to prepare Technologists for their modalities. The examination content and requirements are straightforward and appropriately rigorous in my view.

As a direct result of SB 2198's requirements and timelines for advanced registries, I am convinced that SB2198 will enhance the quality and safety of medical care in North Dakota.

Thank you. S Brent Colby, MS, DABR

SB2198
Attach #8
1/24

Senate Human Services Committee

SB2198

January 24, 2017

Chairman Lee and Committee Members, I am Dr. Ted Fogarty, a practicing physician of our state in the specialty of radiology, currently with a multi-state telemedicine/teleradiology focus. I have served our North Dakota physicians who practice radiology in the past as the secretary of the state chapter of the American College of Radiology. Currently I am a counsilor for our chapter which is a designation of political liaison for the ACR and the state chapter. I am on the North Dakota Board of Integrative Health Care and the North Dakota Board of Medical Imaging and Radiation Therapy. I serve as the Chair of the Department of Radiology in the University of North Dakota School of Medicine. I also am the President of the International Hyperbaric Medical Foundation. I mention all these positions as a disclosure but am speaking to you as a citizen of our great state rather than as a representative of the above organizations. My testimony will focus on patient safety/education issues.

By now you have heard several testimonies regarding the various points importance of the licensure of imaging technologists in our state. The more publicly well understood safety concerns of the use of radioisotopes and X-rays have been the roots of the "safety culture" development for the imaging community here and around the world since the marred start of the profession in which early researchers such as Marie Curie lost their lives to the hazards of radiation. Outside of the radiobiology issues in imaging, there are safety issues of a bit different nature involving the non-ionizing modalities of ultrasound and MRI.

MRI units are actually the most dangerous imaging devices in our hospitals and outpatient facilities from the perspective of an immediate patient death. The magnetic strength of these devices place patients, first responders, and physicians involved in resuscitation or any other type of emergency at grave harm if safety rules are not followed in the heat of a crisis. I have appended figure 1 from the 2002 ACR White Paper on MRI Safety for the committee's understanding of just how important these magnet strength issues are for the safe design of an MRI imaging suite. A series of deaths and accidents in MRI units have prompted the development of many safety regulations in the field and a great respect for the power of these magnets. For example, in July of 2001 at a Valhalla, NY hospital, a 6 year old boy was killed instantly as an oxygen tank flew off a gurney into the magnet bore crushing his head. In the same year, a Rochester, NY police officer supervising an incarcerated individual having an MRI exam had a handgun pulled into the magnet where it discharged. The patient was not struck by the bullet, and presumably still had his day in court. Thousands of hazards exist for this powerful ferromagnetic effect. Something as innocuous as a tattoo or body piercing that might be an embarrassment to disclose can generate severe burns. Pacemakers, medication pumps, and recently placed stents or hardware are also a liability. Our state's MRI technologists have the greatest acute liability and safety awareness issues of all of the various specialty modalities of imaging. Their training deserves the respect of licensure focused towards their required marks.

Ultrasound is truly the safest waveform but even here there are hidden dangers. Overuse of fetal ultrasound has been associated with higher rates of birth defects, the epidemiologists debate that this may be a selection bias effect. There certainly are more ultrasounds on fetuses with ultrasound documented deformities once they are found. However, there are animal models of autism in mice that can be induced by prolonged ultrasound exposures in utero. Heat shock proteins are generated at fetal bone interfaces in animal models with current ultrasound strengths. We also now have the capability

of combining ultrasounds with MRI units to destroy tissues inside the body. These FUS or focused ultrasound devices are much more powerful than the clinically utilized imaging devices. Transcranial doppler and power doppler ultrasound modifications for neonatal medicine are in place under the ALARA principle to limit unneeded sound beam intensity for or youngest patients. I have personally witnessed fetuses turn away from extend scanning of facial features for the production of "pre-baby" photography. These images are of no scientific value unless done when a cleft lip has been discovered. They may be of some minor bonding value for mothers and fathers but should be done in the context of a medically supervised situation.

Most important in the ultrasound technology realm is the impact of the technologist and their role in image acquisition. Of all imaging modalities, ultrasound is the most operator dependent. If the technologist is not able to perceive an abnormality as they scan each organ, then it won't be documented appropriately. They are akin to flashlight laden Navy Seal scouring a ravine at night, a small camouflaged IED might get missed. The other modalities are analogous to satellite maps or overhead grid directed drone images in surveillance imaging terms.

A close call in my own career with these issues in ultrasound occurred one weekend a few years back when a small tumor was found in a patient's testicle. The images were all labelled "right" and I reported the abnormality on the right just a few hours before the patient's surgery. A kindly urologist, visiting from another state had noted the discrepancy and ask me to have the technologist and I redo the exam together. He hadn't seen the patient yet but heard from the emergency room physician that the mass was on the left side-which it was. Although rare, this safety net of professionals was employed for the correction of a potentially devastating point of misinformation. Errors of sidedness or image annotation are the most common issues in ultrasound. Errors of

perception in technologists from inappropriate gain or depth focus are issues in the less frequent practitioners of the technology, so to perform this art well requires an active ongoing practice of examination. Additionally, within ultrasound technologists designations are cardiology specific certifications. One only need ask one of our well trained North Dakota echocardiography technologists to go do a stat ER exam for belly pain to see the real lack of confidence on doing exams they may be years from having previously performed. Clearly, production of misinformation is a grave risk of ultrasound in the hands of the untrained or poorly rehearsed in this modality. Having North Dakota licensure law reflect the specific needs of education and concurrent practice is important for this area in particular.

In this ever-changing landscape of medicine in the information age, my career situation has given me a new understanding of the world of radiology that now spans a telemedicine practice with a footprint in multiple other states throughout the nation. My observation from this experience is that we are doing a good job across the board in many of our smaller North Dakota hospitals. This is especially true against some of the rural hospital studies I interpret from several other states. I believe the history of our community of technologists' professionalism and networking through the NDSRT group that spans the last several decades, combined with an culture of learning from our many radiologists across the state who have trained at some of the nations finest hospitals and universities has led to a core community ethic of excellence already.

One may ask "why have we formalized this ethos in legislative action." It is really to help promote and continue the learning and standardization of techniques across the industry in North Dakota as well as to help provide a gentle impetus for those who may need that in keeping up with the continuing training needs. As a citizen and physician of North Dakota, I now more intimately

understand the difficulties of licensure legislation for this disparate group of professionals stratified by various waveforms in the realm of physics. It is actually because of these complexities that we are better off as a society with a soft handed regulatory structure such as we are building. I hope the assembled Senate Committee is not intimidated by these complexities as I openly ask you to please approach me with any questions you might have for clarification or deeper understanding of the issues at hand, even if these questions may have arisen at other points in the morning. Thank you for your time and attention.

Ted Fogarty, MD

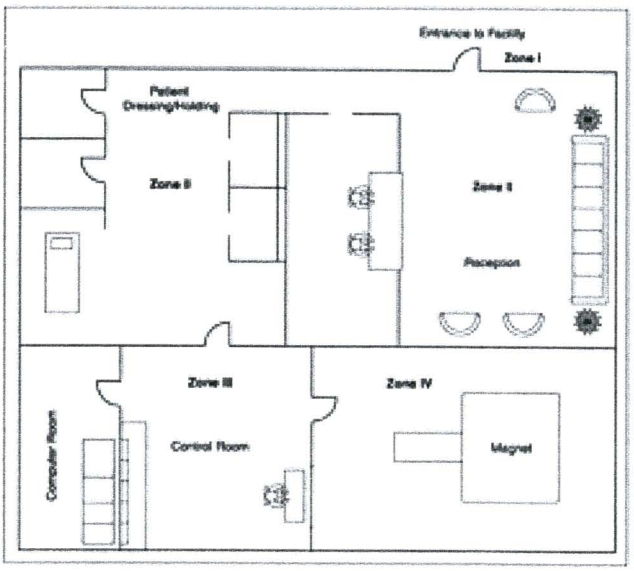


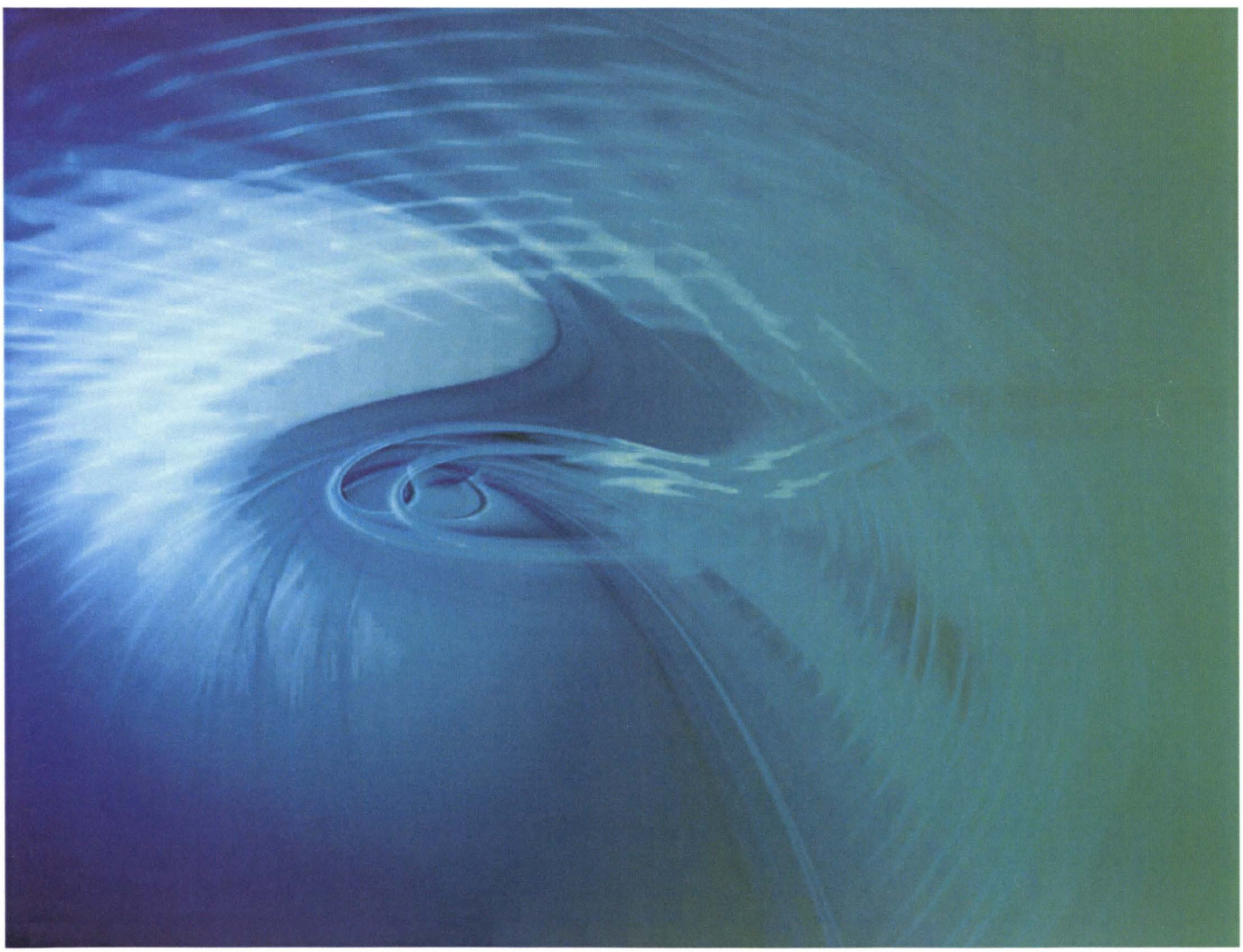
Fig 1.—MR site floor plan

SB 2198
Attach #9
1/24

WHITE PAPER

Patient Safety and Quality in Medical Imaging: The Radiologic Technologist's Role

Liana Watson, DM, R.T.(R)(M)(S)(BS), RDMS, RVT, FASRT and Teresa G. Odle, BA, ELS for
The ASRT Foundation Health Care Industry Advisory Council
Subcommittee on Patient Safety and Quality in Medical Imaging



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ASRT Foundation

Patient Safety and Quality in Medical Imaging: The Radiologic Technologist's Role

Liana Watson, DM, R.T.(R)(M)(S)(BS), RDMS, RVT, FASRT and Teresa G. Odle, BA, ELS,
for The ASRT Foundation Health Care Industry Advisory Council Subcommittee on Patient Safety and Quality in Medical Imaging

Radiologic technologists are at the forefront of patient safety and quality. The Code of Ethics of the American Registry of Radiologic Technologists (ARRT), which forms the first part of the ARRT *Standards of Ethics*, includes these four statements:

- The radiologic technologist acts to advance the principal objective of the profession to provide services to humanity with full respect for the dignity of mankind.
- The radiologic technologist assesses situations; exercises care, discretion, and judgment; assumes responsibility for professional decisions; and acts in the best interest of the patient.
- The radiologic technologist uses equipment and accessories, employs techniques and procedures, performs services in accordance with an accepted standard of practice, and demonstrates expertise in minimizing radiation exposure to the patient, self, and other members of the healthcare team.
- The radiologic technologist practices ethical conduct appropriate to the profession and protects the patient's right to quality radiologic technology care.[1]

Physicians, researchers, physicists, engineers and other creative and clinical partners have worked together over the years to continually develop and introduce evolutionary medical imaging equipment. On a regular basis, the medical imaging community announces faster and more accurate features, methods to improve image quality or lower patient exposure, new applications for imaging equipment and new technologies and modalities.

Health care patients benefit from the dedication of budgets and brilliant minds; use of medical imaging can speed and improve diagnosis of a myriad of diseases. Over the past few decades, use of many medical imaging modalities has grown exponentially. For example, 26 million computed tomography (CT) examinations were conducted in the United States in 1998; by 2008, more than 70 million CT examinations were conducted. During the same 10 years, nuclear medicine studies increased from 12 million to nearly 20 million.[2]

The tremendous growth in medical imaging has improved patient care in the United States and around the world. However, some risks and drawbacks have accompanied that growth. Appropriate use and associated costs are of concern to payers and policymakers. Most notably, increased use of diagnostic studies involving ionizing radiation can add to patients' cumulative exposure.[3] Medical imaging contributes to about 15 percent of the average effective dose per capita of people in the United States, and background radiation accounts for 83 percent.[2]

In particular, CT and nuclear medicine have been the focus of concerted efforts to estimate and reduce patient exposure. Use of these imaging modalities has increased and certain CT and nuclear medicine examinations introduce higher doses of radiation than do conventional radiography examinations.[3] Estimates show that CT accounts for about 49 percent of patient

exposure to ionizing radiation from medical imaging, and nuclear medicine examinations account for 26 percent of patient exposure.[4]

The number of radiographic and fluoroscopic studies skyrocketed from 25 million in 1950 to 293 million in 2006.[5] Fluoroscopy is used in a range of diagnostic and therapeutic imaging procedures, and has been the focus of improved technique and monitoring in recent years because of the potential for high skin dose and radiation effects.[6,7] As medical imaging departments transition from an analog to digital environment, there has been a potential for increased patient exposure as radiologic technologists adjust to digital imaging technology.[8] The American Society of Radiologic Technologists (ASRT), American College of Radiology (ACR) and other organizations continue to address this issue in white papers and with educational campaigns, and the vendor community has supported efforts with education and equipment standardization.[9]

Fluoroscopy is one imaging modality used in cardiovascular imaging. Along with radionuclide myocardial perfusion imaging and CT angiography, cardiovascular examinations can introduce high radiation exposures.[10] The total effective dose from contrast-enhanced coronary CT angiography has been estimated to be between 2.1 and 21.4 mSv.[11] In some cardiovascular and interventional examinations, radiologic technologists perform additional patient care duties such as placing peripherally inserted central catheters.

Use of medical imaging that does not involve ionizing radiation, such as ultrasonography and magnetic resonance (MR) imaging, has increased partly in response to concerns regarding cumulative exposure.[2,12] For example, ultrasonography traditionally has been used as an alternative imaging method to modalities that use ionizing radiation for women who are pregnant.[13] Ultrasonography and MR imaging can replace some radiation-based imaging for appropriate cardiovascular indications.[14,15] Safety still is a factor with any medical imaging examination. For example, MR imaging uses high magnetic field strengths and MR technologists typically are responsible for controlling access to the region in which access by non-MR personnel or introduction of ferromagnetic objects or equipment could result in serious injury or death to patients or staff.[16]

According to the U.S. Food and Drug Administration, ultrasonography has been used safely in medical imaging for more than 20 years. Because ultrasonic waves produce effects in the body, such as heating tissues slightly or producing cavitation, U.S. and international organizations have advocated for sensible use of ultrasonography as a diagnostic medical examination, and discouraged its use for nonmedical purposes for fetuses.[17]

The risks vs benefits of mammography continue to be debated, and mammograms must be conducted within the parameters of the Mammography Quality Standards Act.[18] Because this medical imaging modality is regulated, facilities and vendors must meet particular quality specifications and personnel qualification measures. The ACR and the Society of Breast Imaging addressed misinformation regarding thyroid exposure with an April 2011 statement. The thyroid receives no direct radiation exposure from mammography and scattered exposure is minimal, equivalent to about 30 minutes of natural background radiation that average Americans receive.[19]

As researchers and regulatory, advocacy and clinical organizations continue to explore the issue of safety in medical imaging, they consider the delicate balance of effective diagnosis and treatment of disease with the required exposure to radiation or other potential hazards.[10] Among strategies to improve radiation safety are justification, education and optimization of images and technique.[12] The ASRT and its partners recognize the critical role of the radiologic technologist in all aspects of medical imaging patient safety.

The Role of the Radiologic Technologist

It is clear that medical imaging is integral to health care, and scrutiny of imaging examinations is on the minds of policymakers and the general public.[3] To some extent, media reports have produced a degree of fear and anxiety among patients regarding the relationship between medical imaging examinations and cancer.[2] Radiologic technologists often are the health care providers who must deal with the results of media information — or misinformation — and help alleviate patients' concerns.[20]

Radiologic technologists continue to conduct all examinations with concern for patient dose and following ALARA (as low as reasonably achievable) principles

to balance dose and image quality. At times, they do so under the challenges addressed in this paper, such as tighter staffing ratios and declining opportunities for communication with radiologists.

It is critical to health care administrators and medical imaging managers to recognize that the radiologic technologist usually is the first and often the only health care staff member who interacts with patients having medical imaging examinations.[3] The technologist is charged with producing a quality image with the lowest possible patient exposure, under the oversight of the radiologist. In addition, the technologist often is the only health care professional who might recognize that an ordering physician has requested an examination that duplicates one the patient recently has undergone or is questionable in terms of indication or appropriateness.[3]

Because of the technologist's critical role, the ACR has encouraged that radiology practices support regularly scheduled in-service education on radiation safety for technologists and phase in requirements that at least one technologist per site hold advanced certification in the modalities offered by the site.[21]

Certification standards are the purview of the American Registry for Diagnostic Medical Sonography, American Registry of Radiologic Technologists, Cardiovascular Credentialing International and the Nuclear Medicine Technology Certification Board. These certification agencies are governed by independent boards made up of physician and technologist representatives. All of these certification agencies also establish rules and regulations, ethics standards and continuing education requirements for renewing registration.[22-25]

The ASRT is a professional organization with more than 149,000 medical imaging and radiation therapy members. The organization's mission is to advance the medical imaging and radiation therapy profession and to enhance the quality of patient care. The ASRT conducts related research, provides curricula and support to radiologic science educators, develops position statements and practice standards, publishes peer-reviewed journals and offers online courses, Directed Reading articles and other continuing education opportunities to its members.

The ASRT supports certification standards for all technical personnel who perform medical imaging and radiation therapy procedures.[26] The ASRT Practice Standards for Medical Imaging and Radiation Therapy state that technologists should be educationally prepared and clinically competent in all aspects of the work they perform and that technologists should be appropriately certified in all modalities they practice.[27]

Purpose and Scope of Paper

The ASRT Foundation's Health Care Industry Advisory Council (HCIAC) includes representatives of important companies in the medical imaging and radiation oncology industries who work together to advance patient care.[28] Members meet annually, and occasionally form subcommittees to discuss significant issues in the radiologic sciences. The HCIAC Subcommittee on Patient Safety and Quality in Medical Imaging met Nov. 7, 2012, in Albuquerque, N.M.

The ASRT met with the committee of radiologic technologists, many of whom work in the corporate sector of the industry, with the goal of collaboratively improving patient safety and quality in medical imaging. They discussed the current state of medical imaging as well as challenges associated with providing consistently high-quality care and education on equipment and new and emerging technologies. Committee members also discussed the desired state for radiologic technologist workplaces to ensure consistent quality in patient care and to maximize education and understanding of equipment and new technology. This white paper and its recommendations are the direct result of the committee's input. The primary focus of the committee and resulting recommendations is quality and safety in CT, computed radiography/digital radiography, along with all medical imaging specialties.

Current State of Medical Imaging

In an environment of rapid growth and technological advancement, radiologic technologists face a number of challenges when new and emerging technologies are introduced or when equipment upgrades occur. The challenges described in this white paper do not constitute an all-inclusive list of those faced daily by radiologic technologists and medical imaging department managers, but address many of the issues that affect the technologist's ability to continue to provide quality patient care under ALARA principles when adjusting to

new and emerging technologies. In addition, these challenges can interfere with the effectiveness of education by vendors during new or upgraded equipment installations.

Workplace and Staffing

The workplace presents many daily challenges to busy radiologic technologists and medical imaging department managers. One of these challenges is continuing to staff the medical imaging department regardless of budgetary constraints. According to the ASRT Radiology Staffing Survey 2010, more than 70 percent of respondents reported that the number of budgeted full-time equivalents in their medical imaging departments did not increase in 2010.[29] The estimated number of unfilled positions in medical imaging declined significantly (8 percent) between 2003 and 2010 to approximately 2 percent.[29] As budgets and staffing ratios tighten, shifts lengthen and medical imaging departments have less scheduling flexibility. In many small and rural facilities, radiologic technologists often must cross-train and multitask, helping to staff more than one modality.

Studies of nurse staffing have shown that extended shifts can lead to burnout, fatigue and most importantly, can compromise patient safety. Overtime also might be required by some employers. There is also a trend in health care cultures to blend the distinction between voluntary and mandatory overtime, making workers feel as if they must take overtime.[30] When health care workers fail to receive adequate sleep time, they can experience lapses in attention, reduced motivation and diminished ability to solve problems.[31] Vacation time and personal days off are also important.

The culture that demands tight staffing and often long shifts and overtime also makes for difficult scheduling of education. Yet learning a new or emerging technology requires time and attention, and can place additional strain on department scheduling.[32] Radiologic technologists often find it difficult to find personal time for continuing education endeavors, and managers cannot adequately free up schedules for applications training when vendors install new or upgraded equipment.

Education on use of new technology has been cited as a factor that can contribute to eliminating avoidable patient radiation exposure,[33] yet vendors observe that department workflows prevent radiologic technologists from fully attending applications training. This is a workplace and cultural issue that is problematic in medical imaging departments and health care in general. A survey regarding barriers to new technology adoption revealed that finding time necessary to train staff was the second largest barrier to successful adoption, topped only by cost.[34]

An advanced user model (also called a "super user") has been shown to alleviate some of the time constraints. In addition, social persuasion can help people in the workplace learn by observing others' performance and through verbal persuasion.[35] In other words, effective advanced users can train and encourage adoption through modeling ongoing proper use of equipment, answering questions and providing positive reinforcement.

Communication between radiologists and radiologic technologists is an additional workplace issue that can affect image quality and patient exposure, along with the background knowledge technologists need to prepare for new technologies. The ability of technologists to alert radiologists about issues such as multiple examinations on patients and to receive constructive feedback on image quality and exposure from radiologists depends on effective communication. However, technologists have reported that as use of technology has increased, traditional technologist-radiologist communication has decreased. What little interaction that takes place in many busy medical imaging departments and large practices now occurs through electronic notes that accompany digital images transmitted through a network to the physician interpretation room.

Studies have shown that implementation of picture archiving and communication systems (PACS), electronic health records (EHR) and digital imaging shorten turnaround times and increase medical imaging department volume without a subsequent staffing increase.[36] Although use of information technology can help prevent errors and adverse events and help providers track events that occur,[37] the advantages afforded by technology have changed workflow and workplace dynamics in radiology. Technologists no longer enter reading areas to hang radiographs for physicians and potentially discuss technical aspects of the studies in real time. Radiologic technologists often must rely on interpretation of infrequent notes from radiologists, input from their managers or their own

initiative for education regarding image quality and exposure improvement.

Technology Gaps

The importance of information technology to health care cannot be overlooked. Congress appropriated more than $20 billion for health information technology within a 2009 economic stimulus package, and electronic health records are a national priority.[38] Medical imaging depends entirely on technology, perhaps more than any medical specialty.[39] The technological convergence of clinical equipment and computers has occurred rapidly and become ubiquitous in all medical imaging modalities. The advances have occurred so rapidly that many clinicians in the workplace still are uncomfortable with computers.[37] A lack of computer literacy affects perceptions of self-efficacy and expectations of outcome regarding use of or training in new technologies involving health information technology. When a learner believes that he or she can execute the necessary skill or behavior, outcomes from the learning experience generally are better.[35,40]

Technologists are among health care workers who might lack computer skills. Naturally, computer literacy and comfort levels vary. Because skills and comfort levels can vary greatly, there can be wide gaps in the levels of ease technologists have on the job with computer-based job functions. Further, the disparate knowledge complicates education in new technologies and equipment. Applications trainers need to focus on specific equipment functions and features, and should be able to assume that all trainees begin with basic computer skills.

Some of the differences in comfort with technology could be attributed to generation gaps. The Pew Research Center has shown that only 76 percent of those from the older baby boom generation (born between 1946 and 1954) are online, but 95 percent of people from the millennial generation (born between 1977 and 1992) say that they are active online.[41] In a recent study of technology ownership, those aged 19 to 29 owned more cell phones and laptop computers than people from any other age group. People aged 50 and older consistently owned the fewest cell phones, desktop and laptop computers, e-readers and tablets than those younger than aged 50.[42]

Although assigning consistently lower computer literacy and comfort levels strictly according to age or generation could be considered stereotyping, vendors and radiologic technologists have observed some gaps between the skills and comfort levels of recent graduates and technologists who have been in practice for many years. By 2015, the age of radiologic technologists in the workplace will represent workers from the baby boom, generation X and generation Y demographics more evenly. Regardless of the current or future demographics, there is a lack of appropriate skills assessment and training in information technology skills in the health care setting,[43] including assurance that all radiologic technologists have basic computer literacy that help them learn and feel comfortable with new and emerging clinical technologies.

Technology gaps also can exist in basic knowledge of new or emerging medical imaging modalities. For example, some technologists still lack comfort with understanding the basic principles of imaging with digital radiography, and others might rely too heavily on new digital equipment to correct technique factors that once were the purview of the radiologic technologist.[9] Many technologists must cross-train in CT or cardiovascular interventional for department coverage, but conduct examinations infrequently, which provides less opportunity to become familiar with equipment operation and technique. Equipment manufacturers use different terminology and branding to name similar features. This issue is being addressed in digital radiography through efforts to make exposure indicator terminology consistent among vendors and to develop a uniform response relationship between receptor exposure and exposure indicator.[44]

Ensuring that radiologic technologists have the foundation for any current, upgraded or emerging technology is the responsibility of multiple parties. Although accountability rests primarily with the technologist, managers are responsible for hiring, assigning and promoting staff appropriately to ensure patient safety and high-quality imaging examinations in their respective departments. Radiologists ultimately are responsible for the images they review, and should work with managers and technologists to recognize potential shortcomings and help educate as appropriate. Vendors are responsible for providing thorough

training on new and upgraded equipment with cooperation from managers and staff at the facilities where equipment is installed. The medical imaging community and policymakers are responsible for maintaining a focus on patient safety and high-quality imaging through support of measures that ensure only qualified personnel conduct medical imaging examinations.

Workplace Culture

The rapid technological convergence might have advanced more rapidly than technologists' computer capabilities and faster than medical imaging workplace cultures have adapted. For example, lack of certain skills can affect self-efficacy and the focus health care workers have on continued education. Managers, particularly administrators outside of medical imaging departments, often fail to understand the critical nature of applications training and changes technology can cause in technique and patient exposure factors. Further, medical imaging departments might not use the new tools available to them for reporting and tracking dose and for process improvement.

Even when staff is given time to attend applications training, scheduling does not always afford staff time to attend the entire session uninterrupted, or attendees might not be focused on the training. This could be due to concerns regarding coverage or the self-efficacy factor; learners who have high self-efficacy are more likely to visualize a successful training experience and remain more focused than those who have low self-efficacy. A technologist's self-efficacy can be based on individual skills or knowledge, along with the context and culture in which the training and equipment installation takes place. High self-efficacy can assist in training focus and persistence, and with persistence throughout implementation of a new technology.[35,40]

The culture that can lead to low self-efficacy among radiologic technologists and other health care professionals when adopting new technology begins with planning by administrators and nonradiology managers, and teams charged with capital purchases. When implementing converging technologies, inadequate planning can involve failing to include users in the planning process, the mistaken reliance on new or upgraded equipment to solve inefficiencies that actually result from internal departmental problems and failing to consider best practices.[32]

Poor planning and support that lacks a clear structure can lead to inadequate focus or adoption and failure to adequately schedule radiologic technologists for applications training. In addition, inadequate planning for new technology and equipment installations can complicate workflow and cause inefficiencies throughout the entire process — including potentially purchasing suboptimal equipment or features, creating clerical, clinical or technical inefficiencies, extending length and cost of installation, failing to achieve buy-in and training focus from users and repeated operational problems after installation. Having multiple vendors represented can complicate planning for new technology, installations and education, particularly for a new site.

Important patient care aspects are introduced with medical imaging technology that some physicians and leaders outside medical imaging might not fully understand. Adequately adhering to the principles of ALARA requires the cooperation of referring physicians and a supportive and safety-minded culture. Culture change is possible at local and broader levels; pediatric radiation dose offers an excellent example. When the media and public became actively involved in concerns about childhood radiation, organizations, clinicians, government agencies and representatives of a number of resources worked together to address the issue, educate stakeholders and effect change. Eventually, a culture change occurred that modified medical imaging practice.[45]

Thorough planning and strategizing in a safety-minded culture optimizes the use of tools available for reporting and tracking estimated doses and for process improvement. Most medical imaging equipment provides estimated dose information along with the examination, usually in the digital imaging and communications in medicine (DICOM) header.[8,46] Medical and vendor societies have worked together to begin standardizing digital medical imaging exposure indicators (EIs).[8,21] A standard EI value provides an estimate of incident radiation exposure to the detector for each acquired image.[9]

Regardless of standardization, medical imaging equipment offers a variety of data associated with imaging studies, such as estimated dose, dosimetric quantities, demographics and radiographic technique

information that can be compiled and studied for process improvement. Vendors observe that many of these features of equipment are not used by medical imaging departments to the software's capacity. Yet they could be used as part of carefully planned quality management and continuous improvement programs.

Desired State

The challenges that can affect training in medical imaging, and ultimately image quality or patient exposure, can be overcome by observing best practices regarding workplace, technological and cultural issues. The HCIAC committee discussed desired states for medical imaging departments, administrators and industry in terms of best practices.

Workplace and Staffing

Best practice: Medical imaging departments develop staffing policies and procedures that facilitate safe patient care.

Because extended shifts, burnout and fatigue can compromise patient safety, managers should set realistic expectations for staffing that consider high-quality patient care as a priority. Staffing is particularly important when radiologic technologists are required to perform complicated procedures and in MR imaging, where radiologic technologists are responsible for controlling access to the equipment's magnetic field. Failing to staff adequately can affect patient satisfaction, a critical factor in scores now assigned to providers by the Centers for Medicare and Medicaid Services (CMS), and thus in reimbursement.[47]

These policies should include staffing adequately to free time for training on new and upgraded imaging equipment and education about evolving technologies. A 2008 Joint Commission sentinel event alert that addressed safety issues when implementing health information and converging technologies stated that although the time and attention required to learn new technologies can strain already demanding schedules, hospital leadership should establish a training program for all clinical and operations staff who might use new technology. The alert also recommended that the orientation for new technology occur near the time of implementation and that refresher courses be held.[32]

Best practice: Efforts focus on better facilitating radiologist/radiologic technologist collaboration on care, feedback and quality improvement.

In The Joint Commission's 2011 sentinel event alert regarding radiation risks in medical imaging, communication among clinicians, medical physicists, technologists and staff was cited as one of the contributing factors to avoidable radiation dosing.[33] Traditionally, radiologic technologists have learned from radiologists about improving radiographic technique, and radiologists ultimately are responsible for "mastery of technology and dedication to quality and safety" in their practices.[3] In today's digital imaging environment, collaboration between the technologist and radiologist does not occur as often as it did in the film-screen environment. This lack of interaction has resulted in fewer opportunities for the technologist to learn from radiologists and talk about the quality of their images.

Departments should adopt communication strategies and policies in the new digital environment to allow for and even encourage radiologist oversight, involvement and feedback on image technique, exposure and quality. Radiologic technologists usually have sole medical imaging department contact with patients and are the only professionals who might notice duplicate or inappropriate examinations before they occur. Technologists need radiologist input and cooperation to effectively communicate with patients and a departmental system in place in which they can report concerns regarding ordered examinations or technique questions and exposure issues.

Technology Gaps

Best practice: Medical imaging departments provide effective and efficient applications training for new and upgraded medical imaging equipment.

Regular radiologist communication helps radiologic technologists improve basic and advanced technical skills and guidance for patient exposure and ALARA principles. When new and emerging technologies are introduced, radiologic technologists and radiologists must rely on a number of sources for professional development.

Before new or upgraded equipment is installed, radiologic technologists should have a core knowledge of the basics in the modality. The basics of some modalities have changed considerably since radiologic

technologists completed their educational programs. Certification in a modality provides an excellent foundation, but when certification is not practical, there are other avenues. Though employers should make every effort to ensure that application training is effective, it is up to the individual technologists participating to ensure that they are prepared to learn the new technology. For example, computers and health information technology are ubiquitous in medical imaging, and technologists should ensure that they have basic computer skills before attending applications training for the installation of their department's first digital imaging equipment. Radiologic technologists should follow their standards of practice and continue to enhance the perception of their professionalism by participating in lifelong learning, research and publishing opportunities, and adopting new best practices.

Managers and vendors can assist radiologic technologists in determining some of the specific skills needed before applications training begins. Vendors should provide managers with information regarding basic skills and knowledge trainees should possess so that applications training can focus on the equipment and run more efficiently when all attendees are at similar levels in terms of technical and technological skills. Managers can use this information to provide preassessments of trainees' skills before the applications specialist arrives. Similarly, the vendor can work with the medical imaging department manager to provide information for accurate postassessment, so that managers can ensure that radiologic technologists fully understand how to safely and efficiently operate new and upgraded equipment.

Providing effective and efficient applications training requires a certain degree of cooperation between vendors and managers, but also among medical imaging vendors. Once all vendors accept best practices regarding preassessment and postassessment, for example, managers can expect similar processes and deliverables regardless of the manufacturer involved in the equipment installation and training.

Best practice: Recognize that multivendor environments introduce new layers of complexity and require cooperation among vendors and management.

The variation in vendor-specific features necessitates effective and ongoing applications training for medical imaging equipment. Vendors should make available charts with terminology that is specific to their equipment brands to assist radiologic technologists and radiologists, particularly at sites with equipment in the same modality from multiple vendors. Medical imaging department managers should post these charts in conspicuous and convenient locations to assist staff.

Encouraging vendors across all medical imaging modalities to adopt consistent terminology in a manner similar to efforts to standardize digital radiography exposure indicators should decrease complexity for radiologic technologists. This is particularly true for those who cross-train and perform procedures in several modalities and for traveling radiologic technologists. The ASRT has published a white paper that addresses this issue in more detail for digital radiography, along with recommended best practices.[9]

Workplace Culture
Best practice: Medical imaging departments have quality management processes in place; vendors provide documentation and analysis tools that management uses effectively.

Maintaining a regular quality management program is essential to patient care, ALARA principles and a safety culture. Radiologic technologist practice standards address the role of technologists in assessing and adhering to quality management action plans for materials, processes and regular equipment quality control.

In addition, managers can record technique and exposure information provided by medical imaging equipment manufacturers. By investigating patterns outside the range of appropriate technique or dose, radiologists and managers can address and resolve problems by providing education or through other suitable measures. Management should work with vendors to ensure that dosing and technical information from medical imaging examinations captured by equipment is used as intended.

Information gathered from reports, peer-to-peer communication and education and other quality management processes should support patient care and quality improvement efforts. A safety culture encourages openness, communication and nonpunitive follow-up when appropriate. In a culture that emphasizes safety, there are opportunities for peer-to-peer learning and an importance placed on continuous learning. For this to be

successful, radiologic technologists must be dedicated to lifelong learning and be open to accepting constructive criticism from radiologists, managers and peers.

Best practice: Radiologic technologists are educationally prepared, clinically competent and certified in their respective modalities.

When radiologic technologists are dedicated to lifelong learning and professional development, they maintain appropriate clinical competence for their respective modalities. Although maintaining educational preparation and clinical competence is a personal responsibility and an important component of the technologist's practice standards and ethics, the workplace culture should support technologists' efforts. In addition, radiologic technologists should recognize that their professional self-worth and self-efficacy should be connected more closely to professional development than compensation.

When medical imaging departments require that only technologists certified in, or working toward certification in, a respective modality perform procedures in their departments, they support professionalism. Managers can perform and present to administrators cost-benefit analyses of policies such as continuing education reimbursement to support continued competence and new or maintained certifications. Vendors, managers, radiologists, administrators, radiologic technologists and other stakeholders can advocate for legislation to ensure registered radiologic technologists conduct examinations.

Best practice: Vendors and managers collaboratively develop a detailed training agreement that outlines both parties' expectations before finalizing a medical imaging equipment purchase.

Ensuring that radiologic technologists receive effective and efficient education on new and upgraded medical imaging equipment requires detailing site and vendor expectations well in advance of applications training. Vendor expectations might include core knowledge of trainees, amount of time needed from attendees during training, mix and number of procedures to train on, coordination with ancillary equipment set-up or training, and site acceptance and readiness of equipment. Managers should express their expectations regarding education outcomes, scheduling, cost and follow-up assistance from the vendor.

Vendors and managers should work together to discuss education goals and outline the information needed for managers to perform preassessments and postassessments. Likewise, if the manager determines that an advanced user model is the best solution, the manager and vendor should work together to develop identifying characteristics of advanced users and how the user will support the vendor and ongoing education at the site. By identifying advanced users in medical imaging departments whose schedules can be made free for complete applications training, managers can have on-site champions to follow up with staff and contribute to improved learning and operational outcomes. A HCIAC subcommittee on the Definition of the Advanced User in Applications Training developed an advanced user definition in June 2012 to assist managers in identifying advanced users and developing expectations for their assistance in training.

In short, it is critical that the training agreement be carefully planned in as much detail as possible and that appropriate vendor and facility personnel have input to ensure an effective and efficient applications training and successful long-term integration of the new technology into the medical imaging workplace.

Conclusion

Patients now have more information than ever and are empowered to understand the importance of safety and dose when undergoing medical imaging procedures. Radiologic technologists are poised to educate and protect patients. Collaboration of medical imaging stakeholders to support radiologic technologists' education and efforts and to promote a culture of safety and lifelong learning can effect change in medical imaging.

In the busy, budget-driven environment of health care, training time and attention often are sacrificed, yet training is critical to successfully implementing new and emerging technologies.[35] Quick fixes and workarounds are counterproductive, costing more in the long run and compromising safety.[32] Placing a priority on setting expectations for applications training, collaboration among vendors and managers and training appropriately can help ensure effective and safe implementation of new and emerging technologies. Emphasizing a communicative and safe culture in

medical imaging departments supports effective education, along with improving self-efficacy of radiologic technologists and helping them to maintain clinical competence and certification.

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Appendix A

Summary of Best Practice Recommendations

Workplace and Staffing Current State/Challenges:

- Tight staffing ratios, long shifts and overtime lead to high stress and minimize time for learning new technologies and applications.
- Managers have difficulty scheduling adequate time for education about new and upgraded equipment installations.
- There is decreased personal interaction between radiologists and radiologic technologists, largely because of technological advancements.

Workplace and Staffing Desired State/ Best Practices:

- Medical imaging departments develop staffing policies and procedures that facilitate safe patient care.
- Efforts focus on better facilitating radiologist/ radiologic technologist collaboration on care, feedback and quality improvement.

Technology Gaps Current State/Challenges:

- Gaps are evident in computer literacy, understanding basic principles of imaging with digital equipment and comfort levels with technology among radiologic technologists.
- Equipment manufacturers use different terminology and branding to name similar features, causing further confusion with new and existing technologies.
- Ensuring patient safety and image quality requires accountability of multiple and varied parties, particularly radiologic technologists.

Technology Gaps Desired State/Best Practices:

- Medical imaging departments provide effective and efficient applications training for new and upgraded medical imaging equipment.
- There is recognition that multivendor environments introduce new layers of complexity requiring cooperation among vendors and management.

Workplace Culture Current State/Challenges:

- Managers and administrators often fail to understand the critical nature of medical imaging concepts and applications training.
- Inadequate planning and support for new and upgraded technologies can complicate workflow, cause problems with or failure of applications training and contribute to low radiologic technologist self-efficacy.
- Low self-efficacy among radiologic technologists can limit effectiveness of applications training preparation and completion.
- Medical imaging equipment features that help reduce dose or improved quality and processes often are not used to their capacity in medical imaging departments.

Workplace Culture Desired State/Best Practices:

- Medical imaging departments have quality management processes in place; vendors provide documentation and analysis tools that management uses effectively.
- Radiologic technologists are educationally prepared, clinically competent and certified in their respective modalities.
- Vendors and managers collaboratively develop a detailed training agreement that outlines both parties' expectations before finalizing a medical imaging equipment purchase.

Appendix B

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American College of Radiology White Paper on MR Safety

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The following is a report of the American College of Radiology Blue Ribbon Panel on MR Safety, chaired by Emanuel Kanal, MD, FACR, to the Task Force on Patient Safety, chaired by James P. Borgstede, MD, FACR. Under the auspices of the Task Force, the panel met in November 2001 consisting of the following members: A. James Barkovich, MD; Charlotte Bell, MD, (Anesthesia Patient Safety Foundation); James P. Borgstede, MD, FACR; William G. Bradley, MD, PhD, FACR; Joel Felmlee, PhD; Jerry W. Froelich, MD; Ellisa M. Kaminski, RTR, MR; Emanuel Kanal, MD, FACR; Elaine K. Keeler, PhD, (NEMA); James W. Lester, MD; Elizabeth Scoumis, RN, BSN; Loren A. Zaremba, PhD (FDA); and Marie D. Zinninger (American College of Radiology Staff). The following document is intended to be used as a template for MR facilities to follow in the development of an MR safety program.

Recent articles in the medical literature and electronic/print media [1, 2] detailing Magnetic Resonance Imaging (MRI) adverse incidents involving patients, equipment, and personnel spotlighted the need for review. The Panel was charged with reviewing MR safety practices and guidelines and issuing new ones as appropriate for MR examinations and practices today [3–7]. The document restates existing practices and articulates new ones. This document will continue to evolve, as does the MRI field.

There are potential risks in the MR environment, not only for the patient but also for the accompanying family members, attending health care professionals, and others who find themselves only occasionally or rarely in the magnetic fields of MR scanners, such as security or housekeeping personnel, firefighters, police, etc. These MR Safe Practices Guidelines have been developed to help guide MR practitioners regarding these issues and provide a basis for them to develop and implement their own MR policies and practices. It is intended that these MR Safe Practice Guidelines (and the policies and procedures to which they give rise) be reviewed and updated on a regular basis.

It is the intent of the American College of Radiology (ACR) that these MR Safe Practice Guidelines will be helpful as the field of MR evolves and matures, providing patient MR services that are among the most powerful, yet safest, of all diagnostic procedures to be developed in the history of modern medicine.

ACR Magnetic Resonance Safe Practice Guidelines

A. Establish, Implement, And Maintain Current MR Safety Policies And Procedures

1. All clinical and research magnetic resonance imaging sites should maintain MR Safety Policies and Procedures, which are to be established, implemented, maintained, and routinely reviewed and updated, as appropriate. The level of compliance by staff will be assessed and documented annually. The policies and procedures manual should be readily available to the MR professionals on site at all times of operation.
2. These policies and procedures should also be reviewed concomitant with the introduction of any significant changes in safety parameters in the MR imaging environment of the site's MR service (e.g., adding faster/stronger gradient capabilities, higher RF duty cycle studies, etc.) and updated as needed. In this review process, national and international standards and recommendations should be taken into consideration prior to establishing local guidelines, policies, and procedures.
3. Each site will name an MR Medical Director whose responsibilities will include ensuring that these MR Safe Practice Guidelines are established and maintained as current and appropriate for the site. It is the responsibility of the site's administration to ensure that the policies and procedures that result from these MR Safe Practice Guidelines are implemented and adhered to at all times by all of the site's personnel.
4. Procedures should be in place to ensure that any and all adverse events, MR safety incidents, or "near incidents" that occur in the MR site are to be reported to the Medical Director of the MR site in a timely fashion (e.g., within 24 hours/one business day of their occurrence) and used in continuous quality improvement efforts.

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B. STATIC MAGNETIC FIELD ISSUES: SITE ACCESS RESTRICTION

1. Zoning:
   The MR site is conceptually divided into four Zones (Fig. 1) as follows.
   a. Zone I: This includes all areas that are freely accessible to the general public. This area is typically outside of the MR environment itself and is the area through which patients, health care personnel, and other employees of the MR site access the MR environment.
   b. Zone II: This area is the interface between the publicly accessible uncontrolled Zone I and the strictly controlled Zone III and IV (see below). Typically patients are greeted in Zone II and are not free to move throughout Zone II at will, but are rather under the supervision of MR Personnel (see Section 2b, below). It is in Zone II that the answers to MR screening questions, patient histories, medical insurance questions, etc., are typically obtained.
   c. Zone III: This area is the region in which free access by unscreened non–MR Personnel and/or ferromagnetic objects and equipment can result in serious injury or death as a result of interactions between the individuals/equipment and the MR scanner's particular environment. These interactions include but are not limited to those involving the MR scanner's static and time varying magnetic fields. All access to Zone III is to be strictly restricted, with access to regions within it (including Zone IV, see below) controlled by, and entirely under the supervision of, MR Personnel (see Section 2b, below). Specifically identified MR Personnel (typically—but not necessarily only—the MR Technologists) are to be charged with ensuring that this MR Safe Practice Guideline is strictly adhered to for the safety of the patients and other non–MR personnel, the health care personnel, and the equipment itself. This function of the MR Personnel is directly under the authority and responsibility of the MR Medical Director or the Level Two–designated (see section 2b, below) physician of the day for the MR site.

      Zone III regions should be physically restricted from general public access—for example, by key locks, pass-key locking systems, or any other reliable physically restricting method that can differentiate between MR Personnel and non–MR Personnel. The use of combination locks is to be discouraged as combinations often tend to become more widely distributed than initially intended, resulting in site restriction violations being more likely with these devices. Only MR Personnel shall be provided with free access, such as the access keys/passkeys, to Zone III regions.

      There should be NO exceptions to this guideline. Specifically, this includes hospital/site administration, physician, security, and other non–MR Personnel (see section 2b, below). Non–MR personnel are not to be provided with independent Zone III access until such time as they undergo the proper education and training and become MR Personnel themselves. Zone III regions or at the very least the area within them wherein the static magnetic field's strength exceeds 5-gauss should be clearly marked and demarcated as being potentially hazardous.
   d. Zone IV: This area is synonymous with the MR scanner magnet room itself—i.e., the physical confines of the room within which the MR scanner itself is located. Zone IV, by definition, will always be located within Zone III as it is the MR magnet and its associated magnetic field that generates the existence of Zone III itself. Zone IV regions should also be clearly marked and demarcated as being potentially hazardous due to the presence of very strong magnetic fields. As part of the Zone IV site restriction, all MR installations should be installed in such a way as to provide for direct visual observation by Level II MR Personnel to access pathways into Zone IV regions. By means of illustration only, the MR Technologists would be able to directly observe and control, via line of site or via video monitors, the entrances or access corridors to Zone IV regions from their normal positions when stationed at their desks in the scan control room.

      Zone IV/MR magnet rooms should be clearly marked with a lighted sign and red light stating, "The Magnet is On." Except for resistive systems, this sign/red light should be illuminated at all times and should be provided with a backup energy source to continue to remain illuminated for at least 24 hours in the event of a loss of power to the site.

      In case of cardiac or respiratory arrest or other medical emergency within Zone

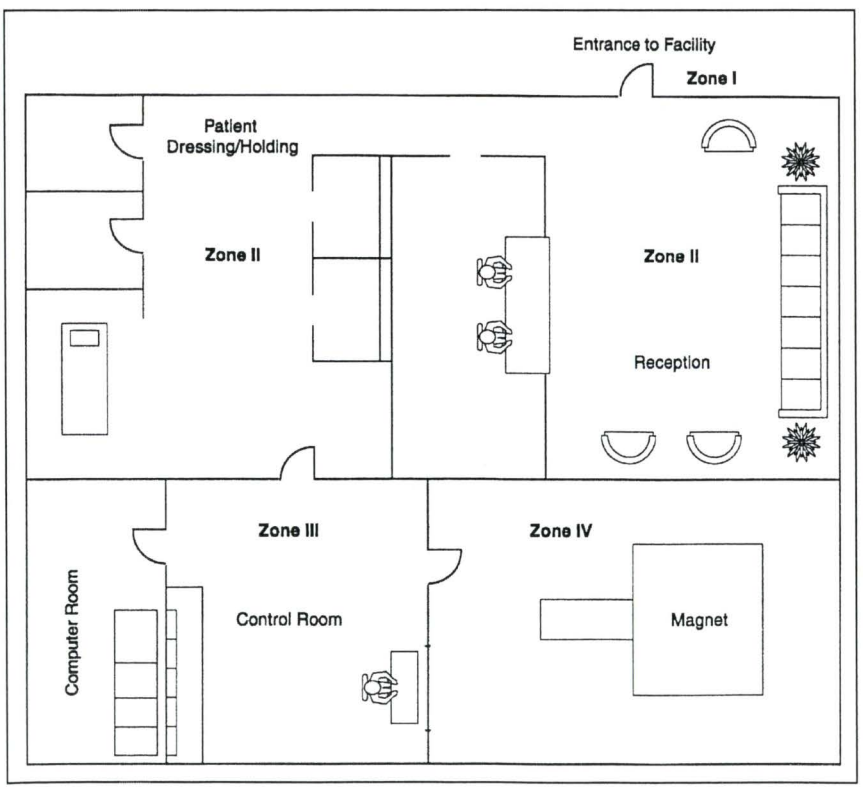

Fig. 1.—MR site floor plan.

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IV for which emergent medical intervention and/or resuscitation is required, appropriately trained and certified MR Personnel should immediately initiate basic life support and/or CPR as required by the situation WHILE the patient is being emergently removed from the MR magnet room/Zone IV to a predetermined magnetically safe location. ALL PRIORITIES SHOULD BE FOCUSED ON STABILIZING (E.G., BASIC LIFE SUPPORT WITH CARDIAC COMPRESSIONS AND MANUAL VENTILATION) AND THEN EVACUATING THE PATIENT AS RAPIDLY AND SAFELY AS POSSIBLE FROM THE MAGNETIC ENVIRONMENT THAT MIGHT RESTRICT SAFE RESUSCITATIVE EFFORTS.

Further, for logistical safety reasons, the patient should always be removed from ZONE IV (the magnet room itself) to the prospectively identified location where full resuscitative efforts are to continue.

Quenching the magnet (for superconducting systems only) is not routinely advised for cardiac or respiratory arrest or other medical emergency, since quenching the magnet itself and having the magnetic field dissipate could easily take more than a minute. Furthermore, as quenching a magnet can theoretically be hazardous, ideally one should evacuate the magnet room, when possible, for an intentional quench. One should rather use that time wisely to initiate life support measures while removing the patient from Zone IV/the MR magnet room to a location where the strength of the magnetic field(s) is insufficient to be a medical concern. ZONE III AND ZONE IV SITE ACCESS RESTRICTION MUST BE MAINTAINED DURING RESUSCITATIONS AND/OR OTHER EMERGENT SITUATIONS FOR THE PROTECTION OF ALL INVOLVED.

2. MR Personnel/Non–MR Personnel
   a. All individuals working within at least Zone III of the MR environment should be documented to have completed successfully at least one of the MR site's approved MR safety live lectures or prerecorded presentations as approved by the MR Medical Director. Attendance should be repeated at least annually, and appropriate documentation should be provided. These individuals shall be referred to henceforth as MR Personnel.
   b. There are two levels of MR Personnel.
      1. Level One MR Personnel: Those who have passed minimal safety educational efforts to ensure their own safety as they work within Zone III regions will be referred to henceforth as Level One MR Personnel.
      2. Level Two MR Personnel: Those who have been more extensively trained and intensively educated in the broader aspects of MR safety issues including, for example, issues related to the potential for thermal loading/burns, direct neuromuscular excitation from rapidly changing gradients, etc., shall be referred to henceforth as Level Two MR Personnel. It is the responsibility of the MR Medical Director of the site not only to identify the necessary training, but also to identify those individuals that qualify as Level Two MR Personnel. It is understood that the Medical Director of the MR site will be one whose education and experience in MR safety qualifies them for designation as Level Two MR Personnel.
   c. All those not having successfully complied with these MR safety instruction guidelines shall be referred to henceforth as Non–MR Personnel.
3. Patient/Non–MR Personnel Screening
   a. ALL Non–MR Personnel wishing to enter Zone III regions of the MR Site must have first successfully passed an MR safety screening process to be performed by authorized MR Personnel. Only MR Personnel are authorized to perform an MR safety screen prior to permitting Non–MR Personnel into Zone III areas.
   b. Metal Detectors
      The usage of metal detectors in MR environments is NOT recommended. Reasons for this recommendation include, among others:
      1. They have varied—and variable—sensitivity settings.
      2. The skills of the operators can vary.
      3. Today's metal detectors cannot detect, for example, a 2 × 3 mm, potentially dangerous ferromagnetic metal fragment in the orbit, near the spinal cord, or heart, etc.
      4. Today's metal detectors do not differentiate between ferromagnetic and nonferromagnetic metallic objects/implants/foreign bodies.
      5. Metal detectors should not be necessary for the detection of large metallic objects such as oxygen tanks on the gurney with the patients. These objects are fully expected to be detected—and physically excluded—during the routine patient screening process.
   c. Non–MR Personnel should be accompanied by, or under the immediate supervision and visual/verbal contact with, one specifically identified Level Two MR Person for the entirety of the duration during which the Non–MR Personnel remain within Zone III or Zone IV restricted regions. However, it is acceptable to have them in a changing room or restroom not in visual contact in Zone III as long as personnel and the patient can verbally communicate with each other.

      In the event of a shift change, lunch break, etc., no Level Two MR Personnel shall relinquish their responsibility to supervise the Non–MR Personnel still within Zone III or Zone IV under their charge until such supervision has been formally transferred to another of the Level Two MR Personnel of the MR Site.
   d. Non-emergent patients should be MR safety screened onsite by a minimum of two separate individuals. At least one of these individuals should be one of the Level Two MR Personnel of the MR site. At least one of these two screens should be performed verbally/interactively.

      Emergent patients and their accompanying Non–MR Personnel may be screened only once providing that the screening individual is one of the site's Level Two MR Personnel.

      There should be no exceptions to this.
   e. Any individual undergoing an MR procedure must remove all readily removable metallic personal belongings and devices on or in them (e.g., watches; jewelry; pagers; cell phones; body piercings, if removable; contraceptive diaphragms; metallic drug delivery patches; and clothing items that may contain metallic fasteners, hooks, zippers, loose metallic components, or metallic threads; cosmetics containing metallic particles, such as eye makeup). It is therefore advisable to require that the patients or research subjects wear a site-supplied gown with no metal fasteners during the MR procedure when feasible.
   f. All patients/Non–MR Personnel with a history of a potential ferromagnetic foreign object penetration must undergo further investigation prior to being per-

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mitted entrance to Zone III of the MR site. Examples of acceptable methods of screening include patient history, plain x-ray films, prior CT or MR of the questioned anatomic area, or access to written documentation as to the type of implant or foreign object that might be present. Once positive identification has been made as to the type of implant/foreign object that is within a patient, best effort assessments should be made to attempt to identify the MR compatibility or MR safety of the implant/object. Efforts at identification might include written testing on the implant prior to implantation (preferred), product labeling regarding the implant/object, peer-reviewed publications regarding MR compatibility, and MR safety testing of the make/model/type of the object, etc. MR safety testing would only be of value assuming that the object/device has not been altered since such testing had been published.

All patients who have a history of orbit trauma by a potential ferromagnetic foreign body **for which they sought medical attention** are to have their orbits cleared by either plain x-ray orbit films (two views) [8, 9] or by a radiologist's review and assessment of contiguous cut prior CT or MR images (obtained since the suspected traumatic event) if available.

g. Conscious, non-emergent patients and research and volunteer subjects are to complete written MR safety screening questionnaires prior to their introduction into Zone III regions. Family/guardians of non-responsive patients or of patients who cannot reliably provide their own medical histories are to complete a written MR safety screening questionnaire prior to their introduction into Zone III regions. These completed questionnaires are then to be reviewed orally with the patient/guardian/research subject in their entirety prior to permitting the patient/research subject to be cleared into Zone III regions.

The patient/guardian/research subject as well as the screening MR staff member must both sign the completed form. This should then become a part of the patient's medical record. No empty responses will be accepted—each question MUST be answered definitively with a "Yes" or "No" or provide specific further information as requested. A sample of a pre–MR screening form is provided (Appendixes 2–5). This is the minimum information to be obtained; more may be added if the site so desires.

h. Screening of the patient/Non–MR Personnel with, or suspected of having, an intracranial aneurysm clip should be performed as per the separate MR Safe Practice Guideline addressing this particular topic (see section K, below).

i. Screening of all unconscious/unresponsive patients and/or patients who cannot provide their own reliable histories, or when the history cannot be reliably obtained from others, regarding prior possible exposures to surgery, trauma, and/or metallic foreign object history/exposure, in whom an MR examination is deemed clinically indicated/necessary:

   1. If no reliable patient metal exposure history can be otherwise obtained and if the requested MR examination cannot reasonably wait until such a time that a reliable such history might be obtained, it is recommended that such patients be physically examined by Level Two MR Personnel. All areas of scars or deformities that might be anatomically indicative of an implant such as on the chest or spine region, etc., and whose origins are unknown and which may have been caused by ferromagnetic foreign bodies, implants, etc., should be subject to plain film radiography (if such recently obtained plain films or computer tomographic or magnetic resonance studies of such areas are not already available). The investigation described above should be made to ensure that there are no potentially harmful embedded/implanted metallic foreign objects or devices. All such patients should also undergo plain film imaging of the skull/orbits and chest to exclude metallic foreign objects (if recently obtained such radiographic and/or MR information is not already available).
   2. Monitoring of patients is sometimes necessary in the MR scanner. The potential for thermal injury from possibly excessive radiofrequency power deposition exists. Sedated, anesthetized, and/or unconscious patients may not be able to express symptoms of such injury. This potential for injury is greater on especially higher field whole-body scanners (e.g., 1 Tesla and above). Much patient monitoring information can be satisfactorily acquired via pulse oximetry and/or other means without utilization of electrocardiographic tracing and its inherent thermal injury risks. Patients who require EKG monitoring and who are, unconscious, sedated, and/or anesthetized should be examined with potential repositioning, after each imaging sequence, of the EKG leads and any other electrically conductive material with which the patient is in contact. Alternatively, cold compresses or ice packs could be placed upon all necessary electrically conductive material that touches the patient during scanning.

j. Final determination of whether or not to scan any given patient with any given implant, foreign body, etc., is to be made by the Level Two designated attending MR radiologist, or the MR Medical Director, or specifically designated Level Two MR Personnel following criteria for acceptability for MR scanning predetermined by the Medical Director.

k. All Non–MR Personnel (e.g., patients, volunteers, varied site employees and professionals, etc.) with implanted cardiac pacemakers, autodefibrillators, diaphragmatic pacemakers, and/or other electromechanically activated devices on whose function the Non–MR Personnel is dependent should be precluded from the MR magnet room/Zone IV and physically restrained from the 5-gauss line unless specifically cleared in writing by a Level Two MR Personnel–designated radiologist attending physician or the Medical Director of the MR site. In such circumstances, specific defending risk/benefit rationale should be provided in writing and signed by the authorizing radiologist.

Should it be determined that Non–MR Personnel wishing to accompany a patient into an MR scan room require their orbits to be cleared by plain film radiography, a radiologist must first discuss with the Non–MR Personnel that plain x-ray films of their orbits are required prior to permitting them access to the MR scan room. Should they still wish to proceed with access to Zone IV and/or within the 5-gauss line, and should the attending radiologist deem it medically advisable that they do so (e.g., for the care of their child about to undergo an MR study), written informed consent should be provided by these accompanying Non–MR Personnel prior to their undergoing x-ray examination of their orbits.

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l. MR scanning of patients/prisoners/parolees with metallic prisoner restraining devices or radiofrequency ID/tracking bracelets could lead to theoretical potential adverse events including: 1) ferromagnetic attractive effects and resultant patient injury, 2) possible ferromagnetic attractive effects and potential damage to the device and/or its battery pack, 3) radiofrequency (RF) interference with the MR imaging study and secondary image artifact, 4) RF interference with the functionality of the device, 5) RF power deposition and heating of the bracelet tagging device or its circuitry and secondary patient injury (if the bracelet would be in the anatomic volume of the RF transmitter coil being imaged). Therefore, in cases where requested to scan a patient/prisoner/parolee wearing radiofrequency tagging bracelets and/or metallic handcuffs or anklecuffs, request that the patient be accompanied by the appropriate authorities who can and will remove the restraining device prior to the MR study and be charged with its replacement following the examination.

m. Firefighter/Police/Security safety considerations: For the safety of firefighters and other emergent services responding to an emergent call at the MR site, it is recommended that all fire alarms, cardiac arrests, or other emergent service response calls originating/located in the MR site should be forwarded simultaneously to a specifically designated individual from amongst the site's MR Personnel. This individual should, if possible, be on-site prior to the arrival of the firefighters/emergent responders to ensure that they do not have free access to Zone III or Zone IV. The site might consider assigning appropriately trained security personnel, who have been trained and designated as MR Personnel, to respond to such calls.

In any case, all MR sites should arrange to prospectively educate their local fire marshals/firefighters associations and police/security personnel about the potential hazards of responding to emergencies in the MR suite.

It should be stressed that even in the presence of a true fire (or other emergency) in Zone III and/or Zone IV, the magnetic fields may be present and fully operational. Therefore, free access to Zone III or Zone IV by firefighters and/or other Non–MR Personnel with air tanks, axes, crowbars, other firefighting equipment, guns, etc., might prove catastrophic or even lethal to those responding or others in the vicinity.

As part of the Zone III/IV restrictions, all MR sites must have clearly marked MR-compatible fire extinguishing equipment physically stored within and readily accessible to Zone III/IV regions. All Non–MR compatible fire extinguishers and other firefighting equipment should be restricted from being brought into Zone III regions.

For superconducting magnets, the helium (and the nitrogen as well, in the older magnets) is not flammable and does not pose a fire hazard directly. However, the liquid oxygen that can result from the supercooled air in the vicinity of the released gases might well increase the fire hazard in this area. If there are appropriately trained and knowledgeable MR personnel available during the emergency to ensure that emergency response personnel responding to the fire call are kept out of the MR scanner/magnet room and 5-gauss line, then quenching the magnet during response to an emergency or fire should not be a requirement.

HOWEVER, if the fire is in such a location where Zone III/IV needs to be entered for whatever reason by the firefighting and/or emergency response personnel and their firefighting and emergent equipment such as air canisters, crowbars, axes, defibrillators, etc., a decision to quench a superconducting magnet at that point should be VERY seriously considered to protect the health and lives of the emergent responding personnel in such an emergency situation. Should a quench be performed, appropriately designated MR personnel still need to ensure that ALL non–MR personnel (including and especially emergently responding personnel) continue to be restricted from Zone III/IV regions until the designated MR Personnel have personally verified that the static field is either no longer detectable or at least sufficiently attenuated so as to no longer present a potential hazard to one moving by it with, for example, large ferromagnetic objects such as oxygen tanks, axes, etc.

For resistive systems, the magnetic field of the MR scanner should be shut down as completely as possible and verified as such prior to permitting the emergency response personnel access to the magnet/Zone IV. For permanent or resistive or hybrid systems whose magnetic fields cannot be completely shut down, MR personnel should be available to warn the emergency response personnel that a very powerful magnetic field is still operational in the magnet room/Zone IV.

4. MR Personnel Screening

All MR Personnel are to undergo an MR screening process as part of their employment interview process to ensure their own safety in the MR environment. For their own protection and for the protection of the Non–MR Personnel under their supervision, all MR Personnel must immediately report to the MR Medical Director any trauma, procedure, or surgery that they experience or undergo in which a ferromagnetic metallic object/device may have become introduced within or on them. This will permit an appropriate screening to be performed upon the employee to determine the safety of permitting that MR Personnel–designated employee into the Zone III environment of the MR site.

5. Device/Object Screening

As part of the Zone III site restriction and equipment testing/clearing responsibilities, all sites should have ready access to a strong handheld magnet (≥1000-gauss). This will enable the site to test external and even some superficial internal devices or implants for the presence of grossly detectable ferromagnetic attractive forces.

a. All portable metallic or partially metallic devices that are on or external to the patient (e.g., oxygen cylinders) are to be positively identified in writing as non-ferromagnetic and either MR safe or MR compatible prior to permitting them into Zone III regions. For all device/object screening, all verification and positive identification should be in writing. Examples of such devices that need to be positively identified include fire extinguishers, oxygen tanks, aneurysm clips, etc.

b. If external devices/objects are demonstrated to be ferromagnetic and Non–MR safe/MR compatible, they may

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still, under specific circumstances, be brought into Zone III regions if, for example, they are deemed by MR Personnel to be necessary and appropriate for the care of the patient. They should only be brought into Zone III regions if they are under the direct supervision of specifically designated either Level One or Level Two MR Personnel who are thoroughly familiar with the device, its function, and the reason supporting its introduction into the Zone III designated region. The safe utilization of these devices at all times while they are present in Zone III will be the responsibility of a specifically named Level One or Two MR Personnel. This device must be appropriately physically secured or restricted at all times during which it is in Zone III regions to ensure that it does not inadvertently become introduced too close to the MR scanner and accidentally become exposed to static magnetic fields/gradients that might result in its becoming either a hazardous projectile or no longer accurately functional.

c. Never assume MR compatibility or safety information about the device if it is not clearly documented in writing. All unknown external objects/devices being considered for introduction beyond Zone II regions should be tested with a strong handheld magnet (≥1000-gauss) for ferromagnetic properties prior to permitting them entry beyond Zone II regions. The results of such testing as well as the date, time, and name of tester, and methodology used for that particular device should be documented in writing. If a device has not been tested and/or its MR compatibility/safety status is unknown, it should NOT be permitted unrestricted access beyond Zone II regions.

d. All portable metallic or partially metallic objects that are to be brought into Zone IV regions (i.e., the MR magnet room itself) must be labeled with either a green "MR Safe" label or a red "Not MR Safe" label. As noted in section 5 introduction above, testing for the purpose of this labeling is to be accomplished by the site's MR personnel by exposing the metallic object to a handheld magnet (≥1000-gauss). If grossly detectable attractive forces are observed between the metallic object or any of its components and the handheld magnet, it is to be labeled with a red label. If no such forces are observed, a green label is to be affixed to the device/object prior to its introduction into Zone IV.

e. Decisions based on published MR compatibility or safety claims should recognize that all such claims apply to specifically tested static field and static gradient field strengths. For example, "MR compatible up to 3.0 Tesla at gradient strengths of 400-gauss/cm," or "MR safe tested up to 1.5 Tesla up to maximum static gradient fields experienced in an unshielded 1.5 Tesla [manufacturer name] whole body MR scanner tested 1.5 feet within the bore."

f. It should be noted that alterations performed by the site on MR safe/compatible equipment or devices may alter the MR safety and/or compatibility properties of the device. For example, tying a ferromagnetic metallic twisting binder onto a sign labeling the device as MR compatible might result in artifact induction—or worse—if introduced into the MR scanner in that altered manner.

C. MR SAFE PRACTICE GUIDELINES: MR TECHNOLOGIST

1. MR Technologists should be ARRT Registered Technologists (RT). Furthermore, all MR Technologists must be trained as Level Two MR Personnel during their orientation, prior to being permitted free access to Zone III.
2. All MR Technologists will maintain current certification in American Heart Association Basic Life Support at the Health Care Provider level.
3. Except for emergent coverage, there will be a minimum of two MR technologists or one MR Technologist and one other individual with the designation of MR Personnel in the immediate Zone II through Zone IV MR environment. For emergent coverage, the MR Technologist can scan with no other individuals in their Zone II through Zone IV MR environment as long as there is in-house ready emergent coverage by designated Department of Radiology MR Personnel (e.g., radiology house staff, radiology attendings, etc.).

D. PREGNANCY-RELATED ISSUES

1. Health care practitioner pregnancies

   Pregnant health care practitioners are permitted to work in and around the MR environment throughout all stages of their pregnancy [10]. This includes but is not limited to positioning patients, scanning, archiving, injecting contrast, entering the MR scan room in response to an emergency, etc. Although permitted to work in and around the MR environment, pregnant health care practitioners are requested not to remain within the MR scanner bore or Zone IV during actual data acquisition/scanning itself.

2. Patient pregnancies

   a. Pregnant patients can be accepted to undergo MR scans at any stage of pregnancy if, in the determination of a Level Two MR Personnel–designated attending radiologist, the risk–benefit ratio to the patient warrants that the study be performed. The radiologist should confer with the referring physician and document this in the radiology report or the patient's medical record that:
      1. The information requested from the MR study cannot be acquired via non-ionizing means (e.g., ultrasonography), and
      2. The data is needed to potentially affect the care of that patient and/or fetus DURING the pregnancy, and
      3. The referring physician does not feel that it is prudent to wait to obtain this data until after the patient is no longer pregnant.

   b. MR contrast agent(s) should NOT be routinely provided to pregnant patients. This, too, is a decision that must be made on a case-by-case basis by the covering Level Two MR Personnel–designated attending radiologist who will assess the risk–benefit ratio for that particular patient.

   c. It is recommended that pregnant patients undergoing an MR examination provide written informed consent to document that they understand the risks/benefits of the MR procedure to be performed, the alternative diagnostic options available to them (if any), and that they wish to proceed.

E. TIME VARYING GRADIENT MAGNETIC FIELD–RELATED ISSUES: INDUCED VOLTAGES

Types of patients needing extra caution: Patients with implanted or retained wires in anatomically and/or functionally sensitive areas (e.g., myocardium or epicardium, implanted electrodes in the brain) should be considered at higher risk especially from faster MR imaging sequences, such as echoplanar imaging (which may be used in such sequences as diffusion weighted imag-

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ing, functional imaging, perfusion weighted imaging, MR angiographic imaging, etc.). The decision to limit the dB/dt (rate of magnetic field change) and maximum strength of the magnetic field of the gradient subsystems during imaging of such patients should be reviewed by the Level Two MR Personnel–designated attending radiologist supervising the case/patient.

F. TIME VARYING GRADIENT MAGNETIC FIELD–RELATED ISSUES: AUDITORY CONSIDERATIONS

1. All patients/volunteers should be offered and encouraged to use hearing protection prior to their undergoing any imaging in the MR scanners.
2. All patients/volunteers in whom research sequences are to be performed (i.e., MR scan sequences that have not yet been approved by the Food and Drug Administration [FDA]) are to have hearing protective devices IN PLACE prior to initiating any such research MR sequences on these patient/volunteers. Without hearing protection in place, MR imaging sequences that are not FDA approved should not be performed on patients/volunteers.

G. TIME VARYING RADIOFREQUENCY MAGNETIC FIELD–RELATED ISSUES: THERMAL

1. All unnecessary and/or unused electrically conductive materials should be removed from the MR system before the onset of imaging. It is not sufficient to merely "unplug" or disconnect unused unnecessary electrically conductive material and leave it within the MR scanner with the patient during imaging. All electrical connections such as on surface coil leads, monitoring devices, etc., must be visually checked by the scanning MR Technologist prior to each scan to ensure the integrity of the thermal and electrical insulation.
2. For electrically conductive material, wires, leads, implants, etc., that are required to remain within the bore of the MR scanner with the patient during imaging, care should be taken to ensure that no large caliber electrically conducting loops (including patient tissue; see section g, 5, below) are permitted to be formed within the MR scanner.
3. For electrically conductive material, wires, leads, implants, etc., that are required to be within the bore of the MR scanner with the patient during imaging, care should be taken to place thermal insulation (including air, pads, etc.) between the patient and the electrically conductive material during imaging, while simultaneously attempting to (as much as feasible) keep the electrical conductor from directly contacting the patient during imaging. It is also appropriate to try to position the leads/wires as far as possible from the inner walls of the MR scanner if the body coil is being used for radiofrequency transmission. When it is necessary that such electrically conductive leads directly contact the patient during imaging, consideration should be given to prophylactic application of cold compresses or ice packs to such areas.
4. Depending on specific magnet designs, care may be needed to ensure that the patient's tissue(s) do not directly come into contact with the inner bore of the MR imager during the MR imaging process. This care is especially important for several higher field MR scanners. The manufacturers of these devices provide pads and other such insulating devices for this purpose, and manufacturer guidelines should be strictly adhered to for these units.
5. It is also important to ensure that the patient's own tissues do not form large conductive loops. Therefore, care should be taken to ensure that the patient's arms/legs not be positioned in such a way as to form a large-caliber loop within the bore of the MR imager during the imaging process. For this reason, it is preferable that patients be instructed not to cross their arms or legs in the MR scanner.
6. Skin Staples/Superficial Metallic Sutures: Patients requested to undergo MR studies in whom there are skin staples or superficial metallic sutures (SMS) may be permitted to undergo the MR examination if the skin staples/SMS are not ferromagnetic and are not in the anatomic volume of RF power deposition for the study to be performed. If the nonferromagnetic skin staples/SMS are within the volume to be RF irradiated for the requested MR study several precautions are recommended, as follows:
   a. Warn the patient and make sure that they are especially aware of the possibility that they may experience warmth or even burning along the skin staple/SMS distribution. The patient should be instructed to report immediately if they experience a warmth or burning sensations during the study (and not, for example, wait until the "end of the knocking noise").
   b. It is recommended that a cold compress/ice pack be placed along the skin staples/SMS if this can be safely clinically accomplished during the MR imaging examination. This will help to serve as a heat sink for any focal power deposition that may occur, thus decreasing the likelihood of a clinically significant thermal injury/burn to adjacent tissue.
7. For patients with extensive and/or dark tattoos including tattooed eyeliner, in order to decrease the potential for radiofrequency heating of the tattooed tissue it is recommended that cold compresses or ice packs be placed onto the tattooed area(s) and kept in place throughout the MR imaging process if these tattoos are within the volume in which the body coil is being used for RF transmission. This approach is especially appropriate if fast spin-echo (or other high RF duty cycle) MR imaging sequences are anticipated to be used in the study. If another coil is being used for RF transmission, a decision must be made if high RF transmitted power is to be anticipated by the study protocol design. If so then the above precautions should be followed in that case as well. Additionally, patients with tattoos that had been placed within 48 hours prior to the pending MR examination should be advised of the potential for smearing or smudging of the edges of the freshly placed tattoo.
8. The unconscious/unresponsive patient should have any/all attached leads covered with a cold compress/ice pack at the lead attachment site for the duration of the MR study prior to the initiation of scanning.
9. Patients in whom there are long electrically conductive leads such as Swan-Ganz thermodilution cardiac output capable catheters, Foley catheters with electrically conductive leads, etc., should be considered at risk for MR studies if the body coil is to be used for RF transmission over the region of the electrically conductive lead. This is especially true for higher field systems and for imaging protocols utilizing fast spin echo or other high RF duty cycle MR imaging sequences. Each such patient should be reviewed and cleared by an attending Level Two radiologist and a risk benefit ratio assessment performed prior to permitting them access to the MR scanner.

H. CRYOGEN-RELATED ISSUES

1. For superconducting systems, in the event of a system quench it is imperative that all personnel/patients be evacuated from the MR scan room as quickly as safely feasible and the site access be immediately restricted to all individuals until the arrival of the MR equipment

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service personnel. This is especially so if cryogenic gases are observed to have vented partially or completely into the scan room itself, as evidenced in part by the sudden appearance of white "clouds" or "fog" around or above the MR scanner. As noted in section B.2.m above, it is especially important to ensure that all police/fire response personnel are restricted from entering the MR scan room with their equipment (axes, air canisters, guns, etc.) until it can be confirmed that the magnetic field has been successfully dissipated, as there may still be considerable static magnetic field present despite a quench or partial quench of the magnetic field.

2. It should be pointed out that room oxygen monitoring was discussed by the MR Blue Ribbon Panel and rejected at this time because the present oxygen monitoring technology was considered by industry experts to not be sufficiently reliable to allow for continued operation during situations of power outages, etc.

I. CLAUSTROPHOBIA/ANXIETY/SEDATION–ANALGESIA/ANESTHESIA MR SAFE PRACTICE GUIDELINES

Adult and pediatric patient anxiolysis, sedation, analgesia, and anesthesia for any reason should follow established American College of Radiology (ACR) [11, 12], American Society of Anesthesiologists (ASA) [13–16], and JCAHO standards [17].

J. CONTRAST AGENT SAFETY MR SAFE PRACTICES

1. Contrast agent administration issues

   No patient is to be administered prescription MR contrast agents without orders from a duly licensed physician. Intravenous injection-qualified MR technologists may start and attend to peripheral intravenous access/lines if they have undergone the requisite site-specified training in peripheral IV access and have demonstrated and documented appropriate proficiency in this area. IV-qualified MR technologists may administer FDA-approved gadolinium-based MR contrast agents via peripheral intravenous routes as a bolus or slow or continuous injection, as directed by the orders of a duly licensed site physician.

   a. Administration of these agents is to be performed as per the ACR policy (Res.1-H, 1987, 1997):

      > The ACR approves of the injection of contrast material and diagnostic levels of radiopharmaceuticals by certified and/or licensed radiologic technologists and radiologic nurses under the direction of a radiologist or his or her physician designee who is personally and immediately available, if the practice is in compliance with institutional and state regulations. There must also be prior written approval by the medical director of the radiology department /service of such individuals; such approval process having followed established policies and procedures, and the radiologic technologists and nurses who have been so approved maintain documentation of continuing medical education related to materials injected and to the procedures being performed.

2. Prior contrast agent reaction issues [18]:

   a. Adverse events after intravenous injection of gadolinium seem to be more common in patients who had previous reactions to an MR contrast agent. In one study, 16 (21%) of 75 patients who had previous adverse reactions to MR contrast agents reacted to subsequent injections of gadolinium. Patients with asthma also seem to be more likely to have an adverse reaction to gadolinium. Patients with allergies also seemed to be at increased risk (~2.0–3.7 times, compared with patients without allergies). Patients who have had adverse reactions to iodinated contrast media are more than twice as likely to have an adverse reaction to gadolinium (6.3% of 857 patients).

   b. At present there are no well-defined policies for patients who are considered to be at increased risk for having adverse reaction to MR contrast agents; however, the following recommendations are suggested: patients who have previously reacted to one MR agent can be injected with another agent, if they are restudied, and at-risk patients can be pre-medicated with corticosteroids and, occasionally, antihistamines [18].

   c. All patients with asthma, allergic respiratory histories, prior iodinated and/or gadolinium-based contrast reactions, etc., be followed more closely as they are at a demonstrably higher risk of adverse reaction.

K. MR SAFE PRACTICE GUIDELINES REGARDING MR SCANNING OF PATIENTS IN WHOM THERE ARE/MAY BE INTRACRANIAL ANEURYSM CLIPS

1. In the event that it is unclear whether a patient does or does not have an aneurysm clip in place, plain films should be obtained. Alternatively, if available, any cranial plain films, CT or MR examination that may have already been taken in the recent past (i.e., subsequent to the suspected surgical date) should be reviewed to assess for a possible intracranial aneurysm clip.
2. In the event that a patient is identified to have an intracranial aneurysm clip in place, the magnetic resonance examination should not be performed until it can be documented that the type of aneurysm clip within that patient is MR safe/compatible. All documentation of types of implanted clips, dates, etc., MUST be in writing and signed by a licensed physician. Phone or verbal histories and histories provided by a non-physician are not acceptable. Fax copies of operative reports, physician statements, etc., are acceptable as long as a legible physician signature accompanies the requisite documentation. A written history of the clip itself having been appropriately tested for ferromagnetic properties (and description of the testing methodology used) prior to implantation by the operating surgeon is also considered acceptable if the testing follows the ASTM (American Society of Testing and Materials) established Deflection Test methodology.
3. All implanted intracranial aneurysm clips that are documented in writing to be composed of titanium (either the commercially pure and/or the titanium alloy types) can be accepted for scanning without any other testing necessary.
4. All non-titanium intracranial aneurysm clips manufactured 1995 or later for which the manufacturer's product labeling continues to claim MR compatibility may be accepted for MR scanning without further testing.
5. Clips manufactured prior to 1995 require either pre-testing (as per the ASTM Deflection Test methodology) prior to implantation or individual review of previous MR imaging of the clip/brain in that particular case, if available. By assessing the size of the artifact associated with the clip relative to the static field strength on which it was studied, the sequence type, and the MR imaging parameters selected, an opinion may be issued by one of the site's Level Two MR attending radiologists as to whether the clip(s) demonstrate significant ferromagnetic properties or not. Access to the MR scanner would then be based on that opinion.
6. HAVING SAFELY UNDERGONE A PRIOR MR EXAMINATION (WITH AN ANEURYSM CLIP—OR OTHER IM-

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PLANT—IN PLACE) AT ANY GIVEN STATIC MAGNETIC FIELD STRENGTH IS NOT IN AND OF ITSELF SUFFICIENT EVIDENCE OF ITS MR SAFETY OR COMPATIBILITY, AND SHOULD NOT BE SOLELY RELIED UPON TO DETERMINE THE MR SAFETY OR COMPATIBILITY STATUS OF THAT ANEURYSM CLIP (OR OTHER IMPLANT). Variations in static magnetic field strength, static magnetic field spatial gradient, orientation of the aneurysm clip (or other implant) to the static magnetic field and/or static field gradient, rate of motion through the spatial static field gradient, etc., are all variables that are virtually impossible to control/reproduce. These variables may well have not resulted in adverse event in one circumstance but may result in significant injury or death on a subsequent exposure. Case in point: A patient who went blind from interactions between the metallic foreign body in the retina and the spatial static fields of the MR scanner entered the magnet and underwent the entire MR examination without difficulty. He only went blind on the way out of the MR scanner at the completion of the examination.

7. Barring availability of either pre-testing or prior MR imaging data of the clip in question, a risk/benefit assessment and review must be performed in each case individually. Further, for patients with intracranial clips with no available ferromagnetic and/or imaging data, should the risk/benefit ratio favor the performance of the MR study, the patient/guardian should provide written informed consent that includes death as a potential risk of the MR imaging procedure prior to permitting that patient to undergo an MR examination.

Acknowledgments

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The reader's attention is directed to the commentary on this article, which appears on page 1349.

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APPENDIX 1: Personnel and Zone Definitions

Personnel

Non–MR Personnel: Patients, visitors, or facility staff who do not meet the criteria of Level One or Level Two MR Personnel.

Level One MR Personnel:

Individuals who have passed minimal safety educational efforts to ensure their own safety as they work within Zone III regions will be referred to as Level One MR Personnel (e.g., M.R.I. department office staff, patient aides).

Level Two MR Personnel:

Individuals who have been more extensively trained and educated in the broader aspects of MR safety issues including issues related to the potential for thermal loading/burns, direct neuromuscular excitation from rapidly changing gradients, etc., will be referred to as Level Two MR Personnel (e.g., M.R.I. Technologists, Radiologists, Radiology Department nursing staff).

Zones

Zone I: This includes all areas that are freely accessible to the general public. This area is typically outside of the MR environment itself, and is the area through which patients, health care personnel, and other employees of the MR site access the MR environment.

Zone II: This area is the interface between the publicly accessible uncontrolled Zone I and the strictly controlled Zone III (see below). Typically the patients are greeted in Zone II and are not free to move throughout Zone II at will, but are rather under the supervision of MR Personnel. It is in Zone II that the answers to MR screening questions, patient histories, medical insurance questions, etc., are typically obtained.

Zone III:

This area is the region in which free access by unscreened Non–MR Personnel and/or ferromagnetic objects and equipment can result in serious injury or death as a result of interactions between the individuals/equipment and the MR scanner's particular environment. These interactions include but not limited to those with the MR scanner's static and time varying magnetic fields. All access to at least Zone III is to be strictly restricted, with access to regions within it (including Zone IV) controlled by, and entirely under the supervision of, MR Personnel.

Zone IV:

This area is synonymous with the MR scanner magnet room itself; Zone IV, by definition, will always be located within Zone III as it is the MR magnet and its associated magnetic field, which generates the existence of Zone III itself.

Non–MR Personnel should be accompanied under the immediate supervision and visual contact with one specifically identified Level Two MR Person for the entirety of their duration within Zone III or Zone IV restricted regions.

Level One and Two MR Personnel may move freely about all zones.

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APPENDIX 2: Safety Screening Form for MR Procedures

Date_____ Name_(first middle last) _____
Female [ ] Male [ ] Age_____ Date of Birth_____ Height_____ Weight_____

	YES	NO
1. Why are you having this examination (medical problem)?_____		
2. Have you ever had an MRI examination before and had a problem?----------	____	____
If yes, please describe_____		
3. Have you ever had a surgical operation or procedure of any kind?----------	____	____
If YES, list all prior surgeries and approximate dates: _____		
_____		
4. Have you ever been injured by a metal object/foreign body (e.g., bullet, BB, shrapnel)?----------	____	____
If YES, please describe_____		
_____		
5. Have you ever had an injury from a metal object in your eye		
(metal slivers, metal shavings, other metal object)?----------	____	____
If YES, did you seek medical attention? ----------	____	____
Describe what was found _____		
6. Do you have a history of kidney disease, asthma, or other allergic respiratory disease?----------	____	____
7. Do you have any drug allergies?----------	____	____
If Yes, please list drugs _____		
8. Have you ever received a contrast agent/x-ray dye used for MRI, CT, or other x-ray or study?----------	____	____
9. Have you ever had an x-ray dye or magnetic resonance imaging (MRI) contrast agent allergic reaction?----------	____	____
If YES, please describe_____		
_____		
10. Are you pregnant or suspect you may be pregnant?----------	____	____
11. Are you breast feeding?----------	____	____
12. Date of last menstrual period_____ Post-menopausal?----------	____	____

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APPENDIX 3: MR Hazard Checklist

THE FOLLOWING ITEMS MAY BE HARMFUL TO YOU DURING YOUR MR SCAN OR MAY INTERFERE WITH THE MR EXAMINATION.

Please mark on the drawings provided the location of any metal inside your body or site of surgical operation.

You must provide a Yes or No for every item. Please indicate if you have or have had any of the following:

YES NO

____ ____ Any type of electronic, mechanical, or magnetic implant. (Type_____)
____ ____ Cardiac pacemaker
____ ____ Aneurysm clip(s)
____ ____ Implanted cardiac defibrillator
____ ____ Neurostimulator
____ ____ Biostimulator (Type _____)
____ ____ Any type of internal electrode(s) or wire(s)
____ ____ Cochlear implant
____ ____ Hearing aid
____ ____ Implanted drug pump (e.g., insulin, Baclofen, chemotherapy, pain medicine)
____ ____ Halo vest
____ ____ Spinal fixation device
____ ____ Spinal fusion procedure
____ ____ Any type of coil, filter, or stent (Type_____)
____ ____ Any type of metal object (e.g., shrapnel, bullet, BB)
____ ____ Artificial heart valve
____ ____ Any type of ear implant
____ ____ Penile implant
____ ____ Artificial eye
____ ____ Eyelid spring
____ ____ Any type of implant held in place by a magnet (Type_____)
____ ____ Any type of surgical clip or staple
____ ____ Any I.V. access port (e.g., Broviac, Port-a-Cath, Hickman, Picc line)
____ ____ Medication patch (e.g., Nitroglycerine, nicotine)
____ ____ Shunt
____ ____ Artificial limb or joint (What and where_____)
____ ____ Tissue expander (e.g., breast)
____ ____ Removable dentures, false teeth or partial plate
____ ____ Diaphragm, IUD, Pessary (Type_____)
____ ____ Surgical mesh (Location_____)
____ ____ Body piercing (Location_____)
____ ____ Wig, hair implants
____ ____ Tattoos or tattooed eyeliner
____ ____ Radiation seeds (e.g., cancer treatment)
____ ____ Any implanted items (e.g., pins, rods, screws, nails, plates, wires)
____ ____ Any hair accessories (e.g., bobby pins, barrettes, clips)
____ ____ Jewelry
____ ____ Any other type of implanted item (Type_____)

I attest that the above information is correct to the best of my knowledge. I have read and understand the entire contents of this form and I have had the opportunity to ask questions regarding the information on this form.

Patient signature_____
MD/RN/RT signature_____ Date_____
Print name of MD, RN, RT_____

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APPENDIX 4: Instructions for the Patients

1. You are urged to use the ear plugs or headphones that we supply for use during your MRI examination since some patients may find the noise levels unacceptable and the noise levels may affect your hearing.
2. Remove all jewelry (e.g., necklaces, pins, rings).
3. Remove all hair pins, bobby pins, barrettes, clips, etc.
4. Remove all dentures, false teeth, partial dental plates.
5. Remove hearing aids.
6. Remove eyeglasses.
7. Remove your watch, pager, cell phone, credit and bank cards, and all other cards with a magnetic strip.
8. Remove body piercing objects.
9. Use gown, if provided, or remove all clothing with metal fasteners, zippers.

APPENDIX 5: Hazard Checklist for MRI Personnel

For MRI Office Use Only
Patient Name_____
Patient ID Number_____ Referring Physician_____
Procedure_____ Diagnosis_____
Clinical History_____

Hazard Checklist for MRI Personnel

YES	NO	
____	____	Endotracheal tube
____	____	Swan-Ganz catheter
____	____	Extraventricular device
____	____	Arterial line transducer
____	____	Foley catheter with temperature sensor and/or metal clamp
____	____	Rectal probe
____	____	Esophageal probe
____	____	Tracheotomy tube
____	____	Guidewires

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North Dakota Hospital Association Est. 1934

Vision
The North Dakota Hospital Association will take an active leadership role in major Healthcare issues.

Mission
The North Dakota Hospital Association exists to advance the health status of persons served by the membership.

Testimony: 2017 SB 2198
Senate Human Services Committee
Senator Judy Lee, Chairman
January 24, 2017

Good morning Chairman Lee and Members of the Senate Human Services Committee. I am Tim Blasl, Vice President of the North Dakota Hospital Association (NDHA). I am here to testify regarding 2017 Senate Bill 2198 and ask that you give this bill a **Do Not Pass** recommendation.

This bill would add additional licensing requirements to existing state law for those who perform medical imaging or radiation therapy. In order to be licensed, these individuals will have to complete a course of study in each specific modality in which they intend to practice, such as radiography, radiation therapy, nuclear medicine technology, radiologist assistant, or sonography. Our members are concerned that this bill will create workforce problems, especially in rural areas where medical imaging and radiation therapists are already difficult to hire.

We do agree with the intent of the bill to ensure quality radiology care is provided. Last session, the Board of Medical Imaging and Radiation Therapy was created to license individuals who perform medical imaging and radiation therapy. The purpose of such licensing was to allow these individuals to accept verbal orders from the practitioners who order such studies or therapy. This bill would, however, goes beyond licensing of individuals who receive required training and instead creates 15 separate licensing categories which require individuals to get training and become certified in each specific modality in which they intend to practice. It would create a regulatory scheme that is overly complicated and one which imposes much higher requirements than most states. None of our three neighboring states requires licensing by modality as this bill would require. We will have more difficulty in recruiting qualified radiology

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personnel from other states if our standards are more restrictive. As some of our members who are here today will testify to, we already have trouble hiring these individuals and this will only cause that to become worse. In addition, there are already numerous safeguards currently in place to ensure the quality and safety of radiology procedures.

There is already a great deal of education and training of medical imaging and radiation therapy personnel to ensure quality and safety. We agree with requiring these individuals to be certified and registered with a national certification organization such as the American Registry of Radiologic Technologists (ARRT) or the Nuclear Medicine Technology Certification Board. In order to be certified and registered by one of these organizations, an individual must have completed required training and clinical experience requirements and passed proficiency examinations that demonstrate the individual has met a recognized national standard for medical imaging, interventional procedures, and radiation therapy. For example, a candidate may pursue primary pathway certification and registration in radiography, nuclear medicine technology, radiation therapy, MRIs or sonography within a required time period and must successfully complete an educational program that is accredited by a mechanism acceptable to the ARRT. As part of their education, candidates must also demonstrate competency in coursework and an ARRT-specified list of clinical procedures by completing competency requirements established for the discipline in which they are seeking certification and registration.

There are also ongoing annual requirements in order to maintain certification and registration. For example, ARRT annually certifies and registers individuals who agree to comply with the ARRT Rules and Regulations, continue to comply with the standards of ethics, and meet continuing education requirements.

In addition, even after personnel are registered and certified, there are additional oversights in place to ensure safety and quality. A physician or advanced practice provider must order a medical imaging study and most often a radiologist must read it. The radiologist is another check and balance to make sure quality is adequate to allow the image to be properly interpreted. There is governmental oversight by agencies such as the Nuclear Regulatory Commission, the Food and Drug Administration (FDA), and the North Dakota Department of Health to ensure appropriate use of radiation. Hospitals also employ or contract with health

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physicists who make sure proper care is taken around X-ray machines and other sources of radiation used in medical settings

We are aware of no findings of maladministration of radiation by a North Dakota hospital by any of these governmental agencies and so we question the need for such strict licensing requirements. It may be that someday licensing by modality will be required by Medicare, the Joint Commission, or governmental regulatory agencies, but we are not there yet and to impose such strict requirements now will make it even harder to find the personnel necessary to provide medical imaging and radiation therapy.

NDHA hospital members are here today to discuss how hospitals currently ensure the quality and safety of medical imaging and radiation therapy procedures and how this bill will add unnecessary regulation which will make it more difficult to recruit radiology personnel in our State. I would like to introduce these individuals: Matt Grimshaw, CEO, CHI St. Alexius Health Williston; Theo Stoller, CEO, Jacobson Memorial Hospital Care Center in Elgin and Andy Lankowicz, CEO, CHI St. Alexius Health Devils Lake.

For these reasons, and those that you will hear from our members, NDHA opposes this bill and asks that you give it a **Do Not Pass** recommendation.

I would be happy to try to answer any questions you may have. Thank you.

Respectfully Submitted,

Tim Blasl, Vice President
North Dakota Hospital Association

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CHI St. Alexius Health

Imagine better health.℠

Williston Medical Center
1301 15th Avenue West
Williston, ND 58801

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CHIStAlexiusHealth.org

Testimony: 2017 SB 2198

Senate Human Services Committee

Senator Judy Lee, Chairperson

January 24, 2017

My name is Matt Grimshaw, and I am here on behalf of CHI St. Alexius Health Williston to testify in opposition to SB 2198

We currently employ 18 radiology techs that cover the following modalities:

- X-Ray
- CT
- MRI
- Mammography
- Ultrasound
- Nuclear Medicine
- Dexa

The reason we are opposed to SB 2198 is because we believe that this regulation places an undue burden on our rural facilities without any documentable benefit. There are three specific examples I can give as to why this initiative is problematic.

1) There is no evidence of clinical variation or discrepancy in the quality or safety of the work performed by our techs whether they are certified or not. Of the 5 techs who cover our CT service 24/7, only one is currently certified, and the rest have been trained here at our facility. Over the past 7 months we have performed almost 3,000 CT scans, and only 28% of them have been performed by the certified CT tech. Our locally trained techs have been trained appropriately and they do an outstanding job for our patients and we have no reason to differentiate between them based on their performance.
2) The availability of techs for all modalities is not equal across the state of North Dakota. For example, we lost one of our general x-ray techs in the summer of 2016, and finally after 6 months of searching, we have successfully recruited a replacement. If we are unable to attract general techs how are we expected to have a full bench of certified techs for all modalities?

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3) Specialized techs are even more difficult to find. In 2016 we lost our one Nuclear Medicine tech, and if we had been unable to shift one of our locally cross-trained ultrasound techs over to cover that service we would have been closed for almost 3 months. There simply are not enough of these specialized techs in rural ND to move forward with this new regulation.

Our radiology volume has grown more than 50% over the past 5 years, and we are the backbone of the healthcare delivery for the northwest region of our State. While we may agree that in a perfect world certification of all radiology techs is ideal, we simply do not feel that there is a clinical case for moving in that direction statewide at this time.

I would be happy to answer any questions you may have.

Matt Grimshaw
President, CHI St. Alexius Health Williston

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Testimony: 2017 SB 2198
Senate Human Services Committee
Senator Judy Lee, Chairman
January 24, 2017

Good morning Chairman Lee and Members of the Senate Human Services Committee. I am Theo Stoller, Chief Executive Officer of Jacobson Memorial Hospital Care Center. I am here to testify regarding 2017 Senate Bill 2198 and ask that you give this bill a **Do Not Pass** recommendation.

This bill would allow licensing of those who perform medical imaging or radiation therapy only if they have completed a course of study for a specific modality, such as radiography, radiation therapy, nuclear medicine technology, radiologist assistant, or sonography. If this bill passed, it would affect my facility in the following ways: Negatively affect recruitment of staff, access to diagnostic equipment to make positive impact for patient outcomes for our Stroke Ready Program, and giving timely care to patient emergencies with stroke symptoms in BLS Ambulances.

Some background information on Jacobson Memorial Hospital Care Center (JMHCC), we are a critical access hospital in southwest North Dakota with clinics in both Elgin and Glen Ullin with our nearest referring hospital being 80 miles away. JMHCC roughly sees 7,500 patients per year in our clinics and around 650 patients in our Emergency Department. Our service area is considered the greater Grant County which also serves patients in Morton, Hettinger, and Sioux Counties.

JMHCC has had recruitment issues already in radiology as evidenced by in 2015 our previous radiology supervisor resigned their position and JMHCC needed to contract with a company to provide interim radiology supervisor duties so we could continue to operate our radiology department. After three months of contract labor we were able to find a registered technologist from the state of Florida to relocate as we were unable to find local people to fill the position.

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Since we have been lucky to have qualified technologists the patients of our service area were highly fortunate that JMHCC was able to receive a grant for the purchase of a new 32 Slice CT scanner which has saved patient lives. Since we have had the equipment we are furthering our mission to give patients peace of mind close to home by completing the necessary work to become a stroke ready hospital through the program of the state of North Dakota. Some of the expectations of being a Stroke Ready Hospital would be we need to be able to administer a clot busting medication within 60 minutes of arrival if the stroke had occurred within five hours, have necessary technology to assist in diagnosis of an ischemic stroke, a radiologist to read the images in a timely manner, CT staff available 24 hours a day 365 days per year, and necessary laboratory equipment. If the bill were to pass JMHCC may have difficulty recruiting technologists to meet the demand of the program which would affect patient lives.

Lastly, I come before not only as a Chief Executive Officer of a hospital but as a volunteer EMT on our local ambulance service. As stated prior we are roughly 80 miles from the nearest referring hospital and in an emergency, time is life. If JMHCC is not able to meet the requirements of being a stroke ready hospital the current direction is for ambulances to bypass non-stroke ready hospitals to travel to a hospital that are able to meet the requirements. I don't know if you all have had the opportunity to be in the back of an ambulance with a patient but when a patient is scared and their life may be at risk, as an EMT, I want to help that patient as much as I can. Furthermore, as an EMT I want to transfer that patient to a higher level of care as soon as possible so appropriate intervention can take place. It will be very difficult to explain to a symptomatic patient that we are driving by a capable hospital and physician because we were not able to meet stroke guidelines due to staff in radiology.

I oppose this bill and ask that you give it a **Do Not Pass** recommendation.

I would be happy to try to answer any questions you may have. Thank you.

Respectfully Submitted,

Theo Stoller, Chief Executive Officer
Jacobson Memorial Hospital Care Center

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Testimony: 2017 SB 2198

Senate Human Services Committee

Senator Judy Lee, Chairman

January 24, 2017

Chairman Judy Lee and members of the Committee, my name is Colleen Learned. I am a RT, also registered in CT from Cando ND. I am currently working at the hospital in Devils Lake. I have been working in health care as an RT for 43 years and I oppose this bill. This bill has gone well beyond the original intent of the profession. This bill calls for a great deal of over-regulation of Radiology in North Dakota that is not necessary.

In researching our neighboring states as well as several other states in the Great Plains area, none of them have the certification/registration requirements stated in the NDMIRT draft administrative rules. There is not a precedent in any of the other states that requires advanced certification in all the modalities listed in the rules draft. These requirements will make recruiting Technologists to North Dakota extremely difficult.

The Joint Commission (JC) reversed their decision to require CT certification for all techs performing CT exams due to the inability of Critical Access Hospitals to meet that standard.

On a personal level I experienced the need for a CT scanner in a critical access hospital first hand. A few years ago, my 80-year-old mother, living in Garrison ND called me. She complained of weakness and her speech was slurred. She thought she was having a stroke. She was able to call 911 and I called the Garrison Hospital to confirm they had a CT scanner. I knew Garrison Hospital had an RT to perform the scan and it was not a consideration on my part if that RT had an advanced certificate in CT. I knew he could perform a CT exam that could diagnose my mother's conditions. Without that CT scanner in Garrison she would had be taken by ambulance to Bismarck for a CT scan. That time delay could have proved to be very detrimental to her recovery.

Two years ago, our aunt fell in her driveway in Cando. She thought she was fine and just wanted to rest a while. Her condition deteriorated late in the evening and she was taken to the Towner County Memorial Hospital in Cando. They performed her head CT and confirmed she had head bleed from the fall. She was transferred to Grand Forks via helicopter to be treated. Again, showing the need for the critical access hospitals to have this service regardless of advanced certification.

I am the Lead Technologist performing Nuclear Medicine exams in Devils Lake. We perform Myocardial Perfusion studies, bone scans and Hida Scans. We have passed multiple JC reviews and two state inspections.

When we started our Nuclear Medicine department we hired the services of AMP (American Medical Physicist) to oversee our department. AMP performs quarterly audits, reviewing our Nuclear Medicine lab, patient doses, and makes sure we are in compliance with the ND State Health Rules as well as the ACR rules. We have an active ALARA (As Low as Reasonably Achievable) program and an in house RSO (Radiation Safety Officer).

There are three Cardiologists that see patients in clinics in Devils Lake. We perform MPI exams for their patients. We also have Oncologists that see patients in Devils Lake. We do bones scans for their patients saving them from having to leave town for their test. If we are unable to do Nuclear Medicine studies these patients must drive either 90 or 120 miles for their exams.

In most Critical Access Hospitals, cross training is necessary for patient access. Techs are required to train in more than one modality, especially since they are required to take call for emergency exams. All the Rad. Techs we hire must perform both radiography and CT exams to take call and work weekends. We ensure they work with an experienced technologist prior to "releasing" them to work independent.

For the Board to make a rule that cross training needs to be authorized and monitored by the Board is an unnecessary over-regulation for the technologist, management, and the Board.

Colleen Learned, RT (R) (CT)
Cando, ND

2198
#15
1/24

North Dakota Society of Radiologic Technologists

NDSRT

www.NDSRT.org

January 23, 2017

Dear Chairman Lee and Senators and Chairman Weisz and Representatives,

The North Dakota Society of Radiologic Technologists Board are in support of the Senate Bill 2198 in establishing medical imaging technologist and radiation therapist licensure and against House Bill 1371. We were the driving force for licensure of technologists in the State of North Dakota which allows us to take verbal orders and perform our job fully within our appropriate scope of practice in each modality we may be practicing.

We believe the proposed Senate bill 2198 which is used to clarify language and puts in revisions for rural critical access hospitals strengthens the original bill while protecting the patient. We believe this will maintain the integrity of medical imaging and radiation therapy licensure programs to protect the residents of North Dakota and ensures patients will receive the safe and effective medical imaging and radiation therapy they deserve.

With House Bill 1371 removing certification and education requirements it puts our patients at risk of sub optimal care. Specific education, knowledge and competency requirements are needed to ensure our patients are taken care of to the best of our abilities.

The NDSRT Board supports Senate Bill 2198 and is against House Bill 1371.

Sincerely

Brenda Krogen M.I.S., R.R.A., R.T.(R)(CT)(MR)
Chairman of the Board

2198
#16
1/24

TO: Senate Human Services Committee

FROM: Amy Hofmann, MBA, R.T.(R)(CT), RDMS, CRA

DATE: January 23, 2017

RE: TESTIMONY in Support of Senate Bill NO. 2198

Honorable Committee members, I am a medical imaging practitioner that has been educated and trained in North Dakota, receiving my bachelor degree in radiologic science from Minot State University and my Masters in Business Administration from the University of Mary. I have had the privilege of working in various positions in radiology departments at a number of healthcare facilities in this state for 36 years. I have worked as an imaging technologist in general radiology, CT, Nuclear Medicine and sonography, as a managing director and currently as the program director/educator for a hospital sponsored and a JRCERT accredited school of radiologic technology. I have voluntarily served on the North Dakota Society of Radiologic Technologists (NDSRT) board of directors and on various NDSRT committees since 1995. I was presented NDSRT Life Member status in 2005 and most recently, I served as the NDSRT 2014-2015 Licensure Committee Co-Chairman. Additionally, I have been a very active member of the American Society of Radiologic Technologists (ASRT), serving in the House of Delegates well over 13 years.

I am in support of SB 2198. It has been dubbed a "cleanup bill" to addresses a number of issues regarding chapter 43-62 of the North Dakota Century Code relating to the licensing and regulation of medical imaging and radiation therapy practitioners with a significant number of proposed amendments. I appreciate the great work of the dedicated members of North Dakota Medical Imaging and Radiation Therapy board these last 16 months as they diligently and in good conscience, established licensing procedures and took action to issue a license to all qualified medical imaging and radiation therapy professionals throughout the state.

SB 2198 further clarifies chapter 43-26 of the North Dakota Century Code, allowing the NDMIRT board to fully enact the law and ensure that technologists have been appropriately educated and are clinically competent to perform medical imaging procedures in their area of practice.

The proposed amendments under 43-62-14 and 43-62-15 (License Requirements and Scope of Practice) clarify the qualifications of licensee and emphasize the requirement of an applicant to provide documentation of satisfactorily completing an appropriate course of study and to pass a certification exam specific to the modality they seek to be licensed under. Passage of this bill would ensure patient safety and quality care in medical imaging as each modality has separate and distinctly unique knowledge, skill and aptitude requirements of practitioners in radiation physics and radiobiology, radiation safety, equipment operation, equipment quality assurance as well as current best practice and evidence based procedural knowledge.

I support the proposed amendments in Section 43-62-14, Licensure Requirements. 3. and 5. The amendment language will allow the board to establish specific changes or exceptions for experienced radiographers practicing in modalities in which an accreditation agency such as the Joint Commission (TJC), American College of Radiology (ACR) or certification organization (ARRT) differ in certification and registration requirements from subsection 2. Subsection 5 would be favorable in that it would allow the board to consider granting a license under special circumstances, on a case-by-case basis, unique to an applicant who doesn't meet general licensure requirements in the multiple modalities of practice at a critical access facility before January 1, 2017. This is a reasonable solution to the problem of an atypical radiographer that has been practicing in a rural area with a primary certification in radiography, having demonstrated solid competency over many years of job performance, but not yet certified and registered in a secondary modality.

Thank you for this opportunity to present testimony.

2198
#17
1/24

Dear Senators,

As a physician practicing in the state of North Dakota, I support SB 2198.

I have seen firsthand the impact ultrasound can have on the timely care for patients.

I was involved in the development of a curriculum to train faculty, medical students and residents in point of care / bedside ultrasound and its application to improve care and reduce costs at the point of care.

I continue to educate colleagues, medical residents in training and medical students on the operator dependent skills necessary to acquire meaningful ultrasound images Proper training is necessary to be effective with ultrasound.

Healthcare as an industry is changing with its continued emphasis on quality in patient care, demanding shorter hospital stays and medical necessity for diagnostic testing.

Physicians rely heavily on testing that is done correctly the first time. Properly trained and certified staff who are clinically competent, ensure quality imaging consistently.

In conclusion, I support Senate Bill 2198. It creates an expectation of quality care for our patients and allows peace of mind to know that I will have competent front line staff to support my clinical practice.

Keeping a standard for trained and certified imaging professionals in North Dakota will keep quality as a priority for our patients.

Sincerely,

Neville Alberto, MD FACP

Governor, North Dakota Chapter.

ACP American College of Physicians℠
Leading Internal Medicine, Improving Lives

2198
#18

1/24

NDLA, S HMS - Johnson, Marne

From: Lee, Judy E.
Sent: Monday, January 23, 2017 5:30 PM
To: NDLA, S HMS - Johnson, Marne
Subject: FW: SB 2198

Copies, please.

Senator Judy Lee
1822 Brentwood Court
West Fargo, ND 58078
home phone: 701-282-6512
e-mail: jlee@nd.gov

From: Dione T. Bohl [mailto:Dione.Bohl@trinityhealth.org]
Sent: Monday, January 23, 2017 5:25 PM
To: Lee, Judy E. <jlee@nd.gov>
Subject: SB 2198

[redacted]ar Madame:

I am a Registered Diagnostic Medical Sonographer and Vascular Technologist at Trinity Health in Minot, ND. As a supervisor of our ultrasound department, our responsibility to our patients is to maintain appropriately trained imagers. Our graduate level sonographer begins the first one to two years of imaging refining and building upon the skills attained through the accredited ultrasound program. This radiology imaging modality is unique in that it is the eye of the sonographer that ultimately judges the difference between normal and pathologic conditions. The degree of course work and rigorous clinical scanning requirements needed to meet the minimum competency as determined by the American Registry of Diagnostic Medical Sonographers (ARDMS). It is a greater disservice to our patients, when the proper clinical scan experience is not mentored by a registered sonographer. Examples include missed pathology, incorrect system settings lending to incorrect final data and incomplete protocols to name a few. Ultrasound is not merely placing a probe on the surface of the skin and snapping a picture. The art of ultrasound imaging is complex, dynamic and highly technical. In the hands of the untrained provider this imaging tool is most often misused.

I recommend a Do Pass on SB 2198

I recommend a Do Not Pass on HB 1371

Respectfully submitted

Dione T. Bohl B.S. RT (R), RDMS, RVT
Ultrasound Supervisor
Trinity Health
[redacted]ot, ND

2198
#19
1/24

asrt
American Society of
Radiologic Technologists

15000 Central Ave. SE, Albuquerque, NM 87123-3909
505-298-4500 • 800-444-2778 • Fax 505-298-5063 • www.asrt.org

January 23, 2017

Senator Judy Lee
Chairman, Senate Human Services Committee
North Dakota Senate
State Capitol, 600 East Boulevard
Bismarck, ND 58505

Dear Senator Lee:

The American Society of Radiologic Technologists (ASRT), representing 725 medical imaging and radiation therapy professionals in North Dakota, voices its support for the enactment of Senate Bill 2198 and wants to thank you for sponsoring this legislation.

SB 2198 will make changes that will allow the North Dakota Medical Imaging and Radiation Therapy Board of Examiners to fully implement the provisions of 43-62, NDCC. By further refining the law that creates the Board and requires licensure for medical imaging and radiation therapy professionals patients will be cared for by individuals who have met educational and certification standards. SB 2198 will also provide the same assurance of educated and competent technologists to patients in rural areas by granting the Board more flexibility to consider alternative licensure standards for technologists in critical access hospitals.

ASRT supports the enactment of SB 2198 and looks forward to working with the North Dakota Society of Radiologic Technologists and the North Dakota Legislative Assembly towards the enactment of this important bill that will benefit North Dakota's patients and the medical imaging professionals providing their care.

On a personal level as someone who was born, raised, educated and worked in North Dakota for half my life I believe that my family that still resides there along with all of the state's residents deserve the best possible radiologic health care. The best care is provided by appropriately educated and certified medical imaging and radiation therapy professionals licensed under the statute enacted in 2015, with the potential enactment of SB 2198.

Sincerely,

Greg Morrison

Greg Morrison, M.A., R.T.(R). CNMT, CAE
Associate Executive Director

X-RAY VISION

2198 #20 1/24

A LOOK INSIDE MEDICAL IMAGING AND RADIATION THERAPY

Radiologic Technologist

ra·di·o·log·ic tech·nol·o·gist (rā'dē-ō-loj'ik tek-nol'ŏ-jist)
the medical personnel who perform diagnostic imaging examinations and administer radiation therapy treatments

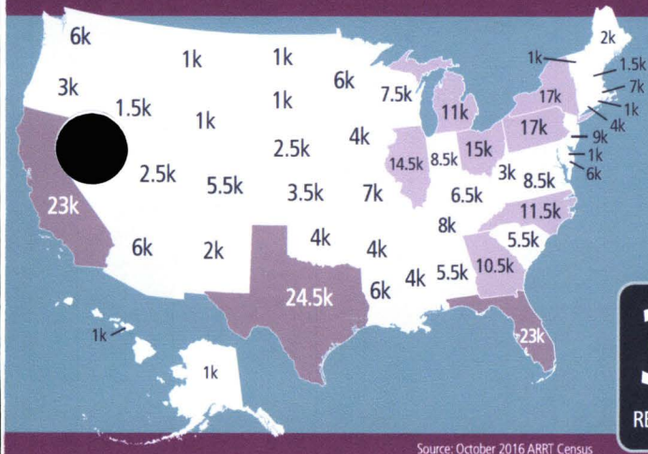
EDUCATION

2 YEARS
Combination Certificate/Associate Degree Program

4 YEARS
Bachelor's Degree Program

PASS National Certification Exam

+ EARN 24 CONTINUING EDUCATION CREDITS EVERY 2 YEARS



Source: October 2016 ARRT Census

WHO'S TAKING MY X-RAY?

When you're scheduled for a medical imaging examination or radiation therapy treatment, the person who performs your exam or delivers your treatment is called a radiologic technologist. Registered radiologic technologists, R.T.s, are educated in anatomy, patient positioning, examination techniques, equipment protocols, radiation safety, radiation protection and patient care.

332,755
REGISTERED RADIOLOGIC TECHNOLOGISTS

1900 1950 2000

1895 The x-ray was discovered by German physicist Wilhelm Conrad Roentgen on Nov. 8.

FIRST X-RAY IMAGE
X-ray of Roentgen's wife's hand and wedding ring.

1977
FIRST MR SCAN

1971
FIRST CT SCAN

ANNUALLY

78.7M CT procedures

37.8M MR procedures

14.5M Nuclear medicine scans

1.2M Radiation therapy treatments initiated

159.7M x-ray procedures performed in the United States.

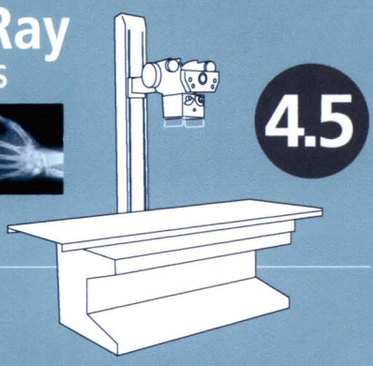
Source: Statistics obtained from IMV 2013 and 2015 reports

EQUIPMENT

● = avg # of units per facility

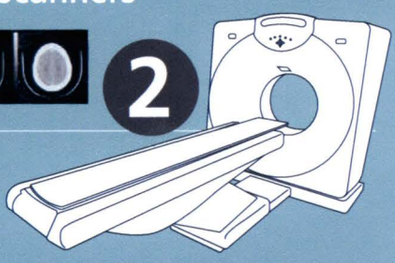
● X-Ray units

4.5

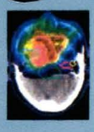


CT scanners

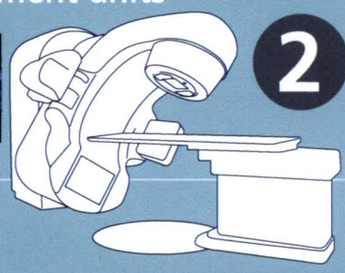
2



● Radiation Therapy treatment units



2



Source: ASRT Radiation Therapy Staffing and Workplace Survey 2016 and ASRT Radiologic Sciences Staffing and Workplace Survey 2015

Radiologist Assistant

Radiologist assistants are experienced R.T.s who have obtained additional education and certification that qualifies them to serve as radiologist extenders. They work under the supervision of a radiologist to help improve productivity and efficiency.

Strange Appearances...

Foreign bodies are frequently encountered in medical imaging and can range from intentionally placed objects, such as medical devices and surgical hardware, to debris from accidents and injuries and a wide variety of swallowed items.

TECHNOLOGY

(R) Radiography
(X-ray) Produces images of anatomy to detect bone fractures, find foreign objects and show the relationship between bone and soft tissue.

Computed Tomography
(CT scan) Obtains "slices" of anatomy at different levels of the body so physicians can view what's happening inside organs.

(T) Radiation Therapy
Administration of targeted doses of radiation to the patient's body to treat cancer or other diseases.

(N) Nuclear Medicine
Radiopharmaceuticals in body emit gamma rays that provide functional information about organs, tissues and bone.

(CI) Cardiac-Interventional Radiography
Fluoroscopic procedures specifically targeted for diagnosis and treatment of cardiac diseases.

(VI) Vascular-Interventional Radiography
Fluoroscopic procedures specifically targeted for catheter placement and the diagnosis and treatment of vascular diseases.

(M) Mammography
Produces images of breast tissue to diagnose and rule out breast disease.

(MR) Magnetic Resonance
(MRI) Creates detailed images of anatomy by exposing atoms in the patient's body to a strong magnetic field.

(QM) Quality Management
Monitors the quality of processes and systems in the radiology department.

(S) Sonography
(Ultrasound) Uses sound waves to obtain images of organs and tissues in the body.

(BD) Bone Densitometry
Measures bone mineral density to diagnose and rule out osteoporosis.

(CMD) Medical Dosimetry
Radiation dose is calculated and generated for distribution treatment plans, determined by the patient's oncologist.

207.2
Pb
82 lead
2 8 18 32 18 4

A LITTLE LEAD GOES A LONG WAY...

On average, x-ray room walls have lead lining that is 1/16 inch-thick. That's 4.5 times thinner than the new iPhone 7. The lead-plate walls stop radiation in its tracks.

DOSIMETRY BADGE

Contains storage phosphors that are sensitive to ionizing radiation and are used for monitoring radiation exposure to R.T.s.

THE GOLDEN RULE

ALARA

As Low As Reasonably Achievable

The practice to make every reasonable effort to minimize patient and personal radiation exposure by adjusting time, distance and shielding during a procedure.

The ASRT is the largest radiologic science association in the world. Its mission is to advance and elevate the medical imaging and radiation therapy profession and to enhance the quality and safety of patient care.

asrt
American Society of Radiologic Technologists
www.asrt.org

SB 2198
Attach #1
2/7

PROPOSED AMENDMENTS TO SENATE BILL NO. 2198

Page 1, line 1, after "A BILL" replace the remainder of the bill with "for an Act to amend and reenact sections 43-62-01, 43-62-02, 43-62-03, 43-62-04, 43-62-08, 43-62-09, 43-62-11, 43-62-14, 43-62-15, and 43-62-18, and subsections 7 and 13 of section 43-62-19 of the North Dakota Century Code, relating to the regulation of medical imaging and radiation therapy; and to declare an emergency.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. AMENDMENT. Section 43-62-01 of the North Dakota Century Code is amended and reenacted as follows:

43-62-01. Definitions.

As used in this chapter:

1. "Board" means the North Dakota medical imaging and radiation therapy board ~~of examiners~~.
2. "Certification organization" means a national certification organization that specializes in the certification and registration of ~~certification of~~ medical imaging and radiation therapy technical personnel and which has programs accredited by the national commission for certifying agencies, American national standards institute or the international organization for standardization, or other accreditation organization recognized by the board.
3. "Licensed practitioner" means a licensed physician, advanced practice registered nurse, ~~surgeon,~~ chiropractor, dentist, or podiatrist.
4. "Licensee" means an individual licensed by the board to perform medical imaging or radiation therapy ~~procedures~~ and operate medical imaging or radiation therapy equipment, including a nuclear medicine technologist, radiation therapist, radiographer, radiologist assistant, ~~or~~ sonographer, or

magnetic resonance imaging technologist.

5. "Medical imaging" means the performance of any diagnostic or interventional procedure or operation of medical imaging equipment intended for use in the diagnosis or visualization of disease or other medical conditions in human beings, including magnetic resonance imaging, fluoroscopy, nuclear medicine, sonography, or x-rays.

6. "Medical physicist" means an individual who is certified by the American board of radiology, American board of medical physics, American board of science in nuclear medicine, or Canadian college of physics in medicine in radiological physics or one of the subspecialties of radiological physics.

7. "Primary modality" means an individual practicing as a nuclear medicine technologist, radiation therapist, radiographer, radiologist assistant, sonographer, or magnetic resonance imaging technologist.

8. "Protected health information" has the same meaning as provided under section 23-01.3-01.

9. "Radiation therapy" means the performance of any procedure or operation of radiation therapy equipment intended for use in the treatment of disease or other medical conditions in human beings.

~~8.10.~~ "Radiation therapist" means ~~a nonphysician licensed by the board to perform radiation therapy~~ an individual, other than a licensed practitioner or authorized user, who performs procedures and ~~operate~~ applies ionizing radiation ~~therapy equipment~~ emitted from x-ray machines, particle accelerators, or sealed radioactive sources to human beings for therapeutic purposes.

SECTION 2. AMENDMENT. Section 43-62-02 of the North Dakota Century Code is amended and reenacted as follows:

43-62-02. License required.

~~After December 31, 2015, an~~An individual may not perform or offer to perform medical imaging or radiation therapy ~~procedures~~ on humans for diagnostic or therapeutic purposes ~~as defined in this chapter~~ or otherwise indicate or imply that the individual is licensed to perform medical imaging or radiation therapy unless that individual is licensed under this chapter.

SECTION 3. AMENDMENT. Section 43-62-03 of the North Dakota Century Code is amended and reenacted as follows:

43-62-03. Exemptions.

This chapter does not apply to the following:

1. A licensed practitioner performing medical imaging or radiation therapy.
2. A dental assistant or dental hygienist licensed under chapter 43-20.
3. A student enrolled in and attending a school or college of medicine, medical imaging, or radiation therapy who performs medical imaging or radiation therapy ~~procedures~~ on humans while under the supervision of a licensed practitioner or a radiographer, radiation therapist, nuclear medicine technologist, radiologist assistant, ~~or~~ sonographer, or magnetic resonance imaging technologist holding a license in the medical imaging or radiation therapy modality for which the student is enrolled or attending ~~under this chapter~~.
4. An individual administering medical imaging or radiation ~~procedures~~therapy and who is employed by the United States government when performing duties associated with that employment.

5. A nurse licensed under chapter 43-12.1 who performs sonography on a focused imaging target to assess specific and limited information about a patient's immediate medical condition or to provide real-time visual guidance for another procedure.

6. A limited x-ray machine operator who meets the requirements of rules adopted by the state department of health under section 23-20.1-04.

7. Medical imaging performed as a part of a post-mortem examination or on other nonliving remains.

8. Medical imaging performed by emergency medical services personnel certified or licensed under section 23-27-04.3.

SECTION 4. AMENDMENT. Section 43-62-04 of the North Dakota Century Code is amended and reenacted as follows:

43-62-04. North Dakota medical imaging and radiation therapy board ~~of examiners~~.

1. The governor shall appoint a ~~state board of~~North Dakota medical imaging and radiation therapy ~~medical examiners~~board consisting of nine members including:

   a. Five medical imaging or radiation therapy professionals ~~one each from~~ chosen to represent the areas of radiography, radiation therapy, nuclear medicine technology, sonography, magnetic resonance imaging, and medical imaging or radiation therapy education;

   b. One radiologist;

   c. One medical physicist;

   d. One physician from a rural area; and

e. One public member.

2. Each medical imaging or radiation therapy member of the board must:

a. Be a practicing medical imaging or radiation therapy licensee of integrity and ability.

b. Be a resident of and currently licensed pursuant to subsection 2 of section 43-62-14 in the member's primary medical imaging or radiation therapy modality in this state.

c. Be currently certified by a ~~nationally recognized~~ certification organization in the member's medical imaging or radiation therapy modality.

d. Have been engaged in the active practice of the medical imaging or radiation therapy profession within this state for a period of at least five years.

3. Each public member of the board must:

a. Be a resident of this state.

b. Be at least twenty-one years of age.

c. Not be affiliated with any group or profession that provides or regulates health care.

4. The radiologist, medical physicist, and physician members of the board must:

a. Be a practicing radiologist, medical physicist, or physician of integrity and ability.

b. Be a resident of and be licensed to practice as a physician or registered as a medical physicist in this state.

5. An individual appointed to the board shall qualify by taking the oath required of civil officers.

SECTION 5. AMENDMENT. Section 43-62-08 of the North Dakota Century Code is amended and reenacted as follows:

43-62-08. Meetings of the board.

The board shall hold at least two meetings each year to conduct business and to review the standards and rules for improving the administration of medical imaging or radiation therapy ~~procedures~~. The board shall establish the procedures for calling, holding, and conducting regular and special meetings. A majority of board members constitutes a quorum.

SECTION 6. AMENDMENT. Section 43-62-09 of the North Dakota Century Code is amended and reenacted as follows:

43-62-09. Powers of the board.

In addition to any other powers, the board may:

1. Administer this chapter.
2. Issue interpretations of this chapter.
3. Adopt rules as may be necessary to carry out this chapter.
4. Employ and fix the compensation of personnel the board determines necessary to carry into effect this chapter and incur other expenses necessary to effectuate this chapter.
5. Issue, renew, deny, suspend, or revoke licenses and carry out any disciplinary actions authorized by this chapter.
6. Set fees for licensure, license renewal, and other services deemed necessary to carry out the purposes of this chapter.
7. Conduct investigations for the purpose of determining whether violations of this chapter or grounds for disciplining licensees exist. <u>The board may establish an investigative panel to conduct an investigation under this subsection and may subpoena records.</u>

8. Develop standards and adopt rules for the improvement of the administration of medical imaging or radiation therapy ~~procedures~~ in this state.

9. Employ or contract with one or more certification organizations known to provide acceptable examinations leading to certification of technical personnel performing medical imaging or radiation therapy ~~procedures~~.

10. Impose sanctions, deny licensure, levy fines, or seek appropriate civil or criminal penalties against anyone who violates or attempts to violate examination security, anyone who obtains or attempts to obtain licensure by fraud or deception, or anyone who knowingly assists in that type of activity.

11. Require information on an applicant's or licensee's fitness, qualifications, and previous professional record and performance from recognized data sources, licensing and disciplinary authorities of other jurisdictions, certification organizations, professional education and training institutions, liability insurers, health care institutions, or other employers, and law enforcement agencies be reported to the board. The board or its investigative panels may require an applicant for licensure or a licensee who is the subject of a disciplinary investigation to submit to a statewide and nationwide criminal history record check. The nationwide criminal history record check must be conducted in the manner provided by section 12-60-24. All costs associated with the criminal history record check are the responsibility of the licensee or applicant.

12. Require the self-reporting by an applicant or a licensee of any information the board determines may indicate possible deficiencies in practice, performance, fitness, or qualifications.

13. Establish a mechanism for dealing with a licensee who abuses or is dependent upon or addicted to alcohol or other addictive chemical substances, and enter an agreement with a professional organization possessing relevant procedures and techniques the board has evaluated and approved for the organization's cooperation or participation.
14. Issue a cease and desist order, obtain a court order, or an injunction to halt unlicensed practice, a violation of this chapter, or a violation of the rules of the board.
15. Issue a conditional, restricted, or otherwise circumscribed license as the board determines necessary.

SECTION 7. AMENDMENT. Section 43-62-11 of the North Dakota Century Code is amended and reenacted as follows:

43-62-11. Records of the board.

The board shall keep a record of its proceedings and applications for licensure. An application record must be preserved for at least six years beyond the disposition of the application or the last annual registration of the licensee, whichever is later. Protected health information in the board's possession is an exempt record.

SECTION 8. AMENDMENT. Section 43-62-14 of the North Dakota Century Code is amended and reenacted as follows:

43-62-14. License requirements.

1. The board ~~may~~shall issue a license to ~~any~~a qualified applicant ~~who has submitted~~. In order to qualify for licensure an applicant must comply with the modality licensure requirements under subsections 2, 3, or 6, must comply with board requirements adopted by rule, and shall submit satisfactory evidence, verified by oath or affirmation, that the applicant:
   a. At the time of the application is at least eighteen years of age.

b. Has successfully completed a four-year course of study in a ~~secondary~~high school ~~approved by the state board of higher education~~ or passed an approved equivalency test.

2. ~~In addition to the requirements of subsection 1,~~To qualify for licensure to practice one or more of the primary modalities as a nuclear medicine technologist, radiation therapist, radiographer, radiologist assistant, sonographer or magnetic resonance imaging technologist, an ~~individual seeking to obtain a license~~applicant must meet the requirements for ~~a~~ the applicable specific modality or modalities ~~of medical imaging or radiation therapy shall comply with the following requirements~~, including:

a. Provide satisfactory completion of a course of study ~~in~~appropriate for the specified modality, such as radiography, radiation therapy, nuclear medicine technology, radiologist assistant, ~~or~~ sonography, or ~~its equivalent to be determined by the board~~ magnetic resonance imaging. The curriculum for each course of study may not be less stringent than the standards approved by the joint review committee on education in radiologic technology, joint review committee on nuclear medicine technology, commission on accreditation of allied health education programs, or any other appropriate accreditation agency approved by the board, provided the standards are not in conflict with board policy.

b. Pass a certification examination established or approved by the board given by a certification organization recognized by the board.

c. Show evidence of compliance with continuing education or recertification requirements required for registration of certification by a certification organization recognized by the board.

d. A licensee under this subsection may not practice a primary modality without meeting the requirements for each specific primary modalitiy being practiced. However, a licensee under this subsection may practice other modalities recognized by rule upon meeting the continuing education requirements for each modality practiced by the licensee.

3. An applicant who is not licensed for a primary modality under subsection 2 may qualify for licensure to practice any modality recognized by the board other than the primary modalities by complying with certification or registration requirements established by rule. A license under this subsection only allows the licensee to practice the specific modality or modalities for which the applicant had met the requirements, but this license may be issued in conjunction with a license for additional modalities issued under subsection 6.

4. The board may establish by rule specific changes or exceptions for those modalities in which the accreditation agency or certification organization differs in certification or registration requirements from this chapter.

5. The board~~, upon application and payment of proper fees,~~ may grant a license to an ~~individual~~applicant who submits the necessary application and fees who has been licensed, certified, or registered to perform or administer medical imaging or radiation therapy ~~procedures~~ in another jurisdiction if that jurisdiction's standards of licensure are substantially equivalent to those provided in this chapter in accordance with rules adopted by the board.

6. The board may establish unique individualized licensing and practice standards and requirements for an applicant who does not meet the

licensure requirements to receive a license in at least one primary modality of medical imaging or radiation therapy in subsection 2, or who meets the licensure requirements for one primary modality but not for another primary modality which the applicant desires to practice.

a. The board may grant a license limited to one or more modalities practiced by an applicant for three or more of the five years preceding January 1, 2017. The board may establish standards and requirements for the licensee designed to maintain reasonable access to public services and to promote public safety, including continuing education. A license granted for a specified modality under this subdivision expires and may not be renewed if the licensee attains a license in that modality under subsections 2 or 3.

b. The board may grant a license to an applicant who began practice on or after January 1, 2017, for a specified modality or modalities if the applicant first passes a board approved examination and maintains specified continuing education requirements for each modality. The board may grant a conditional license allowing an applicant under this subdivision to practice before passing the examination.

SECTION 9. AMENDMENT. Section 43-62-15 of the North Dakota Century Code is amended and reenacted as follows:

43-62-15. Scope of practice.

1. A license issued by the board under this chapter must specify each medical imaging or radiation therapy modality for which the licensee is qualified to practice under section 43-62-14.

2. The board shall ~~establish licensure~~ adopt by rule standards concerning scope of practice for ~~the following~~ medical imaging and radiation therapy modalities, including:

a. Nuclear medicine technologist.;

b. Radiation therapist.;

c. Radiographer.;

d. Radiologist assistant; ~~and~~

e. Sonographer; and

f. Magnetic resonance imaging technologist.

~~2.~~3. ~~An individual holding a license under this chapter may perform~~ A licensee's performance of medical imaging or radiation therapy ~~procedures~~ on humans for diagnostic or therapeutic purposes ~~only~~ must be by written, facsimile, electronic, or verbal prescription of an individual authorized by this state to prescribe medical imaging or radiation therapy ~~procedures~~ and must be under the supervision of a licensed practitioner.

~~3.~~4. ~~An individual holding a license under this chapter may perform~~ A licensee's performance of medical imaging and radiation therapy ~~procedures~~ on humans for diagnostic or therapeutic purposes ~~only within~~ is limited to the scope of the medical imaging and radiation therapy modality of that license as specified under the rules adopted by the board.

SECTION 10. AMENDMENT. Section 43-62-18 of the North Dakota Century Code is amended and reenacted as follows:

43-62-18. Disciplinary action.

The board may take disciplinary action against a licensee by any of the following means:

1. Revocation of license.
2. Suspension of license.
3. Probation.
4. Imposition of stipulations, limitations, or conditions relating to the performance of medical imaging or radiation therapy ~~procedures~~.
5. Letter of censure.
6. Imposition of a penalty, not to exceed one thousand dollars for any single disciplinary action. Any fines collected by the board must be deposited in the state general fund.
7. Payment of the board's expenses, including legal fees, which may be deposited in the board's operating fund.

SECTION 11. AMENDMENT. Subsections 7 and 13 of section 43-62-19 of the North Dakota Century Code is amended and reenacted as follows:

7. The violation of any provision of this chapter ~~or~~, any rule of the board, or any federal or state law applicable to the practice of medical imaging or radiation therapy, or any action, stipulation, limitation, condition, or agreement imposed by the board or its investigative panels.
13. The failure to maintain in good standing, including completion of continuing education or recertification requirements, a certification from a ~~nationally-recognized~~ certification organization recognized by the board for the medical imaging or radiation therapy modality for which a license has been issued by the board.

SECTION 12. EMERGENCY. This Act is declared to be an emergency measure."

Renumber accordingly.

SB 2198
Attach #2
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Senate Human Services Committee

SB 2198

Amendments Introduction

Chairman Lee and Members of the Senate Human Services Committee, I am Shirley Porter and I serve as President of the North Dakota Medical Imaging and Radiation Therapy Board (NDMIRT). Thank you, Senator Lee and members, for allowing me to present these amendments to SB 2198 on behalf of the Board.

I appear before you today with amendments to SB 2198 in an effort to reach a compromise with the ND Hospital Association that reaffirms your intent from last legislative session. I will briefly explain the areas of compromise that we, the board, have agreed to.

1) Removal of language to require certification in all modalities (such as CT, mammography, etc...)

2) The addition of language to require continuing education requirements, as testified by the ND Hospital Association (NDHA) during your previous hearing. If a licensee is practicing in a modality (such as CT, mammography, etc....) but not certified to perform within the modality they will be required to do continuing education. Any modality a licensee is currently practicing within will have continuing education requirements to ensure protection of the patient. (Education is a key to safety.)

Example: Radiographer who has been performing CT, Mammography, Nuclear Medicine, Sonography, etc. however is NOT certified in the modality will now be required to do continuing education specifically relevant to CT, Mammography, Nuclear Medicine, Sonography, etc.

3) Original legislative intent from previous session in SB 2236. To require current appropriate registration in each of the following Primary modalities. If practicing in more than one, they must have each appropriate registry after January 1, 2017. **One registry can NOT cover all these modalities-as the education, training, the scope of practice, and continuing education within each Primary modality is just too different to be considered appropriate or safe for the patient** (plus there could be a liability issue).

Primary modalities:
-Radiography
-Radiation Therapy
-Nuclear Medicine
-Sonography
-Radiologist Assistant, individuals practicing as
-Magnetic Renounce Imaging (MRI): *additional modality to the previous 5 from last Legislative session*

4) Removal of "critical access hospital" language so we treat everyone the same across the state NOT just at critical access hospitals. For those applicants practicing three or more of the five years before January 1, 2017 the board may establish individualized licensing and practice standards and requirements to maintain reasonable access to public services and to promote public safety. Applicants must also do the appropriate continuing education in each modality they are practicing. In essence, this is a form of grandfathering with the requirements of appropriate education within each modality being practiced.

5) After the January 1, 2017 date the individual must hold or obtain, the appropriate registry in the modality they are practicing within the 6 Primary modalities **OR** they may be eligible to use the "state administered American Registry of Radiologic Technologists (ARRT) exam". This pathway would recognize an individual registered to practice in the State of ND only. The board will also continue to use Conditional Licenses allowing individuals to practice while preparing for the state administered examination. *This should assist in any recruitment concerns from critical access hospitals. Facilities may still hire the radiographer to practice within nuclear medicine or ultrasound, but they will be required to take the "state administered ARRT exam" and do appropriate continuing education.*

These compromises have been discussed and agreed upon by the NDMIRT Board and by the ND Hospital Association.

Madam Chair and Committee members, that concludes my formal testimony and I would be happy to answer any questions you may have.

Thank you

Shirley Porter BS RT (R) (M) ARRT

Revised: February 5, 2017

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Medical Imaging Quick Reference Handout

-this is not an all-inclusive list of imaging modalities

-this is intended to be a Quick Reference overview only

Modality	Brief explanation	Common exams	Length of training to earn certification or registry	Required continuing education hours (CEUs)	State-administered ARRT exam pathway intention
Radiography (Registry) *(*one registry: American Registry of Radiologic Technologists ARRT)*	x-ray equipment used to produce 2D & 3D images of tissue, organs, bones & vessels	-Chest X-rays, Abdominal X-rays -Hand & Wrist -Leg or Ankle	Associates OR Bachelor degree *24 month program	24 CEUs in 2 years	Eligible to use pathway, do continuing education requirements
Nuclear Medicine (Registry) **2 different competing registries: (ARRT) & Nuclear Medicine Technology Certification Board(NMTCB)*	Uses radiopharmaceuticals & special cameras to produce images of organs & reveal their function	-Gallbladder scan -Bone scan -Heart scan	Associates OR Bachelor degree *24 month program	24 CEUs in 2 years *(*ARRT & NMTCB registry have same CEU requirements)*	Eligible to use pathway, do continuing education requirements
Ultrasound *(sonography is same thing)* (Registry) *(*3 different competing registries: ARRT, American Registry of Diagnostic Medical Sonographers(ARDMS), & Cardiovascular Credentialing International(CCI)*	Uses high-frequency sound waves to create images of anatomy	-OB -Carotid Arteries -Echo -Abdomen -Breast	Associates OR Bachelor degree *24 month program	24 CEUs in 2 years for *ARRT* *OR* 30 CEUs in 3 years for *ARDMS* *OR* 36 CEUs in 3 years for CCI	Eligible to use pathway, do continuing education requirements
Radiation Therapy (Registry) *(one registry: ARRT)*	Administers highly focused forms of radiation to treat cancer & other diseases	-Breast -Prostate	Associates OR Bachelor degree *24 month program	24 CEUs in 2 years	Eligible to use pathway, do continuing education requirements
Magnetic Resonance Imaging (MRI) (Certification) *(2 different competing registries: (ARRT & American Registry of Magnetic Resonance Imaging Technologists ARMRIT) *Revised area 2/5/2017	Uses radiofrequency pulses & powerful magnetic field to create detailed images of anatomy **ARRT Certification is on-the-job (OJT) training, examination, & CEU.*	-Breast MRI -Knee MRI -Brain MRI	*ARRT: must be a radiographer first, Pass certification exam *OR* *ARMRIT: must pass the ARMRIT examination	ARRT: 12 of 24 CEUs must be specific to MRI *OR* ARMRIT: 24 CEUs in 3 years must be specific to MRI	Eligible to use pathway, do continuing education requirements
Radiologist Assistant (RA) (Registry) **two competing registries: ARRT & Certification Board for Radiology Practitioner Assistants(CBRPA)*	Experienced radiographers with additional training that are radiologist extenders	-Performing imaging exams -Joint injections -Barium studies	Master's Degree *must be a radiographer first & complete formal RA program	ARRT:50 CEUs in 2 years *OR* CBRPA: 50 CEUs every year OR Recertify by exam	Eligible to use pathway, do continuing education requirements

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Modality	Brief Explanation	Common Exams	Length of training to earn certification or registry	Required continuing education hours (CEUs)	State-administered ARRT exam pathway intention
Computed Tomography (CT) (Certification)	Uses rotating x-ray unit to obtain "slices" of body to view inside of organs	-Head CT -Abdomen CT	*must be a radiographer first, Pass certification exam **ARRT Certification is on-the-job (OJT) training, examination, & CEU.*	12 of 24 CEUs must be specific to CT	Eligible to use pathway, do continuing education requirements
Mammography (Certification)	Uses x-rays to image breast tissue to diagnosis cancer	-Screening mammogram -Diagnostic mammogram	*must be a radiographer first, Pass certification exam **ARRT Certification is on-the-job (OJT) training, examination, & CEU.*	24 CEUs in 2 years plus: (15 CEUs specific to Mammography in 3 years): *Federal requirement*	*Eligible to use pathway, do continuing education requirements (*still checking on Federal requirements if possible)
Bone Densitometry (BD) (Certification) **OR** International Society of Clinical Bone Densitometry (ISCD) (Certification) *(*two competing pathways: ARRT & ISCD)*	Uses x-ray to measure bone mineral density of a specific site **ARRT Certification is on-the-job (OJT) training, examination, & CEU.*	-Spine -Hip -Heel -Wrist	ARRT Registry *must be a Radiographer, Nuclear Medicine or Radiation Therapist first **OR** ISCD certification *must have a degree in Allied Health field	ARRT: 24 CEUs in 2 years *OR* ISCD: 35 CEUs in 5 years OR Recertify by examination	Eligible to use pathway, do continuing education requirements
Quality Management (QM) (Certification)	Individuals that monitor the quality of process & system in an imaging department	-Quality Control tests, monitor timer accuracy & reproducibility	*must be a radiographer first, Pass certification exam **ARRT Certification is on-the-job (OJT) training, examination, & CEU.*	12 of 24 CEUs must be specific to QM	Eligible to use pathway, do continuing education requirements
Cardiac-Interventional Radiology (CI) (Certification)	Fluoroscopic procedures specifically targeted for diagnosis & treatment of cardiac diseases	-Cardiac Cath -Angioplasty	*must be a radiographer first, Pass certification exam **ARRT Certification is on-the-job (OJT) training, examination, & CEU.*	12 of 24 CEUs must be specific to CI	Eligible to use pathway, do continuing education requirements
Vascular-Interventional Radiology (VI) (Certification)	Fluoroscopic procedures specifically targeted for catheter placement & the treatment of vascular diseases	-Stent placement -Vena cava filter placement -Guidance for catheters	*must be a radiographer first, Pass certification exam **ARRT Certification is on-the-job (OJT) training, examination, & CEU.*	12 of 24 CEUs must be specific to VI	Eligible to use pathway, do continuing education requirements

Again this is NOT an all-inclusive list of modalities, this is only meant to be a quick reference guide to help in the understanding of the imaging field and level of education and continuing education.

Sorry for the brevity of handout and/or errors it may contain.
Hope you find it helpful! Thank you, Shirley Porter

Attach #1 2/13

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Title.

Prepared by the Legislative Council staff for
Senator J. Lee
February 13, 2017

PROPOSED AMENDMENTS TO SENATE BILL NO. 2198

Page 1, line 1, after "A BILL" replace the remainder of the bill with "for an Act to amend and reenact sections 43-62-01, 43-62-02, 43-62-03, 43-62-04, 43-62-08, 43-62-09, 43-62-11, 43-62-14, 43-62-15, and 43-62-18, and subsections 7 and 13 of section 43-62-19 of the North Dakota Century Code, relating to the regulation of medical imaging and radiation therapy; and to declare an emergency.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. AMENDMENT. Section 43-62-01 of the North Dakota Century Code is amended and reenacted as follows:

43-62-01. Definitions.

As used in this chapter:

1. "Board" means the North Dakota medical imaging and radiation therapy board ~~of examiners~~.

2. "Certification organization" means a national certification organization that specializes in the certification and registration of ~~certification of~~ medical imaging and radiation therapy technical personnel and which has programs accredited by the national commission for certifying agencies, American national standards institute or the international organization for standardization, or other accreditation organization recognized by the board.

3. "Licensed practitioner" means a licensed physician, advanced practice registered nurse, ~~surgeon,~~ chiropractor, dentist, or podiatrist.

4. "Licensee" means an individual licensed by the board to perform medical imaging or radiation therapy ~~procedures~~ and operate medical imaging or radiation therapy equipment, including a nuclear medicine technologist, radiation therapist, radiographer, radiologist assistant, ~~or~~ sonographer, or magnetic resonance imaging technologist.

5. "Medical imaging" means the performance of any diagnostic or interventional procedure or operation of medical imaging equipment intended for use in the diagnosis or visualization of disease or other medical conditions in human beings, including magnetic resonance imaging, fluoroscopy, nuclear medicine, sonography, or x-rays.

6. "Medical physicist" means an individual who is certified by the American board of radiology, American board of medical physics, American board of science in nuclear medicine, or Canadian college of physics in medicine in radiological physics or one of the subspecialties of radiological physics.

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7. "Primary modality" means an individual practicing as a nuclear medicine technologist, radiation therapist, radiographer, radiologist assistant, sonographer, or magnetic resonance imaging technologist.

8. "Protected health information" has the same meaning as provided under section 23-01.3-01.

9. "Radiation therapy" means the performance of any procedure or operation of radiation therapy equipment intended for use in the treatment of disease or other medical conditions in human beings.

~~8.~~10. "Radiation therapist" means ~~a nonphysician licensed by the board to perform radiation therapy~~an individual, other than a licensed practitioner or authorized user, who performs procedures and ~~operate~~applies ionizing radiation ~~therapy equipment~~emitted from x-ray machines, particle accelerators, or sealed radioactive sources to human beings for therapeutic purposes.

SECTION 2. AMENDMENT. Section 43-62-02 of the North Dakota Century Code is amended and reenacted as follows:

43-62-02. License required.

~~After December 31, 2015, an~~An individual may not perform or offer to perform medical imaging or radiation therapy ~~procedures~~ on humans for diagnostic or therapeutic purposes ~~as defined in this chapter~~ or otherwise indicate or imply that the individual is licensed to perform medical imaging or radiation therapy unless that individual is licensed under this chapter.

SECTION 3. AMENDMENT. Section 43-62-03 of the North Dakota Century Code is amended and reenacted as follows:

43-62-03. Exemptions.

This chapter does not apply to the following:

1. A licensed practitioner performing medical imaging or radiation therapy.

2. A dental assistant or dental hygienist licensed under chapter 43-20.

3. A student enrolled in and attending a school or college of medicine, medical imaging, or radiation therapy who performs medical imaging or radiation therapy ~~procedures~~ on humans while under the supervision of a licensed practitioner or a radiographer, radiation therapist, nuclear medicine technologist, radiologist assistant, ~~or~~ sonographer, or magnetic resonance imaging technologist holding a license in the medical imaging or radiation therapy modality for which the student is enrolled or attending ~~under this chapter~~.

4. An individual administering medical imaging or radiation ~~procedures~~therapy and who is employed by the United States government when performing duties associated with that employment.

5. A nurse licensed under chapter 43-12.1 who performs sonography on a focused imaging target to assess specific and limited information about a

patient's immediate medical condition or to provide real-time visual guidance for another procedure.

6. A limited x-ray machine operator who meets the requirements of rules adopted by the state department of health under section 23-20.1-04.

7. Medical imaging performed as a part of a post-mortem examination or on other nonliving remains.

8. Medical imaging performed by emergency medical services personnel certified or licensed under section 23-27-04.3.

SECTION 4. AMENDMENT. Section 43-62-04 of the North Dakota Century Code is amended and reenacted as follows:

43-62-04. North Dakota medical imaging and radiation therapy board ~~of examiners~~.

1. The governor shall appoint a ~~state board of~~North Dakota medical imaging and radiation therapy ~~medical examiners~~board consisting of nine members including:

   a. Five medical imaging or radiation therapy professionals~~, one each from~~ chosen to represent the areas of radiography, radiation therapy, nuclear medicine technology, sonography, magnetic resonance imaging, and medical imaging or radiation therapy education;

   b. One radiologist;

   c. One medical physicist;

   d. One physician from a rural area; and

   e. One public member.

2. Each medical imaging or radiation therapy member of the board must:

   a. Be a practicing medical imaging or radiation therapy licensee of integrity and ability.

   b. Be a resident of and currently licensed pursuant to subsection 2 of section 43-62-14 in the member's ~~medical imaging or radiation therapy~~primary modality in this state.

   c. Be currently certified by a ~~nationally recognized~~ certification organization in the member's ~~medical imaging or radiation therapy~~primary modality.

   d. Have been engaged in the active practice of the medical imaging or radiation therapy profession within this state for a period of at least five years.

3. Each public member of the board must:

   a. Be a resident of this state.

   b. Be at least twenty-one years of age.

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c. Not be affiliated with any group or profession that provides or regulates health care.

4. The radiologist, medical physicist, and physician members of the board must:

   a. Be a practicing radiologist, medical physicist, or physician of integrity and ability.

   b. Be a resident of and be licensed to practice as a physician or registered as a medical physicist in this state.

5. An individual appointed to the board shall qualify by taking the oath required of civil officers.

SECTION 5. AMENDMENT. Section 43-62-08 of the North Dakota Century Code is amended and reenacted as follows:

43-62-08. Meetings of the board.

The board shall hold at least two meetings each year to conduct business and to review the standards and rules for improving the administration of medical imaging or radiation therapy ~~procedures~~. The board shall establish the procedures for calling, holding, and conducting regular and special meetings. A majority of board members constitutes a quorum.

SECTION 6. AMENDMENT. Section 43-62-09 of the North Dakota Century Code is amended and reenacted as follows:

43-62-09. Powers of the board.

In addition to any other powers, the board may:

1. Administer this chapter.

2. Issue interpretations of this chapter.

3. Adopt rules as may be necessary to carry out this chapter.

4. Employ and fix the compensation of personnel the board determines necessary to carry into effect this chapter and incur other expenses necessary to effectuate this chapter.

5. Issue, renew, deny, suspend, or revoke licenses and carry out any disciplinary actions authorized by this chapter.

6. Set fees for licensure, license renewal, and other services deemed necessary to carry out the purposes of this chapter.

7. Conduct investigations for the purpose of determining whether violations of this chapter or grounds for disciplining licensees exist. The board may establish an investigative panel to conduct an investigation under this subsection and may subpoena records.

8. Develop standards and adopt rules for the improvement of the administration of medical imaging or radiation therapy ~~procedures~~ in this state.

9. Employ or contract with one or more certification organizations known to provide acceptable examinations leading to certification of technical personnel performing medical imaging or radiation therapy ~~procedures~~.

10. Impose sanctions, deny licensure, levy fines, or seek appropriate civil or criminal penalties against anyone who violates or attempts to violate examination security, anyone who obtains or attempts to obtain licensure by fraud or deception, or anyone who knowingly assists in that type of activity.

11. Require information on an applicant's or licensee's fitness, qualifications, and previous professional record and performance from recognized data sources, licensing and disciplinary authorities of other jurisdictions, certification organizations, professional education and training institutions, liability insurers, health care institutions, or other employers, and law enforcement agencies be reported to the board. The board or its investigative panels may require an applicant for licensure or a licensee who is the subject of a disciplinary investigation to submit to a statewide and nationwide criminal history record check. The nationwide criminal history record check must be conducted in the manner provided by section 12-60-24. All costs associated with the criminal history record check are the responsibility of the licensee or applicant.

12. Require the self-reporting by an applicant or a licensee of any information the board determines may indicate possible deficiencies in practice, performance, fitness, or qualifications.

13. Establish a mechanism for dealing with a licensee who abuses or is dependent upon or addicted to alcohol or other addictive chemical substances, and enter an agreement with a professional organization possessing relevant procedures and techniques the board has evaluated and approved for the organization's cooperation or participation.

14. Issue a cease and desist order, obtain a court order, or an injunction to halt unlicensed practice, a violation of this chapter, or a violation of the rules of the board.

15. Issue a conditional, restricted, or otherwise circumscribed license as the board determines necessary.

SECTION 7. AMENDMENT. Section 43-62-11 of the North Dakota Century Code is amended and reenacted as follows:

43-62-11. Records of the board.

The board shall keep a record of its proceedings and applications for licensure. An application record must be preserved for at least six years beyond the disposition of the application or the last annual registration of the licensee, whichever is later. Protected health information in the possession of the board is an exempt record.

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SECTION 8. AMENDMENT. Section 43-62-14 of the North Dakota Century Code is amended and reenacted as follows:

43-62-14. License requirements.

1. The board ~~may~~shall issue a license to ~~any~~a qualified applicant ~~who has submitted~~. To qualify for licensure, an applicant shall comply with the modality licensure requirements under subsection 2, 3, 4, or 7, comply with board requirements adopted by rules, and submit satisfactory evidence, verified by oath or affirmation, that the applicant:

   a. At the time of the application is at least eighteen years of age.

   b. Has successfully completed a four-year course of study in a ~~secondary~~high school ~~approved by the state board of higher education~~ or passed an approved equivalency test.

2. ~~In addition to the requirements of subsection 1~~To qualify for licensure to practice one or more of the primary modalities as a nuclear medicine technologist, radiation therapist, radiographer, radiologist assistant, sonographer, or magnetic resonance imaging technologist, an ~~individual seeking to obtain a license~~applicant shall meet the requirements for ~~a~~the applicable specific modality ~~of medical imaging or radiation therapy shall comply with the following requirements~~, including:

   a. Provide satisfactory completion of a course of study ~~in radiography, radiation therapy, nuclear medicine technology, radiologist assistant, or sonography, or its equivalent to be determined by the board~~appropriate for the specified modality. The curriculum for each course of study may not be less stringent than the standards approved by the joint review committee on education in radiologic technology, joint review committee on nuclear medicine technology, commission on accreditation of allied health education programs, or any other appropriate accreditation agency approved by the board, provided the standards are not in conflict with board policy.

   b. Pass a certification examination established or approved by the board given by a certification organization recognized by the board.

   c. Show evidence of compliance with continuing education or recertification requirements required for registration of certification by a certification organization recognized by the board.

3. A licensee under subsection 2 may not practice a primary modality without meeting the requirements for each specific primary modality being practiced. However, a licensee under subsection 2 may practice other modalities recognized by rule upon meeting the continuing education requirements for each modality practiced by the licensee.

4. An applicant who is not licensed for a primary modality under subsection 2 may qualify for licensure to practice a modality recognized by the board, other than the primary modalities, by complying with certification or registration requirements established by the board by rule. The scope of a license issued under this subsection limits the licensee to the practice of the specific modality for which the applicant meets the requirement. However, a license issued under this subsection may be issued in

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conjunction with a license for additional modalities issued under subsection 7.

5. The board may establish by rule specific changes or exceptions for those modalities in which the accreditation agency or certification organization differs in certification or registration requirements from this chapter.

~~3.~~6. The board~~, upon application and payment of proper fees,~~ may grant a license to an ~~individual~~applicant who submits the necessary application and fees who has been licensed, certified, or registered to perform or administer medical imaging or radiation therapy ~~procedures~~ in another jurisdiction if that jurisdiction's standards of licensure are substantially equivalent to those provided in this chapter in accordance with rules adopted by the board.

7. The board may establish unique individualized licensing and practice standards and requirements for an applicant who does not meet the licensure requirements to receive a license in at least one primary modality of medical imaging or radiation therapy under subsection 2, or who meets the licensure requirements for one primary modality but not for another primary modality the applicant desires to practice.

   a. The board may grant a license limited to one or more modalities practiced by an applicant for three or more of the five years preceding January 1, 2017. The board may establish standards and requirements for the licensee designed to maintain reasonable access to public services and to promote public safety, including continuing education. A license granted for a specified modality under this subdivision expires and may not be renewed if the licensee attains a license in that modality under subsection 2 or 4.

   b. The board may grant a license to an applicant who began practice after December 31, 2016, for a specified modality or modalities if the applicant passes a board-approved examination and maintains specified continuing education requirements for each modality. The board may grant a conditional license allowing an applicant under this subdivision to practice before passing the examination.

SECTION 9. AMENDMENT. Section 43-62-15 of the North Dakota Century Code is amended and reenacted as follows:

43-62-15. Scope of practice.

1. A license issued by the board under this chapter must specify each medical imaging or radiation therapy modality for which the licensee is qualified to practice under section 43-62-14.

2. The board shall ~~establish licensure~~adopt by rule standards concerning scope of practice for ~~the following~~ medical imaging and radiation therapy modalities, including:

   a. Nuclear medicine technologist~~.~~;

   b. Radiation therapist~~.~~;

   c. Radiographer~~.~~;

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d. Radiologist assistant.;

e. Sonographer; and

f. Magnetic resonance imaging technologist.

~~2.~~3. ~~An individual holding a license under this chapter may perform~~A licensee's performance of medical imaging or radiation therapy ~~procedures~~ on humans for diagnostic or therapeutic purposes ~~only~~must be by written, facsimile, electronic, or verbal prescription of an individual authorized by this state to prescribe medical imaging or radiation therapy ~~procedures~~ and must be under the supervision of a licensed practitioner.

~~3.~~4. ~~An individual holding a license under this chapter may perform~~A licensee's performance of medical imaging and radiation therapy ~~procedures~~ on humans for diagnostic or therapeutic purposes ~~only within~~is limited to the scope of the medical imaging and radiation therapy modality of that license as specified under the rules adopted by the board.

SECTION 10. AMENDMENT. Section 43-62-18 of the North Dakota Century Code is amended and reenacted as follows:

43-62-18. Disciplinary action.

The board may take disciplinary action against a licensee by any of the following means:

1. Revocation of license.
2. Suspension of license.
3. Probation.
4. Imposition of stipulations, limitations, or conditions relating to the performance of medical imaging or radiation therapy ~~procedures~~.
5. Letter of censure.
6. Imposition of a penalty, not to exceed one thousand dollars for any single disciplinary action.

~~Any fines collected by the board~~, which must be deposited in the state general fund.

7. Payment of the board's expenses, including legal fees, which may be deposited in the board's operating fund.

SECTION 11. AMENDMENT. Subsections 7 and 13 of section 43-62-19 of the North Dakota Century Code are amended and reenacted as follows:

7. The violation of any provision of this chapter ~~or~~, any rule of the board, or any federal or state law applicable to the practice of medical imaging or radiation therapy, or any action, stipulation, limitation, condition, or agreement imposed by the board or its investigative panels.

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13. The failure to maintain in good standing, including completion of continuing education or recertification requirements, a certification from a ~~nationally-recognized~~ certification organization recognized by the board for the medical imaging or radiation therapy modality for which a license has been issued by the board.

SECTION 12. EMERGENCY. This Act is declared to be an emergency measure."

Renumber accordingly

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SB2198

House Human Services Committee

Amended SB 2198

March 7, 2017

Chairman Weisz and Members of the House Human Services Committee, I am Shirley Porter and I serve as President of the North Dakota Medical Imaging and Radiation Therapy Board (NDMIRT).

The North Dakota Medical Imaging and Radiation Therapy Board has the responsibility to protect the public by licensing and regulating personnel performing medical imaging procedures and radiation therapy treatments. This responsibility includes setting minimum standards for licensure, establishing scopes of practice, enforcing disciplinary actions, further developing standards, and adopting rules for the improvement of the administration of medical imaging or radiation therapy procedures in North Dakota. As of January 2017 we currently have about 1215 medical imaging and radiation therapy professionals licensed.

We appear before you this session with updates to our chapter in order to clarify the intent of the legislation passed last session, SB2236. Briefly, let me walk you through the bill.

Section 1 amends definitions to reflect current standard nationally recognized definitions and remove any redundancies.

Section 1, Sub 4 & 5 adds magnetic resonance imaging (MRI) to the list of individual modalities covered under this chapter. The update allows the board to continue to focus on the patient safety and training of all individuals practicing medical imaging.

Section 1 sub 7 adds Primary Modality definition referring to six primary modalities, used throughout the chapter.

Section 1, sub 8 makes reference to a state law that protects a patient's medical information.

Section 1 sub 10 updates the definition of a radiation therapist. These individuals are trained to perform radiation therapy, usually on cancer patients aiming high doses of precision radiation at the affected area.

Section 2 simply removes the starting date from the inception bill.

Section 3 sub 3 adds magnetic resonance imaging (MRI) technologist to list of students exempt.

Section 4 sub 1a again adds magnetic resonance imaging (MRI). Sub 2b ensures board members are currently certified in their primary modality.

Section 6, sub 7 allows the board to use a panel to investigate violations. This method of investigation is allowed in other professional boards, such as the Board of Medicine.

Section 6, sub 11 would also require employers to report information on an applicant's or licensee's qualifications and fitness for licensure.

Section 7 allows the board to exempt from public disclosure protected health information collected from the licensee or from a person claiming to have been injured by a licensee. This information would still be available to the licensee to defend against a disciplinary action being brought by the Board.

Section 8, sub 1 assures the applicants are qualified and comply with requirements as adopted by rule.

Section 8, sub 1b removes and corrects that an applicant must have completed high school, and removes the reference to state board of higher education.

Section 8 sub 2 refers to licensure requirements for individuals practicing within the primary modalities. Original legislative intent from previous legislative session in SB 2236: **to require current appropriate registration to each of the following if practicing in more than one must have each: (one registry can NOT cover all these areas for the primary modalities- the education, training, the scope of practice within each and the continuing education are just too different to be safe).** *Again education is the key to patient safety.*

Section 8 sub 3 allows the board to continue to focus on the patient safety and training of all individuals practicing medical imaging by recognizing other modalities by rule to continue to be practiced upon meeting continuing education requirements. The addition of language to require continuing education requirements in each area being practiced was testified and agreed upon by the ND Hospital Association (NDHA) during a previous hearing before the Senate Human Services Committee.

If a licensee is practicing in a modality (such as CT, mammography, etc....) but not certified to perform within the modality they will be required to do continuing education. Any modality a licensee is currently practicing within will have continuing education requirements to ensure protection of the patient. (Education is a key to safety.)

Example: Radiographer who has been performing CT, Mammography, Nuclear Medicine, Sonography, etc. however is NOT certified in the modality will now be required to do continuing education specifically relevant to CT, Mammography, Nuclear Medicine, Sonography, etc.

Section 8 sub 4 allows the board to stay fluid with the ever-changing practice of medical imaging and radiation therapy as new areas evolve and other areas may phase-out with the arrival of new technologies, and also allows the board to recognize specific changes or exceptions for organizations that vary in their standards and certifications with the necessary applications submitted by the applicant with appropriate fee. This will ensure the licensee will have the correct title, appropriate to their qualified certification, printed on their license ensuring they are practicing within their scope of practice.

Section 8 sub 7 allows the board to establish unique individualized licensing, practice standards, and continuing education requirements. The Board will also continue to use Conditional Licenses allowing individuals to practice while preparing to meet requirements. The board has met with the ND Hospital Association and this compromise was again agreed upon. **The board will to continue to assist rural ND in providing medical imaging services while protecting the patient at all times.**

Section 8 sub 7a addresses applicants practicing three or more of the five years before January 1, 2017. The board may establish individualized licensing and practice standards and requirements to maintain reasonable access to public services and to promote public safety. Applicants must also do the appropriate continuing education in each modality they are practicing.

In essence, this is a form of grandfathering with the requirements of appropriate education within each modality being practiced.

Section 8 sub 7b applies after December 31, 2016, and requires the individual to hold or obtain; the appropriate registry in the modality they are practicing within the 6 Primary modalities **OR** they may be eligible to use "a state administered American Registry of Radiologic Technologists (ARRT) exam". This pathway would recognize an individual registered to practice in the State of ND only. The board will also continue to use Conditional Licenses allowing individuals to practice while preparing for the state administered examination.

This should assist in any recruitment concerns from critical access hospitals. Facilities may still hire the radiographer to practice within nuclear medicine or ultrasound, but they will be required to take the "state-administered ARRT exam" and do appropriate continuing education.

Section 9 sub 1-4 assures appropriate scopes of practice will be adopted by rule and also the addition of magnetic resonance imaging (MRI) language.

Section 10 allows the board to deposit into their operating fund any expenses collected during a disciplinary action. This includes board expenses and legal fees.

Section 11 addition of violation language regarding any federal or state laws and removes any redundancies.

Section 12 is the emergency clause necessary for the board to enact the rules necessary to fulfill the intent of the Legislature.

Once again compromises have been discussed and agreed upon by the NDMIRT Board and by the ND Hospital Association in the Senate as the most efficient and safest standards for medical imaging.

Mr. Chairman and Committee members, that concludes my formal testimony and I would be happy to answer any questions you may have.

Thank you

Shirley Porter BS RT (R) (M) ARRT

Revised: March 1, 2017

Medical Imaging Quick Reference Handout

-this is not an all-inclusive list of imaging modalities

-this is intended to be a Quick Reference overview only

Modality *(Six Primary Modalities)*	**Brief explanation**	**Common exams**	**Length of training to earn certification or registry**	**Required National continuing education hours (CEUs)**	**State-administered ARRT exam pathway intention**
Radiography (Registry) *(*one registry: American Registry of Radiologic Technologists ARRT)*	x-ray equipment used to produce 2D & 3D images of tissue, organs, bones & vessels	-Chest X-rays, Abdominal X-rays -Hand & Wrist -Leg or Ankle	Associates OR Bachelor degree *24 month program	24 CEUs in 2 years	Eligible to use pathway, do continuing education requirements
Nuclear Medicine (Registry) **2 different competing registries: (ARRT) & Nuclear Medicine Technology Certification Board(NMTCB)*	Uses radiopharmaceuticals & special cameras to produce images of organs & reveal their function	-Gallbladder scan -Bone scan -Heart scan	Associates OR Bachelor degree *24 month program	24 CEUs in 2 years *(*ARRT & NMTCB registry have same CEU requirements)*	Eligible to use pathway, do continuing education requirements
Ultrasound *(sonography is same thing)* (Registry) *(*3 different competing registries: ARRT, American Registry of Diagnostic Medical Sonographers(ARDMS), & Cardiovascular Credentialing International(CCI)*	Uses high-frequency sound waves to create images of anatomy	-OB -Carotid Arteries -Echo -Abdomen -Breast	Associates OR Bachelor degree *24 month program	24 CEUs in 2 years for *ARRT* *OR* 30 CEUs in 3 years for *ARDMS* *OR* 36 CEUs in 3 years for CCI	Eligible to use pathway, do continuing education requirements
Radiation Therapy (Registry) *(one registry: ARRT)*	Administers highly focused forms of radiation to treat cancer & other diseases	-Breast -Prostate	Associates OR Bachelor degree *24 month program	24 CEUs in 2 years	Eligible to use pathway, do continuing education requirements
Magnetic Resonance Imaging (MRI) (Certification) *(2 different competing registries: (ARRT & American Registry of Magnetic Resonance Imaging Technologists ARMRIT) ***Revised area 3/1/2017**	Uses radiofrequency pulses & powerful magnetic field to create detailed images of anatomy **ARRT Certification is on-the-job (OJT) training, examination, & CEU.*	-Breast MRI -Knee MRI -Brain MRI	*ARRT: must be a radiographer first, Pass certification exam *OR* *ARMRIT: must pass the ARMRIT examination	ARRT: 12 of 24 CEUs must be specific to MRI *OR* ARMRIT: 24 CEUs in 3 years must be specific to MRI	Eligible to use pathway, do continuing education requirements
Radiologist Assistant (RA) (Registry) **two competing registries: ARRT & Certification Board for Radiology Practitioner Assistants(CBRPA)*	Experienced radiographers with additional training that are radiologist extenders	-Performing imaging exams -Joint injections -Barium studies	Master's Degree *must be a radiographer first & complete formal RA program	ARRT:50 CEUs in 2 years *OR* CBRPA: 50 CEUs every year OR Recertify by exam	Eligible to use pathway, do continuing education requirements

Modality (other additional areas for example only)	Brief Explanation	Common Exams	Length of training to earn certification or registry	Required National continuing education hours (CEUs)	To be determined by NDMIRT Board
Computed Tomography (CT) (Certification)	Uses rotating x-ray unit to obtain "slices" of body to view inside of organs	-Head CT -Abdomen CT	*must be a radiographer first, Pass certification exam *ARRT Certification is on-the-job (OJT) training, examination, & CEU.*	12 of 24 CEUs must be specific to CT	Do continuing education requirements
Mammography (Certification)	Uses x-rays to image breast tissue to diagnosis cancer	-Screening mammogram -Diagnostic mammogram	*must be a radiographer first, Pass certification exam *ARRT Certification is on-the-job (OJT) training, examination, & CEU.*	24 CEUs in 2 years plus: (15 CEUs specific to Mammography in 3 years): *Federal requirement*	Do continuing education that meet Federal requirements of MQSA
Bone Densitometry (BD) (Certification) **OR** International Society of Clinical Bone Densitometry (ISCD) (Certification) *(*two competing pathways: ARRT & ISCD)*	Uses x-ray to measure bone mineral density of a specific site *ARRT Certification is on-the-job (OJT) training, examination, & CEU.*	-Spine -Hip -Heel -Wrist	ARRT Registry *must be a Radiographer, Nuclear Medicine or Radiation Therapist first **OR** ISCD certification *must have a degree in Allied Health field	ARRT: 24 CEUs in 2 years *OR* ISCD: 35 CEUs in 5 years OR Recertify by examination	Do continuing education requirements
Quality Management (QM) (Certification)	Individuals that monitor the quality of process & system in an imaging department	-Quality Control tests, monitor timer accuracy & reproducibility	*must be a radiographer first, Pass certification exam *ARRT Certification is on-the-job (OJT) training, examination, & CEU.*	12 of 24 CEUs must be specific to QM	Do continuing education requirements
Cardiac-Interventional Radiology (CI) (Certification)	Fluoroscopic procedures specifically targeted for diagnosis & treatment of cardiac diseases	-Cardiac Cath -Angioplasty	*must be a radiographer first, Pass certification exam *ARRT Certification is on-the-job (OJT) training, examination, & CEU.*	12 of 24 CEUs must be specific to CI	Do continuing education requirements
Vascular-Interventional Radiology (VI) (Certification)	Fluoroscopic procedures specifically targeted for catheter placement & the treatment of vascular diseases	-Stent placement -Vena cava filter placement -Guidance for catheters	*must be a radiographer first, Pass certification exam *ARRT Certification is on-the-job (OJT) training, examination, & CEU.*	12 of 24 CEUs must be specific to VI	Do continuing education requirements

Again this is NOT an all-inclusive list of modalities, this is only meant to be a quick reference guide to help in the understanding of the imaging field and level of education and continuing education.

Sorry for the brevity of handout and/or errors it may contain.
Hope you find it helpful! Thank you, Shirley Porter

Att. 2
SB2198
3-7-17

House Human Services Committee

SB 2198 March 7, 2017

Chairman Weisz and Committee Members, unfortunately I can not make the hearing on SB2198 in person. As you may recall, my prior verbal testimony to the committee on the house version of a similar bill had been swayed by my colleague Michael Schirado, MD who is a former technologist. In summary, I have come to understand that we need not only a strong regulatory code here but also some allowance for discretion in protecting our rural access community labor force in imaging technology. Ironically, I have spent much of the proceeding weekend working on re-certification credits and learning activities online for reading mammograms for one of our non-metro North Dakota community hospitals. A sudden loss of personnel on the physician side of imaging has left a real hole in the performance/interpretation of breast imaging for certain community to the east.

In keeping with the ethos of our state which has an excellent community of educators and life long learners, I feel that SB2198 has the appropriate language and requirements for technologist educational requirements. Licensure should be attainable and sustainable for all of our smaller community technologists doing the imaging work on the ground with this bill. The critical allowance for the board to be able to develop a testing pathway for those having difficulty maintaining or certifying for licensure is probably the board's best potential tool to help rise up the few struggling in the field with the licensure issues. Our requirements will also protect our citizens and patients from the bottom rung of outsiders seeking employment in North Dakota. The medical imaging culture of states to the south will benefit in recruiting the lesser quality technologists in the marketplace and that could be looked as benefit to surrounding states as well as our citizens. In my opinion bar is not too high, but appropriately set. Thank you for the deliberation, time and commitment to our state.

Ted Fogarty, MD

Att. 3
SB 2198
3-7-17

TO: Senate Human Services Committee

FROM: Amy Hofmann, MBA, R.T.(R)(CT), RDMS, CRA

DATE: ~~January 23~~ March 7, 2017

RE: TESTIMONY in Support of Senate Bill NO. 2198

Honorable Committee members, I am a medical imaging practitioner that has been educated and trained in North Dakota, receiving my bachelor degree in radiologic science from Minot State University and my Masters in Business Administration from the University of Mary. I have had the privilege of working in various positions in radiology departments at a number of healthcare facilities in this state for 36 years. I have worked as an imaging technologist in general radiology, CT, Nuclear Medicine and sonography, as a managing director and currently as the program director/educator for a hospital sponsored and a JRCERT accredited school of radiologic technology. I have voluntarily served on the North Dakota Society of Radiologic Technologists (NDSRT) board of directors and on various NDSRT committees since 1995. I was presented NDSRT Life Member status in 2005 and most recently, I served as the NDSRT 2014-2015 Licensure Committee Co-Chairman. Additionally, I have been a very active member of the American Society of Radiologic Technologists (ASRT), serving in the House of Delegates well over 13 years.

I am in support of SB 2198. It has been dubbed a "cleanup bill" to addresses a number of issues regarding chapter 43-62 of the North Dakota Century Code relating to the licensing and regulation of medical imaging and radiation therapy practitioners with a significant number of proposed amendments. I appreciate the great work of the dedicated members of North Dakota Medical Imaging and Radiation Therapy board these last 16 months as they diligently and in good conscience, established licensing procedures and took action to issue a license to all qualified medical imaging and radiation therapy professionals throughout the state.

SB 2198 further clarifies chapter 43-26 of the North Dakota Century Code, allowing the NDMIRT board to fully enact the law and ensure that technologists have been appropriately educated and are clinically competent to perform medical imaging procedures in their area of practice.

The proposed amendments under 43-62-14 and 43-62-15 (License Requirements and Scope of Practice) clarify the qualifications of licensee and emphasize the requirement of an applicant to provide documentation of satisfactorily completing an appropriate course of study and to pass a certification exam specific to the modality they seek to be licensed under. Passage of this bill would ensure patient safety and quality care in medical imaging as each modality has separate and distinctly unique knowledge, skill and aptitude requirements of practitioners in radiation physics and radiobiology, radiation safety, equipment operation, equipment quality assurance as well as current best practice and evidence based procedural knowledge.

I support the proposed amendments in Section 43-62-14, Licensure Requirements. 3. and 5. The amendment language will allow the board to establish specific changes or exceptions for experienced

radiographers practicing in modalities in which an accreditation agency such as the Joint Commission (TJC), American College of Radiology (ACR) or certification organization (ARRT) differ in certification and registration requirements from subsection 2. Subsection 5 would be favorable in that it would allow the board to consider granting a license under special circumstances, on a case-by-case basis, unique to an applicant who doesn't meet general licensure requirements in the multiple modalities of practice at a critical access facility before January 1, 2017. This is a reasonable solution to the problem of an atypical radiographer that has been practicing in a rural area with a primary certification in radiography, having demonstrated solid competency over many years of job performance, but not yet certified and registered in a secondary modality.

Thank you for this opportunity to present testimony.

att. 4 SB 2198
3-7-17

North Dakota Society of Radiologic Technologists

NDSRT

www.NDSRT.org

March 3, 2017

Dear Chairman Robin Weisz and other Representatives of the House,

The North Dakota Society of Radiologic Technologists Board are in support of the Senate Bill 2198 as amended in establishing medical imaging technologist and radiation therapist licensure. We were the driving force for licensure of technologists in the State of North Dakota which allows us to take verbal orders and perform our job fully under our scope of practice.

We believe the proposed Senate bill 2198 which has been amended to clarify language and make revisions for rural access areas, strengthens the original bill. We believe this will maintain the integrity of medical imaging and radiation therapy licensure programs to protect the residents of North Dakota and ensures patients will receive the safe and effective medical imaging and radiation therapy they deserve.

Specific education, knowledge and competency requirements are needed to ensure our patients are taken care of to the best of our ability

The NDSRT Board supports Senate Bill 2198 as amended.

Sincerely

Brenda Krogen M.I.S., R.R.A., R.T.(R)(CT)(MR)
Chairman of the Board

Att. 5
SB 2198
3-7-17

Testimony for Public Hearing
Human Services Committee
Public Hearing on Senate Bill 2198
March 7, 2017

Good morning Chairman Weisz and members of the House Health and Human Services. My name is Donna Newman and I am representing myself. I am a Lead Technologist in a Nuclear Medicine department at a community based hospital. I also am the representative for nuclear medicine on the Medical Imaging and Radiation Therapy Board of Examiners. As well as being a life member of the North Dakota State Society of Radiologic Technologists, I have been practicing in nuclear medicine for the past 25 years. I appreciate this opportunity to offer testimony in support of Senate Bill 2198.

Licensure, when properly implemented, has the potential to improve radiation safety for needed medical procedures and aid in diagnosis and care of patients undergoing radiologic imaging and radiation therapy procedures; however this happens only when radiation is administered properly. This bill will ensure that patient in North Dakota receive safe and effective medical imaging and radiation therapy that they both expect and deserve.

In medical imaging, technology is constantly changing and updating the equipment which medical imaging professionals like myself operate. As radiologic technologists we are expected to be knowledgeable about technical advances in our field and how to apply them in the delivery of care to patients. One factor that helps ensure that a technologist can keep up with these technical advances is documented educational preparation and clinical competence evidenced by passing of a nationally recognized certification examination that indicates that the individual has specialized in a particular modality of medical imaging or radiation therapy practice. Certification tests are based on competencies in a specific imaging discipline that a radiologic technologist needs to perform successfully procedures.

This is the same process that happens with other licensed medical professionals in this state such as physicians, nurses, social workers, and physical therapists. They also require a national certification test specific to their area of practice. This bill will ensure that the citizens of North Dakota best interest is considered by having medical imaging professional's pass a certification examination in any of the entry level professional modalities.

Nuclear medicine, radiation therapy, radiography, radiologist assistant and sonography and magnetic resonance imaging are the entry level disciplines which use different types of imaging like x-rays, radioisotopes, ultrasound and magnetic waves within the medical imaging profession.

Each discipline has its own scope of practice, practice standards, curriculum and certification examination. Each of these discipline are different from each other in the way the radiation is delivered, how the images are produced, and how the information is used to aid the physician in the diagnosis and treatment of the patient.

Because each of the modalities are so different and highly specialized they also have very different educational program content and competency assessment which the national and international certification examinations assess to ensure the technologist at least met the minimal educational requirements to perform their assigned examinations. For example, someone trained and hired to do nuclear medicine should not be expected or allowed to do other types of imaging without adequate additional training simply because they have a license from North Dakota

After the technologist passes the certification examination continuing educational requirements are mandated per certification cycle. Continuing educations is there to ensure that technologist keeps up with the constantly added new technology that is evolving in our field this is why is it essential that all technologist working in our field acquire specific continuing education in their area they are practicing in . Out bill ensures that this happens for the citizens of North Dakota

Not all of the disciplines require you to attend a formal education program or school, but rather that the technologist completes supervised examinations to demonstrating his or her ability. Certification at the end of training in your area of practice is the most efficient way to ensure the patient is having a safe exam and not receiving too much radiation. This ability to cross-train in a clinical setting is needed in the state of North Dakota and can be obtained through on the job training with certification as the end goal.

One of the imaging disciplines that allows cross training is MRI which is included in our licensure bill. Cross-training requires that you work your regular job in your department, take your usual call and learn about the procedures in the field from another trained technologist at the same time studying the theory of the specialty through books, presentations and online courses.

I was cross-trained and achieved certification in the field of nuclear medicine. You may ask how I accomplished this. I worked for 4 years in the nuclear medicine department and learned about the procedures from other trained technologists. I took call after I had been assessed and signed off on a particular procedure but I also studied on my own, read books, reviewed continuing education about nuclear medicine and did online modules to learn about the theory of nuclear medicine. After four years of working I took the national certification examination in nuclear medicine. I can attest to the fact that I learned a lot in this course of training and it also made me a better technologist. As the representative for nuclear medicine on the Board, I understand that we have technologists working in nuclear medicine that aren't currently certified we have created an opportunity for these technologist that have been working 3 of the 5 years before January 1,2017 to continue to work and acquire the continuing education requirements in their area to accommodate this situation. The Board has worked out a state-issued nuclear medicine test for technologists that are hired after January 1, 2017 so they would do the same thing I did - study for their test while working their daily jobs, take call to learn how to do the procedure, just the way I did, and sit for the state-issued nuclear medicine test.

I ask you to think about the impact can licensure can have on critical access hospitals in the State of North Dakota. The cross-training pathway created by the Board can create opportunities for technologists to be able perform more procedures for patients; allowing for quicker diagnosis, faster patient care and fewer outside referrals for examinations which keeps the procedure

revenue right in your own community. Most importantly it can improve the delivery of care and diagnosis when a timely diagnostic imaging procedure needs to be performed to secure a diagnosis of a patient in your own facility instead of sending the patient to a larger institution because your local hospital does not provide the procedure.

In summary, licensure for radiographers, radiation therapists, nuclear medicine technologists, radiologist assistants, sonographers and Magnetic Resonance imaging is needed in North Dakota. The enactment of Senate Bill 2198 allows the Board to refine the licensing process and make it a win-win for the technologist, hospital, community and patient.

att. 6
SB 2198
3-7-17

American Society of
Radiologic Technologists

15000 Central Ave. SE, Albuquerque, NM 87123-3909
505-298-4500 • 800-444-2778 • Fax 505-298-5063 • www.asrt.org

March 3, 2017

The Honorable Robin Weisz
Chairman, House Human Services Committee
North Dakota House of Representatives
State Capitol, 600 East Boulevard
Bismarck, ND 58505

Dear Chairman Weisz and Members of the Committee:

The American Society of Radiologic Technologists (ASRT), representing 725 medical imaging and radiation therapy professionals in North Dakota, voices its support for the enactment of Senate Bill 2198 as amended and passed in the Senate on February 15.

SB 2198 will make changes that will allow the North Dakota Medical Imaging and Radiation Therapy Board of Examiners to fully implement the provisions of 43-62, NDCC. By further refining the law to include licensure for magnetic resonance imaging technologists, the amended version of SB 2198 will also provide the same assurance of educated and competent technologists to patients in rural areas by granting the Board more flexibility to consider alternative licensure standards for technologists providing imaging and therapy services.

ASRT supports the enactment of SB 2198 and looks forward to working with the North Dakota Society of Radiologic Technologists and the North Dakota Legislative Assembly towards the enactment of this important bill that will benefit North Dakota's patients and the medical imaging professionals providing their care.

On a personal level as someone who was born, raised, educated and worked in North Dakota for half my life I believe that my family that still resides there along with all of the state's residents deserve the best possible radiologic health care. The best care is provided by appropriately educated and certified medical imaging and radiation therapy professionals licensed under the statute enacted in 2015, with the potential enactment of SB 2198.

Sincerely,

Greg Morrison

Greg Morrison, M.A., R.T.(R). CNMT, CAE
Associate Executive Director

att 4
SB 2198
3-1-17

To: House Human Services Committee

From: Cynthia Milkey, BSRT(R) (CV) (ARRT)

RE: Amended Senate Bill 2198

Good Morning,

I am Cindy Milkey and I have been employed in the field of Radiology for 38 years. I am currently the Clinical Instructor for the Trinity Hospital School of Radiologic Technology in Minot. I also am a Life member of the North Dakota Society of Radiologic Technologists and am currently serving on the North Dakota Medical Imaging and Radiation Therapy Board. Both of these groups support the amended Senate Bill 2198.

I am here to encourage this committee to give their full support to the amended Senate Bill 2198. As an educator, I can testify that no student graduates from a Radiology program and enters the field of Radiology with any skill set that would enable them to work in the fields of Nuclear Medicine, Magnetic Resonance Imaging, or Ultrasonography. Radiology programs are given a curriculum guide that they must follow with very specific criteria and there is no room in it to do more than a quick introduction to the many other areas in the Imaging arena. Due to the many changes in technology in all areas of the imaging arena, education has moved to specific credentialing and testing of the different modalities found in an Imaging department.

As an Imaging Professional, I teach and was taught to always put my patient' safety first. It is not in the best interest of the patient to have someone doing their exam that is not fully qualified by education, testing, credentialing and licensing. There is no such thing as a simple exam. The field of imaging is extremely complex, and you cannot simply follow a "cookbook" mentality of how to acquire an image. You must be able to adjust to varying patient conditions and know how to trouble shoot when things don't go the way the textbook said it would.

In 1895, when William Roentgen first discovered x-ray; it was thought to be safe because no one could see it. They could only see the outcome of the interaction of the body with the x-ray. More than a hundred years after this discovery, we now know how dangerous x-ray can be when proper guidelines aren't followed.

Magnetic Resonance Imaging (MRI) doesn't use radiation, but a high powered magnet. We cannot see it, but only the outcome of the interaction of the body with the magnet. We don't know what we might find out in the future

about potential side effects of MRI . We need to have only those who have been educated , trained, credentialed and licensed in MRI, doing MRI. It's about patient safety and care.

Nuclear Medicine requires the injection of a radioactive isotope. This requires training and education far beyond anything taught in a Radiologic Technology program.

Ultrasonography uses sound waves. Technology is moving very fast in this area of imaging. It is an area that relies heavily on the skill of the person holding the ultrasound transducer. That skill set cannot be learned by 'see one, do one'. It requires hundreds of hours of scanning to be able to learn identify normal and abnormal anatomy.

Imaging professionals have a huge responsibility to their patients and their family. A Radiologist can't read, what isn't demonstrated on an image. A family member, friend, or co-worker could end up with more medical expenses and extended hospital stays as they try to figure out what is wrong.

Medical Imaging is crucial in the diagnosis of disease, but it needs to be done by those individuals that have been educated, trained, credentialed, and licensed so that patient safety and care are not compromised.

I ask that this committee give a due pass on the amended Senate Bill 2198.

Thank you for your time.

Att 8 SB2198
3-7-17

SOCIETY OF DIAGNOSTIC MEDICAL SONOGRAPHY
2745 N Dallas Pkwy Ste 350, Plano, TX 75093-8730
(214) 473-8057 | (800) 229-9506 | (214) 473-8563 FAX | sdms.org

March 5, 2017

The Honorable Representative Robin Weisz
Chair, House Human Services Committee
North Dakota House of Representatives
2639 First Street SE
Hurdsfield, ND 58451-9029

Delivered via email

RE: Support for SB 2198 (as amended)

Dear Representative Weisz:

I am writing on behalf of the North Dakota members of the Society of Diagnostic Medical Sonography (SDMS). The SDMS is a professional membership organization founded in 1970 to promote, advance, and educate its members and the medical community in the science of diagnostic medical sonography (i.e., using ultrasound to create medical images).

The SDMS encourages you and the House Human Services Committee to support Senate Bill (SB) 2198 (as amended). The bill incorporates several "clean-up" provisions that strengthen and clarify the original statute. And while the amended bill also includes provisions allowing unique individualized licensing and practice standards and requirements that have the potential to be abused, we believe the North Dakota Medical Imaging and Radiation Therapy Board should be allowed to examine all the fact and circumstances of each case to determine whether a need exists. At the same time, the Board will need to balance protecting the citizens of (and visitors to) North Dakota by ensuring patients receive the safe and effective medical imaging and radiation therapy they expect (and deserve).

Again, we ask for your support and the support of the House Human Services Committee for the passage of SB 2198 (as amended). The SDMS is available to provide any assistance needed as this bill is considered by the House of Representatives. Please feel free to contact me at 800-229-9506 x184 or dkerns@sdms.org.

Sincerely,

Donald E Kerns

Donald E. Kerns, JD, CAE
Chief Executive Officer/Executive Director

Att. 9
SB 2198
3-7-17

Testimony for Public Hearing
HUMAN SERVICES COMMITTEE
Public Hearing on Senate Bill 2198
March 7, 2017

Good morning Chairman and members of the committee, my name is Ann Bell-Pfeifer. Thank you for listening to my testimony today. I have served the North Dakota Society of Radiologic Technologists (NDSRT) as chairman of the board, president and licensure chair. Today I am speaking on my behalf in full support of SB 2198. As one of more than 1000 registered radiologic technologists in the state of North Dakota, I have been serving patients in radiology for the past 23 years and have focused many years of my career on the applications of optimal image quality and patient safety. My roles as a radiologic technologist have allowed me to experience first-hand patient care in general radiology, mammography and quality management.

SB 2198 supports safe, quality patient care for every North Dakotan who receives imaging services. The imaging field is constantly changing as new technology is applied to the equipment which medical imaging professionals operate. New imaging procedures are developed due to the advances in technology. New radiopharmaceutical drugs are created for use in PET and nuclear medicine. Only those who are educationally prepared and certified should administer these special drugs and perform advanced radiologic examinations. As experts in their field, radiologic technologists, sonographers, nuclear medicine technologists, magnetic resonance technologists and radiation therapists are required to be knowledgeable about technical advances in radiology and deliver safe, effective patient care.

The utilization of certifying bodies and requiring continuing education to insure competency is in the best interest for the patients of North Dakota. Standardizing imaging

care in hospitals and clinics throughout the state is important. There are provisions in SB 2198 to accomplish that goal.

As stated in SB 2198, on a case - by - case basis, the board may establish unique individualized licensing and practice standards and requirements for an applicant who does not meet the licensure requirements to receive a license in one or more modalities of medical imaging or radiation therapy. This section of the bill offers a path for imaging professionals in small communities to practice safely with provisions for educational requirements. Radiologic technologists have the opportunity to acquire certification in special modalities within an eight year time period through cross training.

North Dakota hospitals and clinics employ many medical professionals: doctors, nurses and others. They are required to be educationally trained, certified and competent before caring for patients. Those standards need to apply to all imaging professionals too. Our patients have entrusted us to provide the best care possible. It is vitally important that we deliver optimal patient care in every North Dakota healthcare facility.

Thank you for listening to my concerns. Your support in recommending the passing of Senate Bill #2198 is greatly appreciated.

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Att. 10
SB2198
3-7-17

House Human Services Committee

SB 2198

March 7, 2017

My name is Brent Colby. I was born and raised in Williston and Crosby, ND, and have lived in Fargo, ND for the past 24 years. I am a Diagnostic Radiological Physicist, and am certified in Diagnostic Radiological Physics by the American Board of Radiology. I have been a Diagnostic Radiological Physicist since 1991, and have served as the Physicist for facilities in the States of ND, SD, MN, IA, WI, MT and CO. I currently serve as the Physics member of the North Dakota Medical Imaging and Radiation Therapy Board. I also serve as a member of the examination writing committee for the American Registry of Radiologic Technologists (ARRT), specifically as a member of the Registered Radiologist Assistant examination committee.

As a Physicist and lifelong North Dakota resident, I am fully in support of SB 2198. I am convinced that this is necessary to ensure access to high quality Radiology and Radiation Oncology within the State of North Dakota.

Medical radiation is now the largest source of manmade, and therefore controllable, radiation exposure to the US population. Average US medical radiation exposures have increased from approximately 0.5 mSv (50 mRem) per person per year in the 1990s to approximately 3.0 mSv (300 mRem) per person per year in 2017 (they have increased by a factor of six). For perspective, the average radiation dose from Radon is approximately 2 mSv (200 mRem) per person per year in the US.

The biological consequences of radiation exposure include, but are not limited to:

Cancer

Cataracts

Hair loss

Skin damage (generally characterized as radiation burns)

While somewhat controversial, we generally describe the risk of radiation induced cancer exposure as linear, with no threshold. Rephrased, any dose carries with it a risk, and the risk is proportional to the dose (twice the dose equals twice the risk). The other risks (cataracts, hair loss, skin damage, etc) generally happen only above a very high "threshold" dose. All of these effects are well described in the medical literature, in a recent series by Bogdanich in the New York Times in 2011, and in Congressional hearings in 2010.

Diagnostic Radiological Physicists are generally charged with oversight of medical radiation exposures. Medical exposures can and do vary for many reasons, for example, equipment characteristics, Physician preferences and operator training. I have personally seen medical radiation exposures vary for the same procedure by more than a factor of thirty (recall that the cancer risk is proportional to dose, so it, too would vary by a factor of thirty).

It is my view that the variation in medical radiation exposure within the State of ND is unwarranted. One significant and preventable cause of this variation is insufficient training in the theory and operation of medical radiation equipment. All too frequently, when insufficient knowledge and/or training are the cause of an unnecessarily high radiation exposure, the

people running the equipment have little idea of the dose used, the cause of the high dose, or an appropriate remedy to the high dose.

It is my routine observation that the Technologists possessing advanced registry in their specific areas of work generally have a better grasp of their technology, the radiation doses used and how to properly control those doses. Because I help write one of the ARRT's advanced registry examinations, I am reasonably acquainted with the content of the advanced registries and I am not surprised that those examinations help to prepare Technologists for their modalities. The examination content and requirements are straightforward and appropriately rigorous in my view.

As a direct result of SB 2198's requirements and timelines for advanced registries, I am convinced that SB2198 will enhance the quality and safety of medical care in North Dakota.

Thank you.

S Brent Colby, MS, DABR