Eating Disorders in Adolescents

D. Paul Robinson, M.D.
Tallahassee Memorial Healthcare

Disclaimers

- I have nothing to claim or disclaim
- I will discuss the off-label use of medications
  - Mostly involving the misuse of medications in Anorexia Nervosa

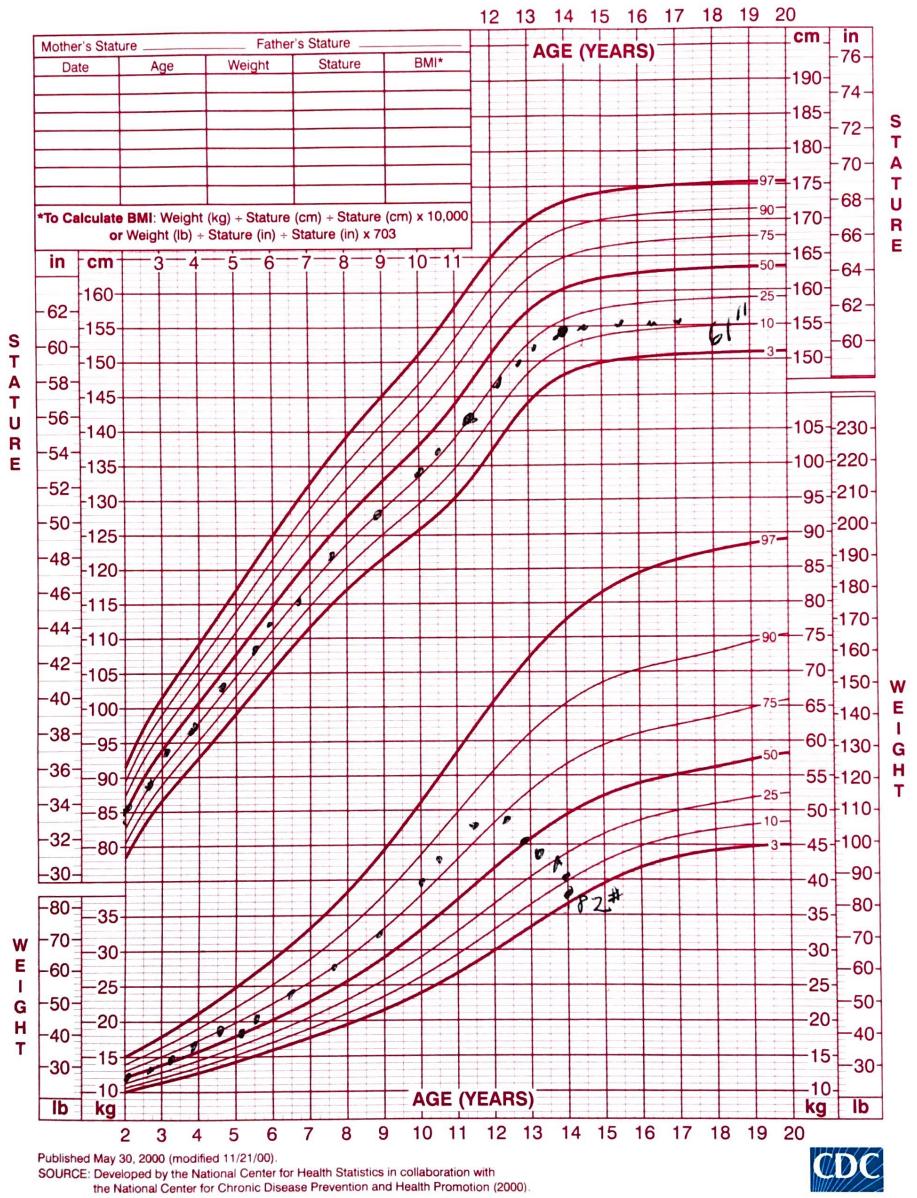
Learning Objectives

- The learner will become comfortable with distinguishing the types of eating disorders
- The learner will become comfortable with evaluation of eating disorders
- The learner will understand outpatient treatment of eating disorders and when patients need to be hospitalized

2 to 20 years: Girls
Stature-for-age and Weight-for-age percentiles

NAME Samantha

RECORD #



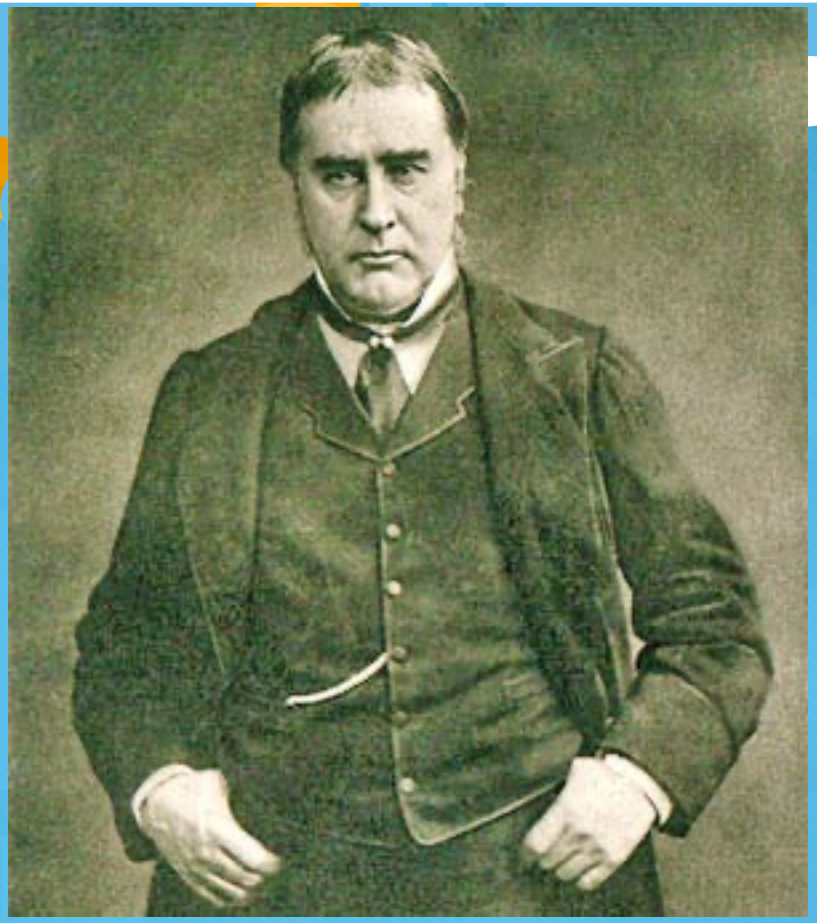
Published May 30, 2000 (modified 11/21/00).
SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).

CDC

Sir Richard Morton

- In 1689 he published *A Treatise on Consumptions*
  - Outlined in detail all the diseases that can cause wasting
    - Best known for his description of TB
  - Described anorexia nervosa as “Nervous Consumption” caused by “Sadness and Anxious Cares”

Silverman (1983)



"The want of appetite was due to a morbid mental state …perversion of the ego being the cause and determining the course of the malady"

Sir William Gull
1816-1890

Eating Disorders DSM-5

Condition	Binge-Purge	Weight
AN-R	No	Low
AN-BP	Yes	Low
Atypical AN (OSFED)	Maybe	Normal
BN	Yes	Normal/high
BED	No purging + binge	Normal or High
ARFID	Generally No	Low

Eating Disorders DSM-5

- Other Specified Feeding or Eating Disorder
  - Atypical AN (discussed above)
  - Bulimia Nervosa of low frequency or limited duration
  - Binge-eating disorder of low frequency or limited duration
  - Purging disorder
  - Night eating syndrome

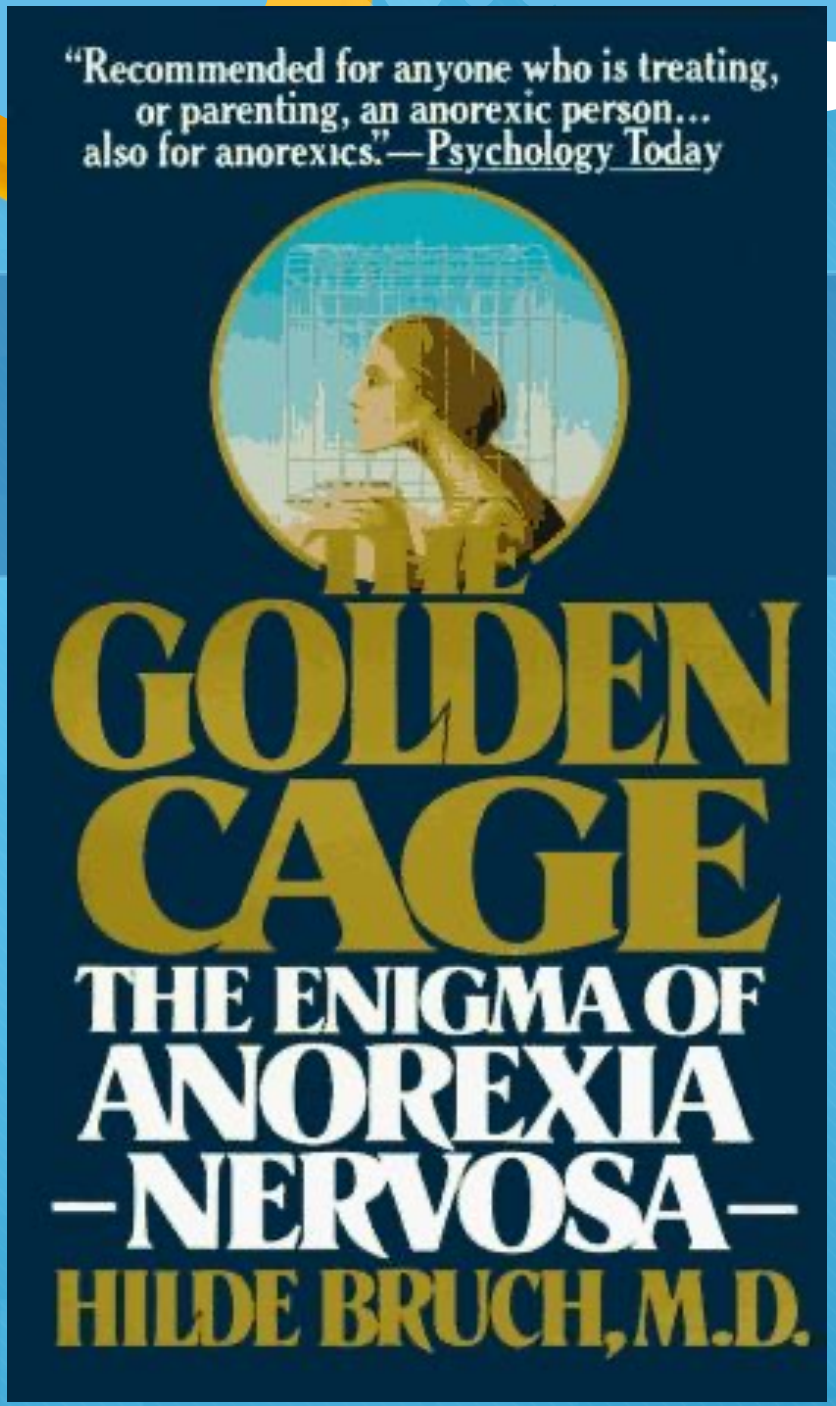
2007 study looking at 9282 English speaking Americans found:

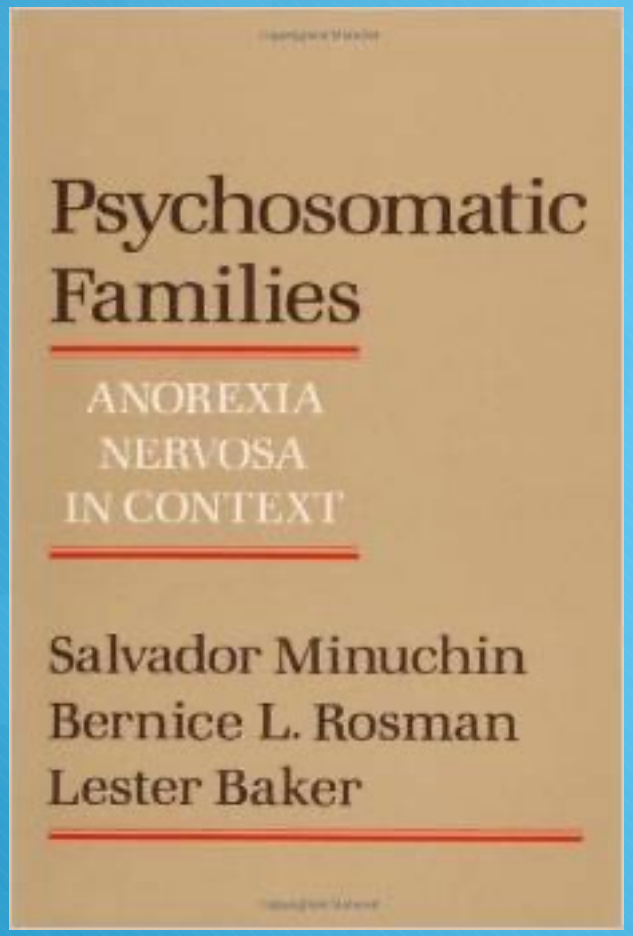
- 0.9% of women and 0.3% of men had anorexia nervosa during their lifetime
- 1.5% of women and 0.5% of men had bulimia nervosa during their lifetime
- 3.5% of women and 2.0% of men had binge-eating disorder during lifetime

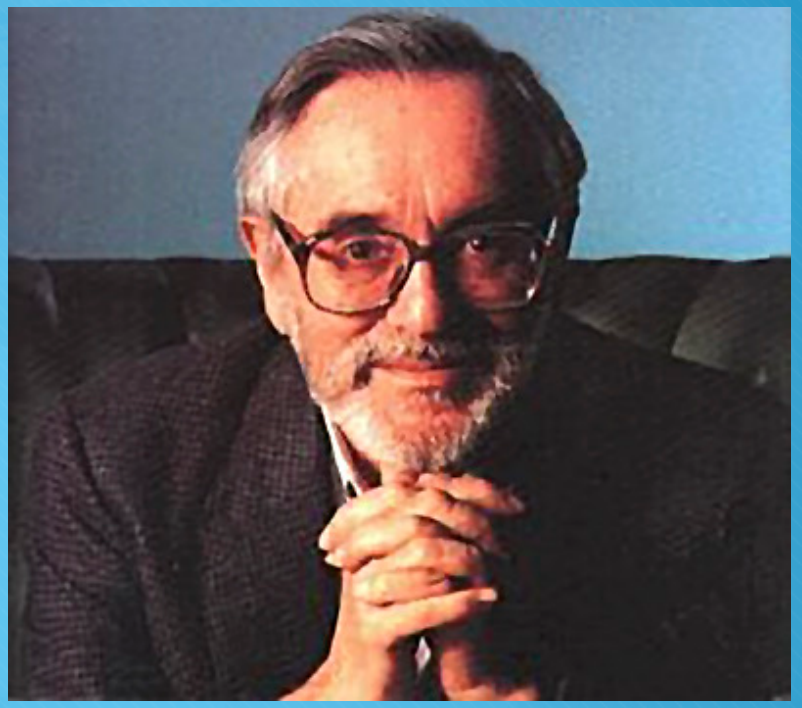
Hudson JI, Hiripi E, Pope HG Jr, Kessler RC.
The prevalence and correlates of eating disorders in the National Comorbidity Survey Replication.
Biol Psychiatry. 2007 Feb 1;61(3):348-58.
doi: 10.1016/j.biopsych.2006.03.040. Epub 2006 Jul 3. Erratum in: Biol Psychiatry. 2012 Jul

Etiology

- Many of the old theories blame the parents and families for these illnesses
  - Going all the way back to Gull


"Recommended for anyone who is treating, or parenting, an anorexic person... also for anorexics."—Psychology Today
THE GOLDEN CAGE
THE ENIGMA OF ANOREXIA NERVOSA
HILDE BRUCH, M.D.





Salvadore Minuchin

Psychosomatic Families

- Family processes are severely disturbed
- The condition is seen in families with
  - Enmeshment
  - Rigidity
  - Overprotection

Minuchin 1978 (Ref 25 in handout)

Etiology

- Current studies
  - Part genetic
  - Part environmental
    - But studies are just now starting to look at epigenetics
  - Anorexia Nervosa has heritability of 28-74%
  - Bulimia Nervosa has heritability of 28-83%

Etiology

- Study Published in Nature Genetics Aug 2019
  - Looked at 16,992 people with history of AN and 55,525 controls
  - 8 regions of the genome significantly associated with AN
    - These regions overlap with areas that are associated with OCD, Anxiety, Depression, and Schizophrenia

Etiology

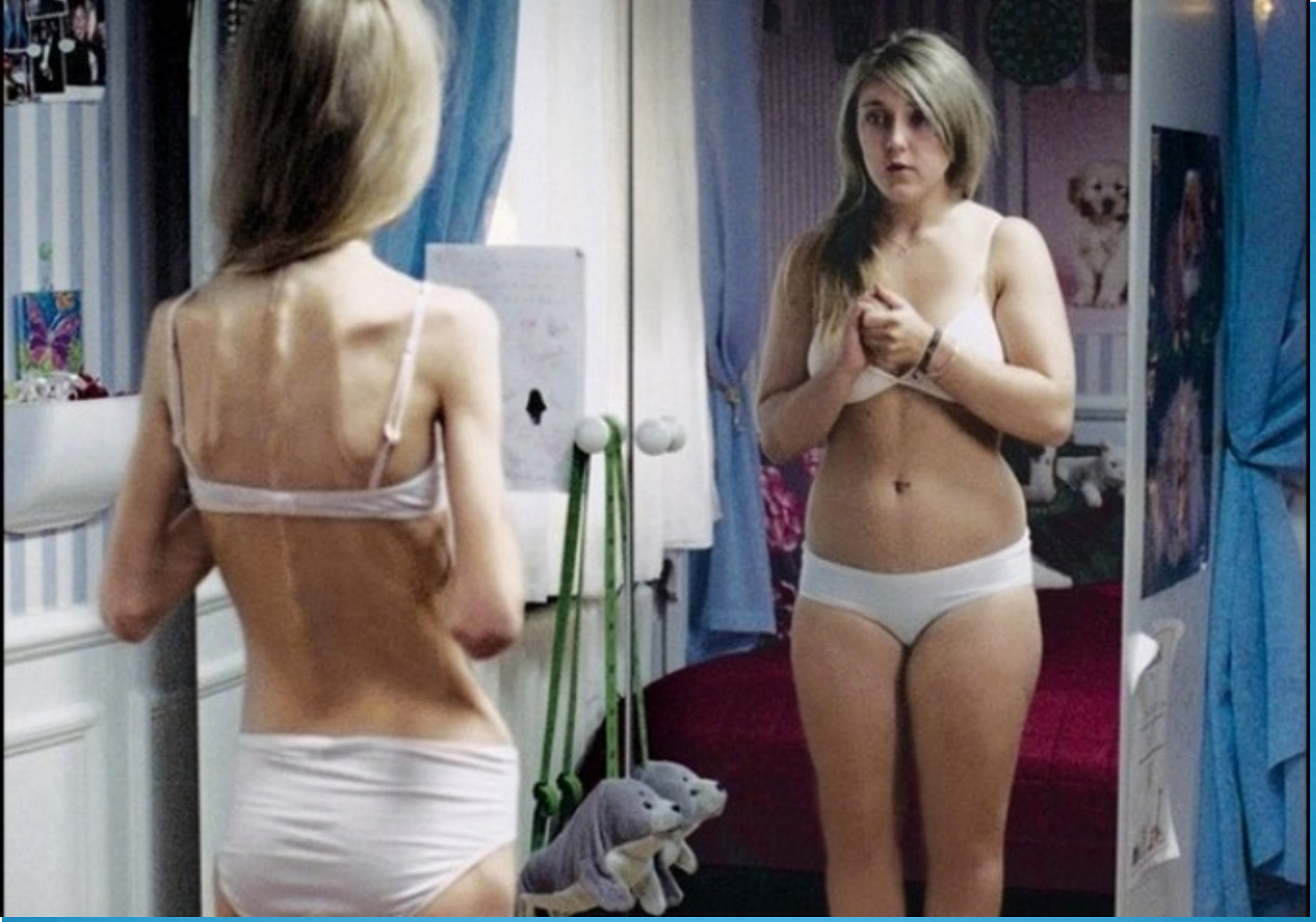
- Genes associated with AN:
  - Also influence physical activity
    - Cause people to be highly active
  - Influence metabolism, lipids, body measurement traits
- Is AN a metabo-psychiatric disorder?

Watson, H.J., *Genome-wide association study identifies eight risk loci and implicates metabo-psychiatric origins for anorexia nervosa.* Nature Genetics, 2019.

Be Aware

- More information out there about relationship of obesity to eating disorders
- Be very careful how you approach the obese patient in your office!

Neumark-Sztainer 2018 (no 16 in Reference list)



Presentation

- These patients can be very sneaky
  - Sometimes not picked up until spring when they are more likely to wear shorts, etc.
  - Think of eating disorders EARLY in any adolescent girl losing weight or with wide swings of weight
    - Especially if she looks clinically depressed
    - A girl in this age group losing weight should be considered to have an eating disorder until proven otherwise!

Tip !

- Because the incidence of eating disorders is lower in boys
  - Have a higher suspicion of illness and do more evaluation
    - Unless they present classically

Presentation- Anorexia Nervosa

- Preoccupation with food, calories, weight
- Excessive concerns about, or feeling fat
- Increasing self-criticism about her body
- Ritualistic exercise
- Wearing baggy or layered clothing, particularly if it is out of season (sweatshirts in the summer)
- Ego-syntonic

Presentation Anorexia Nervosa

- Think of it also in your adolescent patients who decide to go vegetarian or vegan
- AND in your thin adolescents who are constantly chewing gum!

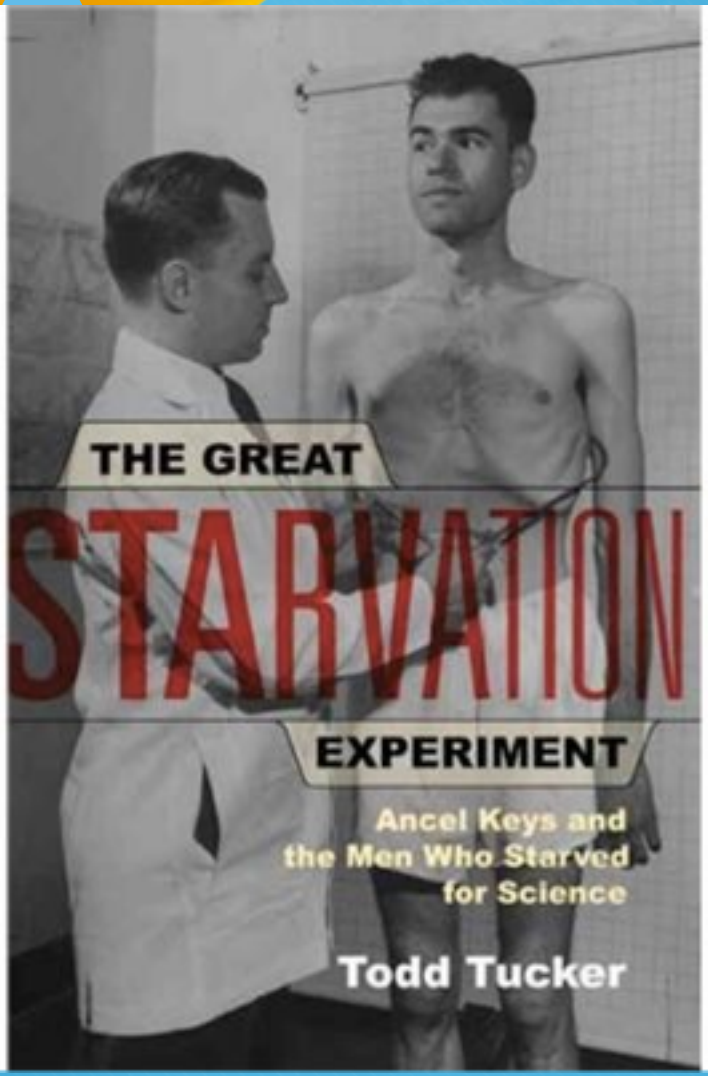
Presentation- Anorexia Nervosa

- Peculiar behavior related to food
  - Secretive eating
  - Ritualistic eating behaviors
  - Disappearing or going to the bathroom after eating
  - Continuously drinking water or diet soda
  - Chewing gum constantly
  - Preoccupation with eating behaviors of others
  - Cooking for others then not eating what is cooked


Diet & Health
TIME
THE WEEKLY NEWSMAGAZINE
PHYSIOLOGIST
ANCEL KEYS

Ancel Keys

- University of MN researcher
- First to pair diet high in saturated fat with heart disease
- One of first to recommend the Mediterranean Diet
- Designed the K-rations used during WWII by GI's
- Became interested in effects of starvation during WWII


THE GREAT
STARVATION
EXPERIMENT
Ancel Keys and
the Men Who Starved
for Science
Todd Tucker

Presentation of Bulimia Nervosa

- Preoccupation with body weight or shape
- Usually maintain normal weight
  - May have wide fluctuations in weight
- More likely to be associated with other problem behaviors
- ego-dystonic

Presentation of Bulimia Nervosa

- Behavior Related to Food
  - Patient may eat until it is painful
    - Vomiting brings relief
  - She feels out of control during binges
  - She can eat up to 20 000 calories in a bingeing episode!

Presentation of Bulimia Nervosa (cont)

- Binges often occur on:
  - Sweets
  - Carbohydrates
  - Smooth-textured foods that are high in calories
- Often binge in secret
  - Hide foods in room

Presentation of Binge-Eating Disorder

- Very much like BN, but patient does not purge
- Has the same terrible guilt during/after a binge
- Usually begins in late adolescence or adulthood
- Does not have to be obese, though most become obese later in life

My Approach to the New Patient with an ED

- "When did you start worrying about your weight?"
  - Under what circumstances?
- "When did you start actually changing your diet?"
- What is your goal weight? Have you already passed other goal weights?
- With what part of your body are you uncomfortable?

- Have you had any “trouble with” vomiting, laxative use, or other forms of purging?
- Any bingeing
- Syncope or pre-syncope
- Hematochezia?
- Amenorrhea?

- I don’t ask about rinsing in younger adolescents
  - I’m afraid I will give them the idea!

- What have your high and low weights been during your illness?
- Any circumstances under which you might be more comfortable gaining weight?

Review of Systems

- Dizziness, syncope, orthostatic symptoms
- Cold intolerance
- Palpitations
- Constipation
- Headaches
- ROS re other possible causes of weight loss

- Educate the family
  - Discuss the biology of starvation
  - Talk about Ancel Keys and his studies
  - Metabolic changes of starvation that make it more likely she will gain more weight later
    - The Biggest Loser phenomenon
  - Dangers of purging, if she is doing that
  - The LACK of evidence for blaming the parents!!!

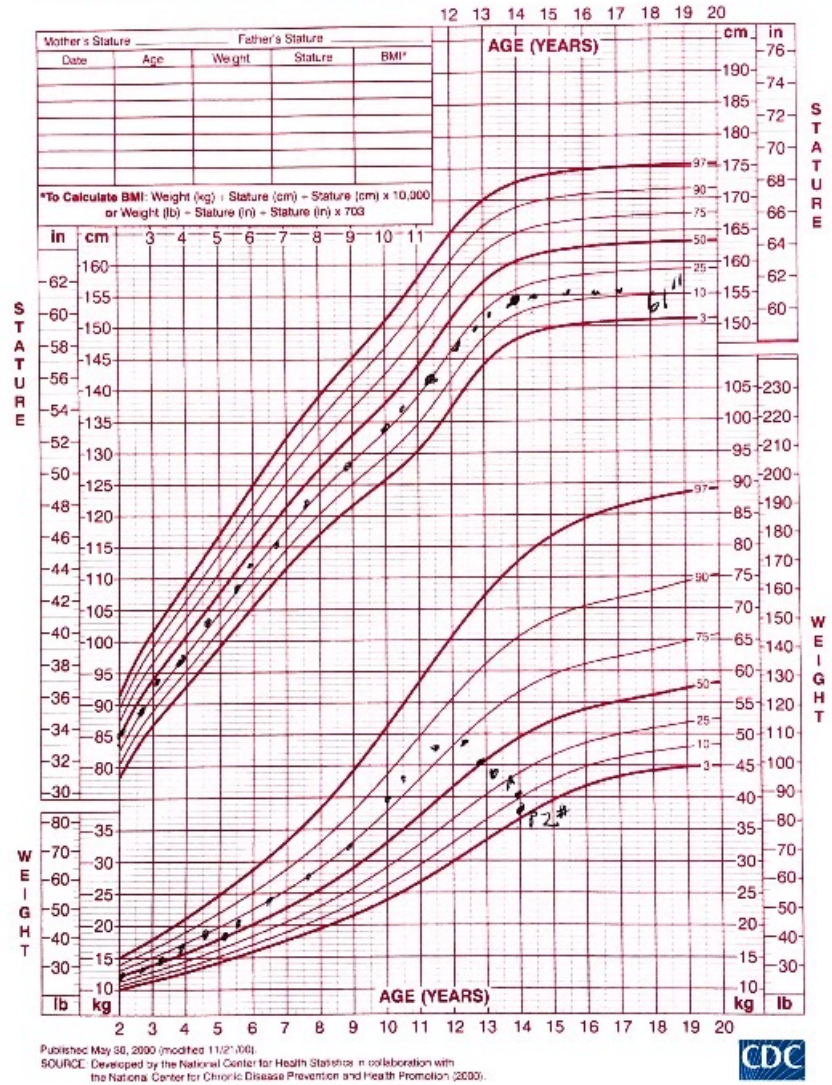
- If she comes in with weight loss but denies any eating disordered symptoms ask questions intended to cause an emotional response
  - “You sure would look better if you gained about 15 pounds.”
    - Look for the emotional response.
      - It will give you the diagnosis.

The Physical Exam

2 to 20 years: Girls
Stature-for-age and Weight-for-age percentiles

NAME Samantha

RECORD #



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CDC

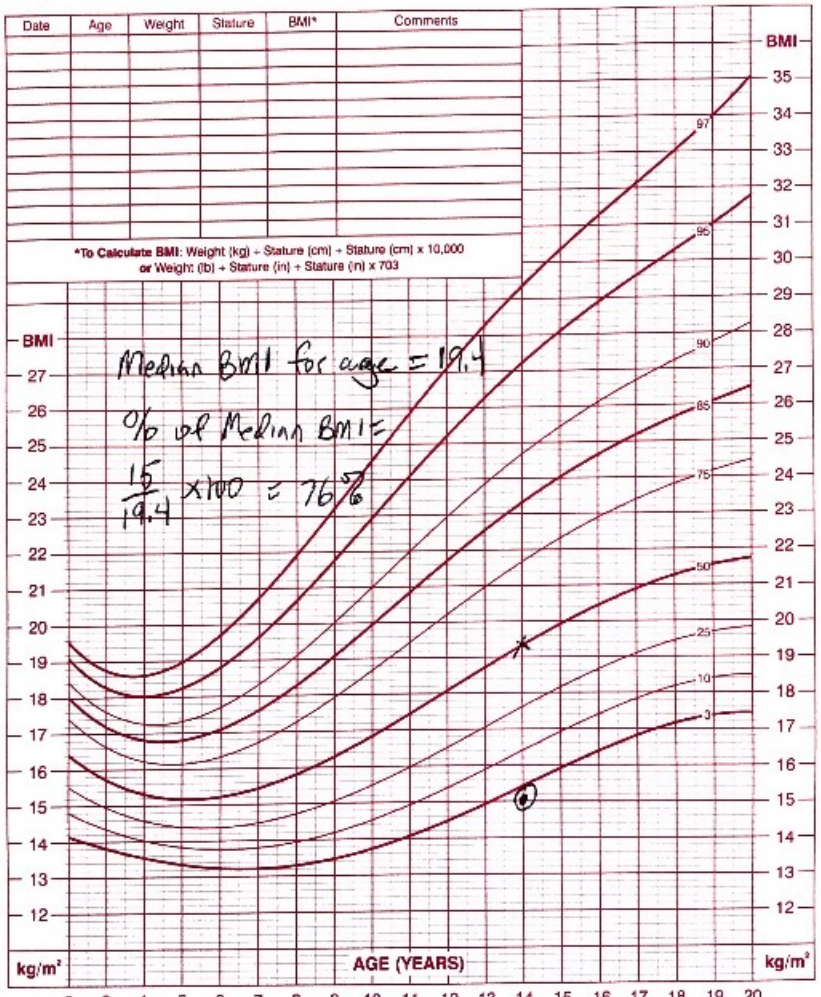
2 to 20 years: Girls
Body mass index-for-age percentiles

NAME Samantha

RECORD #

Date	Age	Weight	Stature	BMI*	Comments

*To Calculate BMI: Weight (kg) ÷ Stature (cm) ÷ Stature (cm) x 10,000
or Weight (lb) ÷ Stature (in) ÷ Stature (in) x 703



Published May 30, 2000 (modified 10/16/00).
SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).
http://www.cdc.gov/growthcharts

CDC
SAFER · HEALTHIER · PEOPLE™

Ideal Body Weight

Quick Calculation:

Females: 100# for 5 feet plus 5# per inch after 5 feet.
(+/- 10% to give a normal range)
Therefore a 5 foot 1 inch female should weigh
105# +/- 10#.
Males: 106# for 5 feet plus 6# per inch after 5 feet.

Note: These calculations are for post-pubertal adolescents. Use growth curves earlier or BMI percentile curves.

Hamwi, G.J., *Therapy: Changing Dietary Concepts*, in *Diabetes Mellitus: Diagnosis and Treatment*, G. Hamwi, Editor. 1964, American Diabetes Association: New York.

- Vital signs
  - Orthostatics (be sure your nurses know how to do them)
  - Temperature (hypothermia)
- General exam
  - Bradycardia
- Chewing gum?
- Red, dry, chapped hands?

- Dental enamel erosion
- Russell's sign?
- Parotid enlargement?
- Lanugo, if very thin

Laboratories and Studies

- EKG if weight very low and HR very slow
- CBC with differential and platelets
- CMP
- Urinalysis
- CRP and ESR
- FLP
- Other labs as indicated

Tip!

Be sure to tell the patient you expect labs to be "normal" but that does not mean she is ok.

Office Weights

- Weigh the patient backwards
  - In gown
  - After emptying bladder
- Nurse should make certain nothing strapped to body
  - “Either flash me or let me check you for baggage”
- I do not tell them their weight in early treatment

Treatment

- Sir Wesley Gull once said, “parents are the worst attendants….”
  - Yet he prescribed full nutrition over as long a period as needed, the use of a trained nurse at home, optimism, warm bed rest, and lots of protein and calcium. He stated, “The inclination of the patient must in no way be consulted.”

Treatment

- In past we took treatment out of the parents' hands
  - Made sense, since the abnormal family dynamics caused it
    - But they didn't!

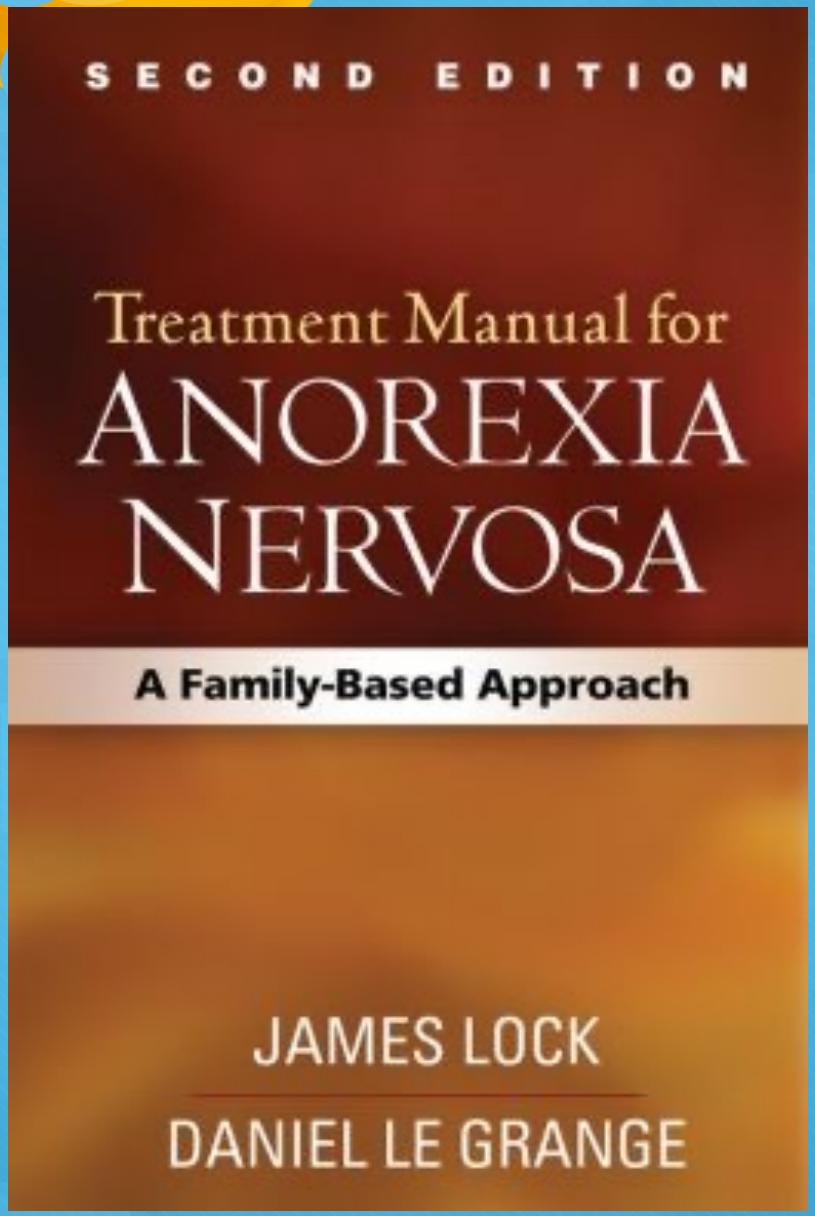
Maudsley Method

- In 1987 a paper was published with small numbers of patients
  - Did nor receive much attention, and because of the small numbers it was criticized
- But it showed parents could be a resource in their child's recovery
- 5 year follow up showed 90% still in recovery

Russell, GF, Szmukler C, Dare, and Eisler I 1987

Family-based Care

- Parents take charge of re-feeding their sick adolescent and are a RESOURCE, not cause
- They and doctors take an AGNOSTIC approach to cause until weight is restored or virtually restored.
  - Later studies, including ones done by Lock, et al have confirmed this approach


SECOND EDITION
Treatment Manual for
ANOREXIA NERVOSA
A Family-Based Approach
JAMES LOCK
DANIEL LE GRANGE

FBT

- Phase 1: Restoring the Patient's Weight
  - Parents pick food
    - Cook food
    - Plate food
    - Make sure food is eaten
- Phase 2: Returns Control of Eating Back to Adolescent

FBT

- Phase 3: Addresses Adolescent Development
  - Psychological issues
  - Treatment Termination

Family-Based Care

- Has potential to decrease hospitalizations for eating disorders
- Has pushed treatment of Anorexia Nervosa to more outpatient than inpatient
  - Or at least decreased the length of hospitalization
- But difficult to find therapists trained in this
  - Few in Tallahassee
  - A friend who is an ED expert in NYC notes there are few there!

Tip!

- When treating these patients do not tell her she "looks great!"
  - She will assume that means she is getting "fat."
- Be specific in your observations
  - "Your color is better"
  - "You seem to have more energy" or "don't look so depressed"
  - "I no longer notice the pause before you respond to me"

Treatment Anorexia Nervosa

- Medication does NOTHING for Anorexia Nervosa
- Olanzapine may help acutely in breaking the food strike, but controlled trials have shown no difference in outcomes between those on it or off of it

  Dold, et al (2015); Lebow, et al (2013)
- Benzodiazepines may help a little with anxiety associated with eating, but same outcomes long term

  Steinglass, et al (2014)

Treatment of Anorexia Nervosa

- Bone densiometry important (if amenorrheic or very thin)
- Keep an eye on electrolytes if patient is purging
  - I know it is hard to believe, but some of them lie!
- Also, randomly check urines for specific gravity in office

Hospitalization

- In restricting anorexia patients
  - Weight at or below 75 % of mBMI or IBW
  - Severe Bradycardia
  - Syncope or presyncope
  - Psychotic thoughts or suicidal ideation/attempt
  - Failure of outpatient therapy

Treatment of Bulimia Nervosa

- Unlike AN, Bulimia nervosa responds to antidepressants—SSRI's and SNRI's
- Probably because there is some serotonin in brain to reuptake….
- Literature says use 60 mg fluoxetine (by far most studied)
- Rarely admit unless electrolytes out of whack or bulimia out of control
- More difficult to treat on medical unit.

Treatment of Bulimia Nervosa

- Be sure to keep an eye on electrolytes in patients with BN and B-P AN

Treatment of ARFID

- Approximately 14% of females admitted to Eating Disorder treatment facilities and upwards of 20% of males have ARFID
- Extreme pickiness rather than concerns about weight
- Often associated with medical conditions (51%)
- Also commonly associated with psychological issues like anxiety

Treatment of ARFID

- Same medical workup as AN
  - Admit criteria the same
- Work on getting enough nutrition in the patient
  - Don't try to expand the types of foods early
  - Nutrition, speech therapy, OT, and psychology very important
  - Use food chaining later

Treatment of ARFID

- No evidence that meds work
  - Anecdotal evidence that SSRI's may help anxiety
- FBT being studied, and early studies positive

Treatment of Binge-Eating Disorder

- Usually emerges in late adolescence or young adulthood
- 2-3% of people. Most common ED
- Treatments in children are limited
  - CBT-Enhanced
  - Dialectic-Behavior Therapy
  - Meds are second line. Not studied in children

Psychological Treatments in Eating Disorders

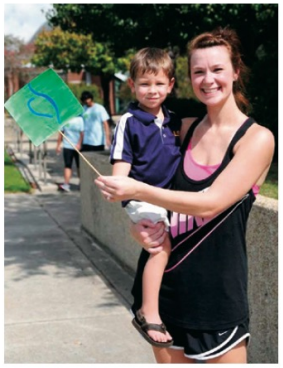
- Family-based Therapy (Maudsley)
  - Behavioral Systems Family Therapy
- Cognitive Behavioral Therapy (CBT) and CBT-E
- Interpersonal Psychotherapy (IPT)
- Acceptance and Commitment Therapy (ACT)

Psychological Treatments in Eating Disorders

- Cognitive Remediation Therapy
- Conjoint Family Therapy
- Dialectical Behavioral Therapy (DBT)

NEDA
Feeding hope.
National Eating Disorders Association

Parent
TOOLKIT



https://www.nationaleatingdisorders.org/parent-toolkit

Table of Contents

- The most important thing we can all do as providers is show A LOT of support and hope
  - For the patient suffering from her/his illness
  - For the family suffering also