VERITAS
COLLABORATIVE

CENTER of EXCELLENCE
for the Treatment of
EATING DISORDERS
Where I Often Wandered Lonely:

*Inherent Complexities of the Re-feeding Process in Eating Disorder Treatment*

Chase Bannister, MDiv, MSW, LCSW, CEDS
Tuesday, February 28, 2012
1 - 2 pm Eastern
Chase Bannister, MDiv, MSW, LCSW, CEDS
Vice President & Chief Clinical Officer

- Certified Eating Disorder Specialist (CEDS, credentialed by iaedp)
- Founder of Veritas Collaborative - a specialty behavioral health hospital for young people with eating disorders
- Lead Faculty - iaedp course on core competency for the treatment of eating disorders
- Medical Advisory Board Member, NORMAL - a non-profit for eating disorders education, prevention, & advocacy
- Founding clinician, Carolina House - residential treatment center for adults with eating disorders
- Trained as eating disorders clinician at Duke University Counseling & Psychological Services - Duke University Eating Disorder and Body Image Concerns Treatment Team
- Presenter to school & university faculties, clinical staffs, student affairs/residence life staffs, and a myriad of student groups
- Clinical program consultant for eating disorder treatment centers in the US
- Strong relationships with clinicians & researchers around the world
Eating disorders are the most lethal psychiatric illnesses.

The mortality rate for women with eating disorders is 12 times that of their peers.

The suicide rate is 19 times.

• 20% of eating disordered women will die prematurely as a result of their illness. The average age of death due to an eating disorder is 34 years old.

• Eating disorders are complex mental illnesses existing at the intersection of biogenetic predisposition, temperament, and environmental factors – emerging field of epigenetics.
World Literature on Treatment Outcome and Course of Illness

- ahrq.gov.management of eating disorders
- Treatment Studies
  - AN – 19 studies: N=896
  - BN – 38 studies: N=3643
- Outcome/Course of Illness
  - AN – 25 studies: N=1554 [889 of which, data collected 10+ years ago]
  - BN – 13 studies: N=1135 [336 of which, data collected 10+ years ago]

Eating Disorders

• **Anorexia Nervosa (AN)**
  – Low weight: less than 85% of expected weight for height
  – Intense fear of food and weight gain

• **Bulimia Nervosa (BN)**
  – Bingeing & purging food
  – Vomiting, laxatives, or compulsive over-exercise

• **Eating Disorder Not Otherwise Specified**
  – Binge Eating Disorder, Purging Disorder
  – Veritas Collaborative Founders’ conversation with DSM committee in Austria AED Conference indicates Binge Eating Disorder (BED) will be independent diagnostic category in 2012 DSM-V
Under-served & Under-treated

- Inadequate treatment = death sentence
- Options for best-practice, intensive treatment are remarkably limited across the United States
- Due to these limitations, children/adolescents, young adults, their families, schools, etc. often wait too long to intervene, leaving persons vulnerable to poor prognostic outcome
“But my son/daughter is on full scholarship!”

• Very truly a ‘delusional illness’
  – Delusion defined:
    
    \[ \text{A fundamental loss of perspective} \]
  – Eating disorders are ‘circumscribed delusions’
Anorexia Affects the Whole Body

**Anorexia affects your whole body**

**Brain and Nerves**
can't think right, fear of gaining weight, sad, moody, irritable, bad memory, fainting, changes in brain chemistry

**Hair**
hair thins and gets brittle

**Heart**
low blood pressure, slow heart rate, fluttering of the heart (palpitations), heart failure

**Blood**
anemia and other blood problems

**Muscles and Joints**
weak muscles, swollen joints, fractures, osteoporosis

**Kidneys**
kidney stones, kidney failure

**Body Fluids**
low potassium, magnesium, and sodium

**Intestines**
constipation, bloating

**Hormones**
periods stop, bone loss, problems growing, trouble getting pregnant. If pregnant, higher risk for miscarriage, having a C-section, baby with low birthweight, and post partum depression.

**Skin**
bruise easily, dry skin, growth of fine hair all over body, get cold easily, yellow skin, nails get brittle
BMI Calculation

• The BMI isn’t a ‘perfect’ system; it’s a general gauge.

• Factors which must be accounted for include:
  – Age and developmental factors assoc. with puberty
  – Gender
  – Growth charts
  – Family history
  – Genetic variables
The Body Mass Index (BMI) was created mid 19\textsuperscript{th} century by Belgian scientist Adolphe Quetelet.

It remains the World Health Organization’s standard for gauging weight to height proportions.
Health Consequences of Anorexia Nervosa: In anorexia nervosa’s cycle of self-starvation, the body is denied the essential nutrients it needs to function normally. Thus, the body is forced to slow down all of its processes to conserve energy, resulting in serious medical consequences:

- Abnormally slow heart rate and low blood pressure, which mean that the heart muscle is changing. The risk for heart failure rises as the heart rate and blood pressure levels sink lower and lower.
- Reduction of bone density (osteoporosis), which results in dry, brittle bones.
- Muscle loss and weakness.
- Severe dehydration, which can result in kidney failure.
- Fainting, fatigue, and overall weakness.
- Dry hair and skin; hair loss is common.
- Growth of a downy layer of hair called lanugo all over the body, including the face, in an effort to keep the body warm.
Anorexia Nervosa (AN) & the Brain

• Loss of gray matter mass
• Serotonin & dopamine receptors are impaired (pleasure/pain/reward)
• Restricting foods (particularly carbohydrates) plays a counter-intuitive role:

  “When individuals with AN starve, extracellular serotonin concentrations might diminish, resulting in a brief reprieve from dysphoric mood.”

  • Kaye, Psychiatric Times, 2/4/11

• Cortisol [think: ‘anxiety’] levels increase as weight or body mass decrease: central nervous system impaired
Zastrow, et al, 2009

- fMRI imaging shows **diminished activity** in the pre-frontal cortex in persons with anorexia as tasks become more complicated
  - Kaye et al, Int J Eat Disord 2011; 44:1–8
- Set-shifting & executive functioning deficits (Treasure, Kaye)
Anorexia Nervosa & the Brain

Wisconsin Card Sorting Test

Rey-Osterrieth Complex Figure Test
Temperament and Anorexia

- Harm-avoidant
- Neurotic
- Obsessional
- Anxious
- Reward dependent
- Perfectionistic
- Low novelty seeking
- Abysmal self-esteem
Deficits in Social Neurocognitive Process

• Up to 20% of AN patients meet criteria for Asperger’s Disorder.
• The “theory of mind” is the ability to understand the thoughts/intentions of others and take other perspectives.
• Many AN patients have significant difficulty understanding the intentions of others.
• Treatment must help patients see the forest AND the trees.
The Just Eat a Sandwich Approach

If only it were that easy!

In fact, it would likely **harm** more than **help**.

Re-Feeding syndrome: dastardly and deadly

Overbearing clinical word of the day: **HYPOPHOSPHATEMIA**.
Re-feeding Syndrome

Hypophosphatemia

- Simply put, a lack of phosphorous in the body’s cells, which are needed for oxygen transportation
- Without appropriate levels of phosphorous (and other electrolytes) the body begins to seek nutrition from itself – its own stores of fat/protein.
- Muscle-wasting
So, just bulk up on phosphorous, right?

- **Not so fast!**
- Minnesota Semi-Starvation Experiment (1945)
- When carbohydrates are given too rapidly during a malnourished or emaciated state, **severe damage** to the body can occur.
  - Peripheral and pulmonary edema - seizures, cardiac failure
  - Anemia due to destruction of red blood cells
  - Insulin rises, and suddenly glucose, phosphorous, potassium and magnesium are “sucked out” of the blood system into the starved cells
Edema occurs nearly instantaneously
  - [pause while we think about why this is a secondarily traumatic issue for this population]
- **Demand on the heart** is excessive – faster heart rate, faster oxygen consumption
- **Acute heart failure** a *considerable risk*
- **Respiratory system overloaded**– carbon dioxide production is high, oxygen low. Breathing can slow - this is the last thing we need!
- **Gastro-intestinal system has difficulties with the “jolt”** – having ‘atrophied’ during starvation, gut isn’t prepared to handle sudden intake of food. Some refer to this as constipation due to cathartic colon. Others experience this as diarrhea.

But wait, isn’t that what we wanted – the red blood cells to have more phosphorous, etc.?
Intentional, individualized nutrition progression is key

• 800-1200 kcals to start (25 kc/kg)
• Monitor electrolytes, phosphorous
• Increase 200-300 calories every 2-3 days*
  2-3 pounds per week goal
Recent literature suggests that if the patient is in a closely monitored environment, caloric increases could occur more frequently without as much risk for cardio-thoracic concerns
Body Mass Index (BMI) Classifications

- Anorexia Nervosa is generally diagnosed when BMI < 18.5 & the other DSM criteria are met.
- Below this general threshold (and, of course, worsening as BMI tapers downward), a myriad of physiological concerns are likely to arise.

<table>
<thead>
<tr>
<th>Classification</th>
<th>BMI Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severely underweight</td>
<td>less than 16.0</td>
</tr>
<tr>
<td>Underweight</td>
<td>from 16.0 to 18.5</td>
</tr>
<tr>
<td>Normal</td>
<td>from 18.5 to 25</td>
</tr>
<tr>
<td>Overweight</td>
<td>from 25 to 30</td>
</tr>
<tr>
<td>Obese Class I</td>
<td>from 30 to 35</td>
</tr>
<tr>
<td>Obese Class II</td>
<td>from 35 to 40</td>
</tr>
<tr>
<td>Obese Class III</td>
<td>over 40</td>
</tr>
</tbody>
</table>
Doing the Math

<table>
<thead>
<tr>
<th>Admit Wt.</th>
<th>Weight gain needed</th>
<th>Length of Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>75 lbs</td>
<td>90% = 15 lbs, 2 lbs per week</td>
<td>53 days</td>
</tr>
<tr>
<td>75 lbs</td>
<td>100% = 25 lbs, 2 lbs per week</td>
<td>89 days</td>
</tr>
</tbody>
</table>
Treating to Outcome

• Risk of relapse **doubles** if AN patient is discharged less than 90% IBW

• Risk of relapse **decreases** as weight restoration approaches/exceeds 100% IBW

Craig Johnson, PhD, CEDS, FAED
Rocky Mountain Eating Disorders Conference Keynote, 2011
Multi-disciplinary Approach

Multi-disciplinary interventions

- Psychiatry
- Internal Medicine
- Psychotherapy
- Dietetics/Nutrition
- Specialized Psychiatric/Med Nursing
No, Seriously.
Use a Multi-disciplinary Team

- Dietitians: managing hyperbolic state (that is, when a person burns caloric intake rapidly, usually near the start of the re-feeding process) - goal of 2-3 lbs/week weight gain for underweight person
- Psychotherapists: phobic thresholds/anxiety response
- Internal Medicine: electrolyte balancing act, arrhythmia/cardiac concerns
- Psychiatry: for co-morbid conditions (save fluoxetine for BN, possibly olanzepine for AN)
Clinicians must Treat Past Phobic Thresholds

• Treat past phobic threshold
• Phobic threshold will hover around 100% of expected BMI
• Probability of relapse greatly increases if we do not fully weight restore because the illness works like other phobias
• Established methods for treating phobias are useful
Eating Disorders Clinicians must be Advanced Generalists in Co-Morbid dx

Eating Disorders are co-morbid with other psychiatric diagnoses at remarkably high rates:

- Anxiety/Depression: 66%
- Obsessive Compulsive: 40%
- Chemical Dependency: 25%+
- Post Traumatic Stress Disorder (PTSD): 40-60%
• Latent Genetic Vulnerability Theory
  – Genetic predisposition to illness
  – Nature vs Nuture debate is *old news*
  – Anorexia is as heritable as Schizophrenia & Bipolar Disorders
  – Illness ‘dormant’ until ‘switched on’
"Although no one can yet say for certain, new science is offering tantalizing clues. Doctors now compare anorexia to alcoholism and depression, potentially fatal diseases that may be set off by environmental factors such as stress or trauma, but have their roots in a complex combination of genes and brain chemistry.

“In other words, many kids are affected by pressure-cooker school environments and a culture of thinness promoted by magazines and music videos, but most of them don't secretly scrape their dinner into the garbage.

“The environment pulls the trigger...but it's [a person’s] latent vulnerabilities that load the gun.”

(Newsweek, December 2005, Fighting Anorexia: No One to Blame)
Four Key Correlations with Eating Disorder onset

kCal Restriction

Compulsive over-exercise

Purging behaviors

Hormones associated with puberty
The “Revolving Door” is expensive, and not just monetarily!

At least 50% of patients discharged from inpatient care **before weight restoring** readmit for further inpatient treatment.

“Strong economic advantage” of adequate inpatient care—key to avoiding immediate relapse and readmission

“Patients discharged while still underweight may have a worse clinical course than those hospitalized until healthy weight has been restored.”

Bulimia & The Body

How bulimia affects your body:

- **Brain**: depression, fear of gaining weight, anxiety, dizziness, shame, low self-esteem
- **Cheeks**: swelling, soreness
- **Mouth**: cavities, tooth enamel erosion, gum disease, teeth sensitive to hot and cold foods
- **Throat & Esophagus**: sore, irritated, can tear and rupture, blood in vomit
- **Muscles**: fatigue
- **Stomach**: ulcers, pain, can rupture, delayed emptying
- **Skin**: abrasion of knuckles, dry skin

- **Blood**: anemia
- **Heart**: irregular heart beat, heart muscle weakened, heart failure, low pulse and blood pressure
- **Body Fluids**: dehydration, low potassium, magnesium, and sodium
- **Intestines**: constipation, irregular bowel movements (BM), bloating, diarrhea, abdominal cramping
- **Hormones**: irregular or absent period
Health Consequences of Bulimia Nervosa: The recurrent binge-and-purge cycles of bulimia can affect the entire digestive system and can lead to electrolyte and chemical imbalances in the body that affect the heart and other major organ functions. Some of the health consequences of bulimia nervosa include:

- Electrolyte imbalances that can lead to irregular heartbeats and possibly heart failure and death. Electrolyte imbalance is caused by dehydration and loss of potassium, sodium and chloride from the body as a result of purging behaviors.
- Potential for gastric rupture during periods of bingeing.
- Inflammation and possible rupture of the esophagus from frequent vomiting.
- Tooth decay and staining from stomach acids released during frequent vomiting.
- Chronic irregular bowel movements and constipation as a result of laxative abuse.
- Peptic ulcers and pancreatitis.
Physical Complications with Eating Disorders

**Bulimia Nervosa**

- **Electrolyte Imbalances**
  - Low Potassium: cardiac arrhythmia, edema

- **Dental Issues**
  - Swollen parotid glands

- **Throat/Eosophageal/Stomach Problems**

- **Cathartic Colon/ Laxative Dependence**

- **Kidney damage**
Super-secret Illness – Signs & Behaviors

- Hiding food
- Disappearance of food
- Irregular eating patterns
- Compulsive exercise
- Yellowing teeth/tooth decay
- ‘Sneaking away’ to bathroom after meals
- Scarring on knuckles
- Weight fluctuations
- Swollen parotids
Temperament in Bulimia Nervosa

- Novelty Seeking
- Quick-tempered
- Excitable
- Exploratory
- Not risk-averse
- Impulsive
- Easily bored
- Easily form emotional attachment
- High reward-dependence
Deprivation Sensitive Eating & The Binge Purge Cycle

- Strict dieting
- Tension and cravings
- Binge eating
- Purging to avoid weight gain
- Shame and disgust
We do have Evidence-based Treatments

• Dialectical Behavior Therapy
• Mindfulness/Mentalization/Mind-stretching
• Family Based Therapy for adolescents without severe medical complications – *not indicated for older adolescents or adolescents with severe presentations of illness*
• Limited treatment-effectiveness research – largely “marketing” driven
How do we treat these illnesses?

Very

Very

Carefully.
Assuming Adequate Treatment

As we talk about treatment, we must get our expectations in order.
Three Serious Points

1. Eating disorders are serious mental illnesses, with mental and physical consequences.

2. Parents who have children with eating disorders have been imprudently implicated for too long.

3. Adolescents, young adults, adults (and their families) wait too long to receive adequate care – this is a serious risk for lethality.
Levels of Care

- Medical Acute Crisis
- Inpatient
- Residential
- Partial Hospitalization
- Intensive Outpatient
- Outpatient
Outpatient care isn’t enough for some patients:

- Home, school, or university environment no longer psychologically or medically safe
- Liability issues
- Parents, students, school/university staff exhausted by the task of basic nutrition and illness management at the university
- More time and a broader spectrum of care needed than can be received in even multi-disciplinary outpatient care
“Because of the potentially irreversible effects of an eating disorder on physical and emotional growth and development in adolescents, the high mortality and the evidence suggesting improved outcome with early treatment, the threshold for intervention in adolescents should be lower than in adults.”


Eating disordered patients in the young adult population often present as adolescents, both physically and mentally, due in part to the malnutritive or emaciating effects of symptom-use.

Early intervention at an adequate level of care with eating disordered persons is imperative—potentially saving lives while mitigating the cost-burden of inpatient admission.
A Unique Part of Our Program

Hands-on Approach to Food

• Status quo: cafeteria trays

• Goal is to move patients toward self-sufficiency with food

• Cooking, portioning, handling, baking, preparing
Questions and Comments?
Further References & Sources on Efficacy of Evidence-Based Therapies in the Treatment of Eating Disorders

Contact Information

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