

# **Eating Disorders and Bariatric Surgery: Clinical Research in North Dakota**

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# Clinical Research

- **NIH Definition**
  - Research conducted with human subjects
  - Patient centered—mechanism of disease, treatment development, and treatment trials
  - Epidemiology-distribution of disease and health-related factors

**Research Area 1: Eating Disorders  
(Anorexia Nervosa, Bulimia Nervosa,  
and Binge Eating Disorder)**

# **Eating Disorders: The Big Issue (Schmidt et al; Lancet)**

- **Peak age of onset: 15–25 years.**
- **Average duration of disorder: 6 years.**
- **AN and BN more common in young women, but men/boys affected; BED equally split between genders.**
- **AN is one of the most common chronic illnesses of adolescence—similar to incidence rates of Type I Diabetes in rates.**

# Eating Disorders: The Big Issue

## (Schmidt et al; Lancet)

- Mortality rates for EDs are 2x general population and AN is 6x greater.
- 1 of 3 people with BN or BED will become obese.
- 1 in 4 ED patients is unemployed.
- Recent estimates: 20 million people in Europe have an ED with a cost of 1 trillion Euros per year (financial cost—€249 billion and burden of disease cost—€763 billion)

**Why might people starve themselves, binge eat, purge themselves of food, exercise for hours a day, abuse substances—all to manage problems with food, shape, or weight?**

**Dieting?**

**Genetics?**

**Culture?**

**Personality?**

**Emotional States?**

**Brain Dysfunction?**

**Why might people starve themselves, binge eat, purge themselves of food, exercise for hours a day, abuse substance-all to regulate problems with food?**

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**Personality?**

**Emotional States?**

**Brain Dysfunction?**

# Monitoring Eating Disorder Patients Over Time: Studying Anorexia Nervosa, Bulimia Nervosa, and Binge Eating Disorder in the Natural Environment

- Eating behavior
- Purging behavior
- Stress
- Emotional Status

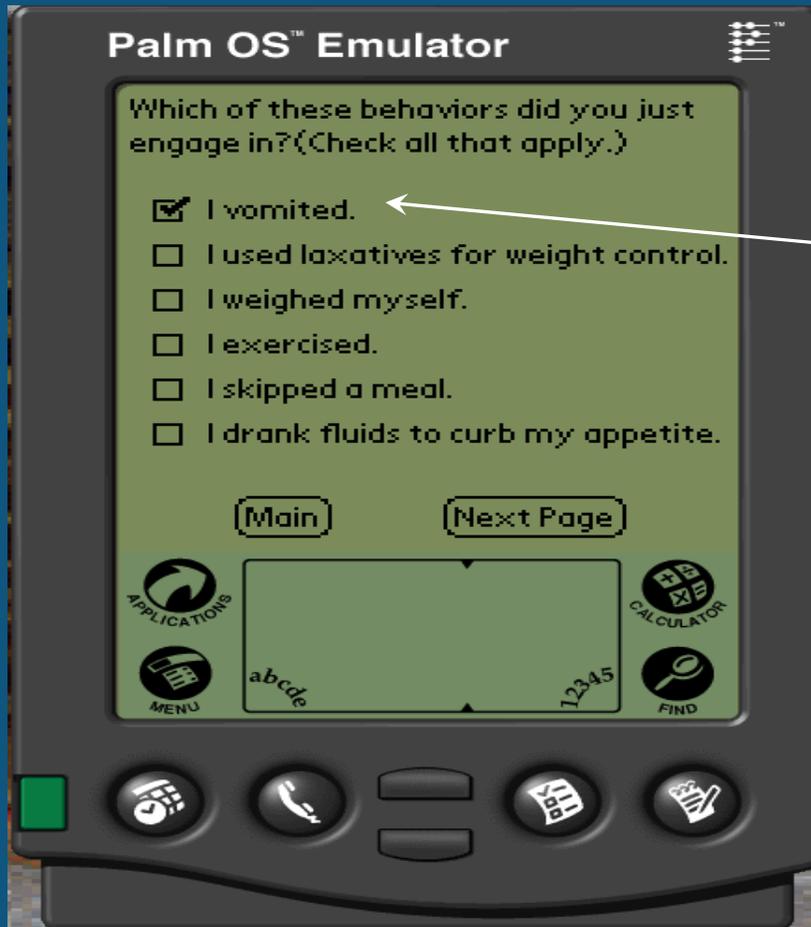
NIMH-5RO1 MH59674;

NIMH-2RO1 MH59674



## Rating Scales





Check Boxes

# Real-Time Assessment In the Natural Environment (ReTAINE)



Real Time Assessment In the Natural Environment  
By Neuropsychiatric Research Institute (NRI)

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ReTAINE is a highly effective tool for research organizations needing a secure system for collecting data from research participants in their natural environment.



ReTAINE stands for **Real Time Assessment In the Natural Environment**. The researchers at the Neuropsychiatric Research Institute in Fargo, North Dakota created this web-based system that allows researchers and clinicians to gather important information from individuals in their natural environment.

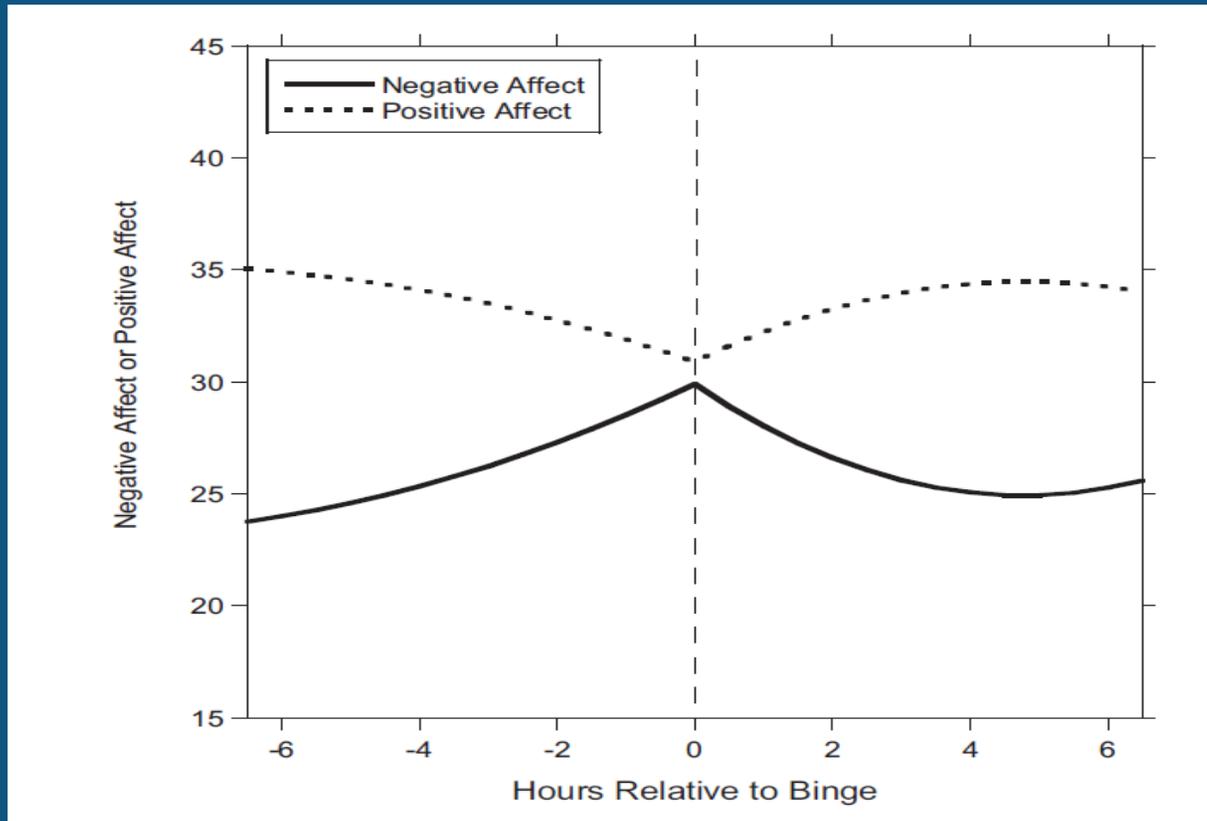
ReTAINE can be used to design customized assessments, can automatically signal participants to complete those assessments based upon individualized schedules, and it can collect and manage the data participants provide using their smart phones, tablets or personal computers. ReTAINE is easy to use, economical and secure.

[CONTACT NRI TODAY](#) for more information or to schedule a demonstration.

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# Emotional States and Binge Eating



**Can this information help us in the clinic??**

# A randomized controlled comparison of integrative cognitive-affective therapy (ICAT) and enhanced cognitive-behavioral therapy (CBT-E) for bulimia nervosa

S. A. Wonderlich<sup>1\*</sup>, C. B. Peterson<sup>2</sup>, R. D. Crosby<sup>1</sup>, T. L. Smith<sup>3</sup>, M. H. Klein<sup>3</sup>, J. E. Mitchell<sup>1</sup>  
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Integrative  
Cognitive-Affective  
Therapy for  
**Bulimia  
Nervosa**

A Treatment Manual

Stephen A. Wonderlich,  
Carol B. Peterson, and Tracey Leone Smith  
with Marjorie H. Klein, James E. Mitchell,  
and Scott J. Crow

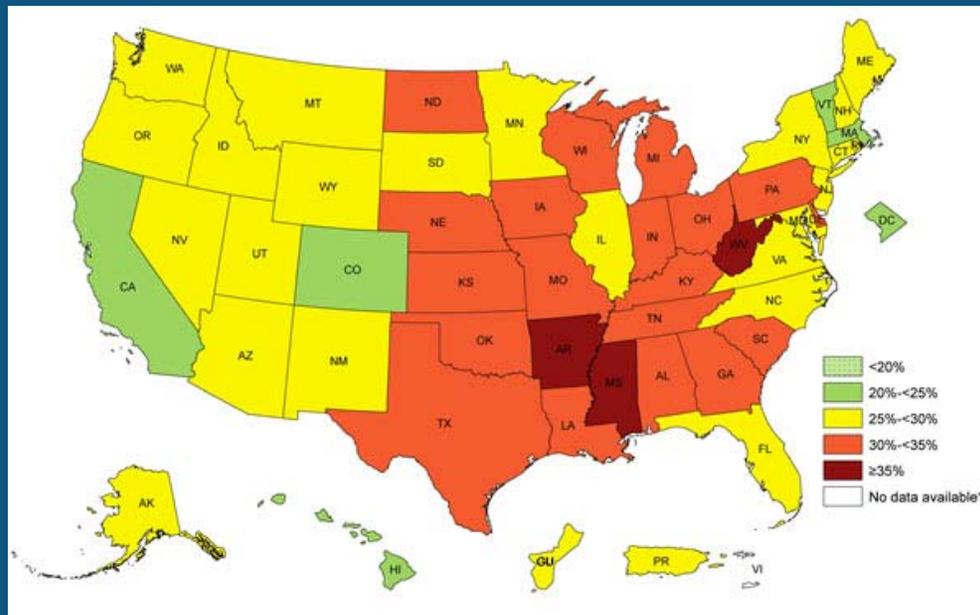
NIMH R34MH098995, NIMH R34MH077571

Guilford Press, 2015

## **Research Area 2: Obesity and Bariatric Surgery**

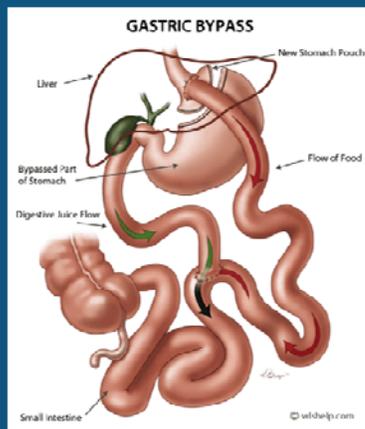
**While some of our patients follow a deadly course in pursuit of thinness ideals, others struggle with a very different food and weight problem**

# Obesity is an Epidemic and Bariatric Surgery is the Most Effective Long-Term Treatment

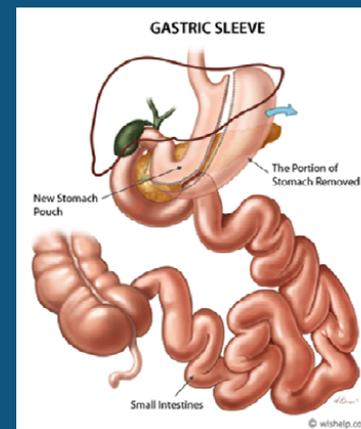


# Most Common Bariatric Surgery Procedures

## Roux-en-y Gastric Bypass



## Sleeve Gastrectomy



## **Good Outcome for Most, However...**

- **Weight regain**
- **Changes in medication absorption**
- **Hypoglycemia**
- **Disordered eating**
- **Suicide**
- **Substance abuse**

# Current Active Areas of Bariatric Surgery Research

- **Alcohol Pre/Post Surgery**
  - Study of changes in the effects, impairment, and blood alcohol concentration following alcohol ingestion before and after surgery
- **Alcohol Cohort Study**
  - Descriptive study of post-surgery problem drinkers
- **Pharmacokinetics of Medications**
  - Changes in absorption and metabolism of commonly used drugs before and after bariatric surgery
- **Microbiome- Translational Research**
  - Understanding the role of gut bacteria on obesity, post-bariatric surgery weight outcomes, and mood using both human and animal approaches

# Conclusion

- **Eating Disorders, Obesity and Bariatric Surgery are important Clinical Issues that have been productively studied at ND Universities**
- **Clinical Research is Critical for the Advancement of Evidence Based Healthcare**
- **Center of Biomedical Research Excellence (COBRE) grant in eating disorders and eating behavior is currently being developed (UNDSMHS, NDSU, NRI)**

Thank You!  
Questions??