

Tamara Maginot, PhD
 o Eating Disorders Center for Treatment
 Rady Children's Hospital San Diego

Tamara Maginot, PhD
 o Eating Disorders Center for Treatment
 Rady Children's Hospital San Diego

Tamara Maginot, PhD
 o Eating Disorders Center for Treatment
 Rady Children's Hospital San Diego

Tamara Maginot, PhD
 o Eating Disorders Center for Treatment
 Rady Children's Hospital San Diego

Agenda

- Review of types of Eating Disorders
 - Assessment and warning signs
- Neurobiology of eating disorders
 - Symptoms and Causes
- Treatment for Eating Disorders
 - Referrals and community resources



Truth 1

Eating Disorders affect people of all genders, ages, races, ethnicities, body shapes, weights, sexual orientations, and socioeconomic statuses.

Prevalence

- General population about 1-4%
- Majority are women
- About 10% of people with anorexia and bulimia are male
- Primary risk is from puberty through 20s.
- Mortality rates are as high as 10%
 - Cardiovascular
 - Electrolyte abnormalities
 - Suicide

Pandemic and Eating Disorders



From: **Association of the COVID-19 Pandemic With Adolescent and Young Adult Eating Disorder Care Volume**

JAMA Pediatr. 2022;176(12):1225-1232. doi:10.1001/jamapediatrics.2022.4346

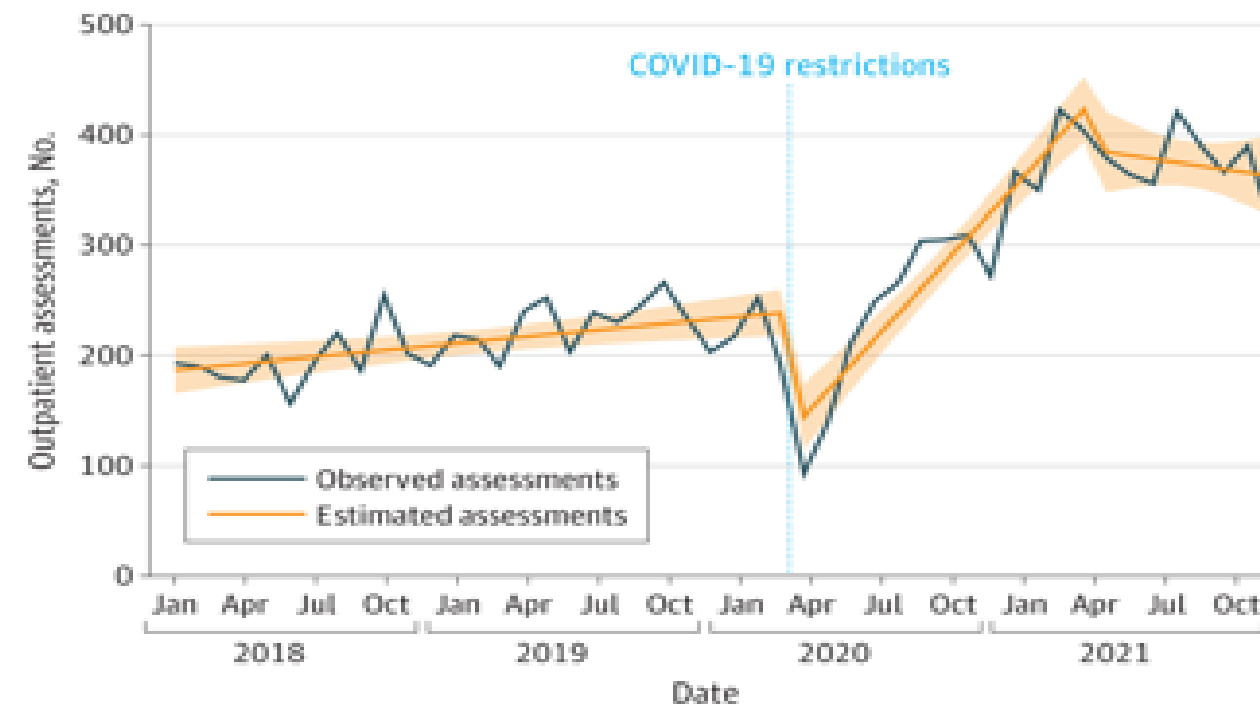


Figure Legend:

Aggregate Outpatient New Eating Disorder Assessments Across 14 Sites Before and After Onset of the COVID-19 Pandemic

Pandemic and Eating Disorders

Pediatrics. 2021;148(4). doi:10.1542/peds.2021-052201

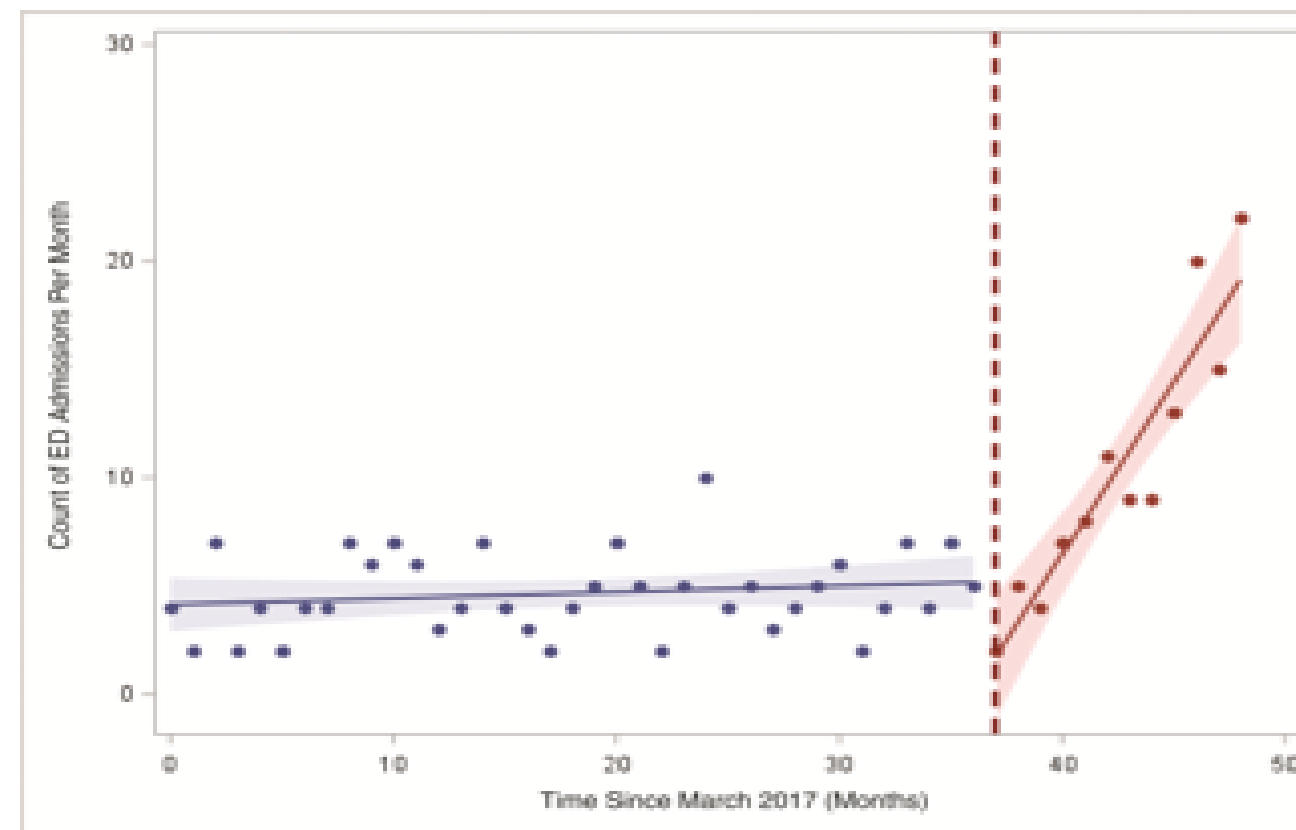


Figure Legend:

Interrupted time series analysis of monthly counts of ED-related admissions, March 1, 2017, through March 31, 2021. Solid line represents slopes; shaded areas represent 95% CIs for slopes; and dashed line represents onset of COVID-19 pandemic.



Truth 2

Many people with eating disorders **look healthy**, yet may be extremely ill.

Types of Eating Disorders



- Anorexia Nervosa
- Orthorexia*
- ARFID

- Bulimia Nervosa
- Binge Eating Disorder (BED)
- Other specified feeding and eating disorder

Anorexia Nervosa

A. Relative restriction of energy intake; relative to requirements leading to a markedly low body weight in the context of age, sex, developmental trajectory, and physical health.

B. Intense fear of gaining weight or becoming fat, even though underweight **OR** persistent behaviors that prevent weight gain, even though at a significantly low weight.

C. Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, **OR** persistent lack of recognition of the seriousness of the current low body weight.

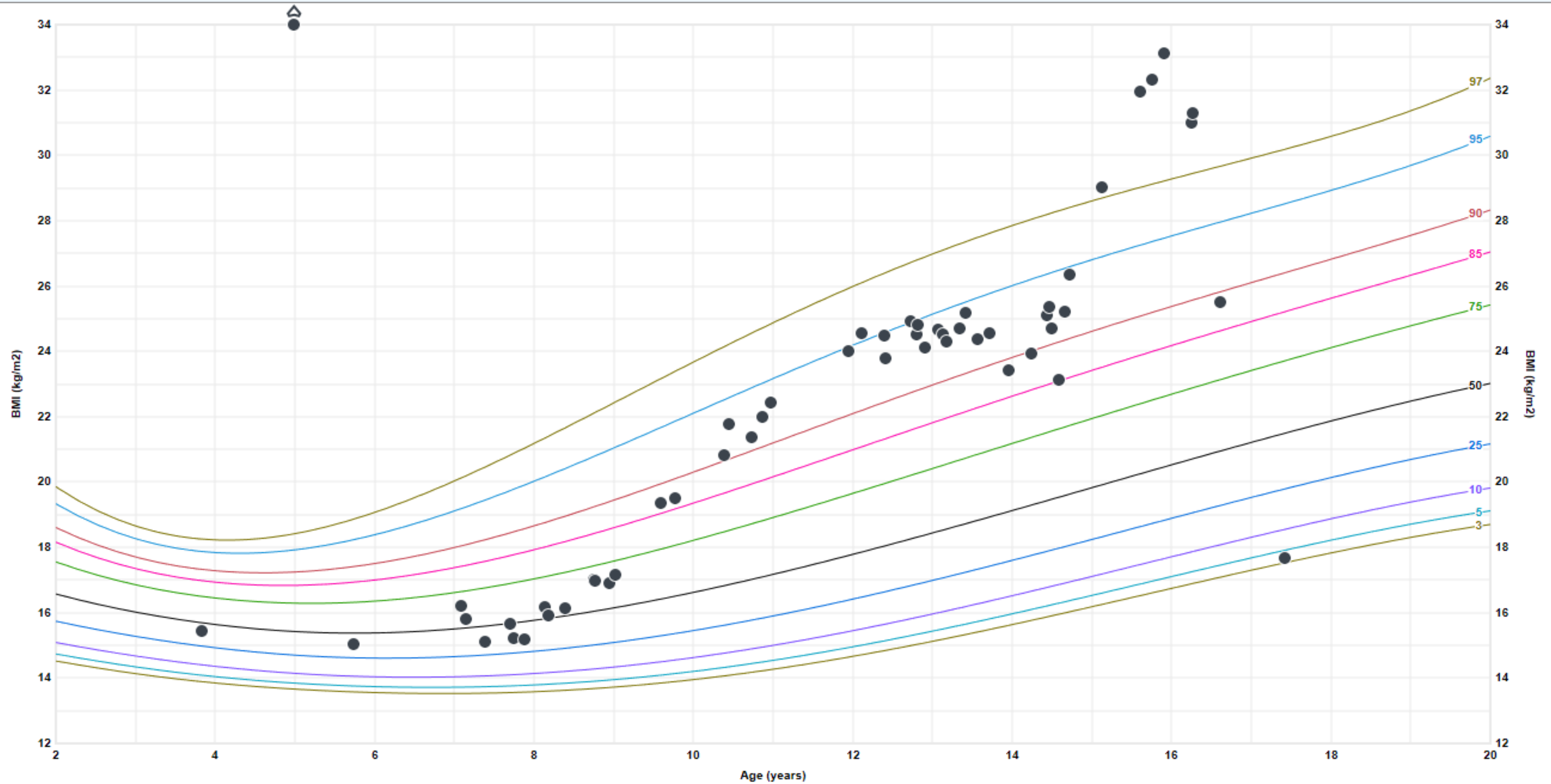
Subtypes:

- Restricting (AN-R)
- Binge eating/purging (AN-BP)

goals

BMI-for-age Percentiles (Boys, 2 to 20 years)

100 % 100 %



Source: Centers for Disease Control and Prevention (CDC), 2000

goals

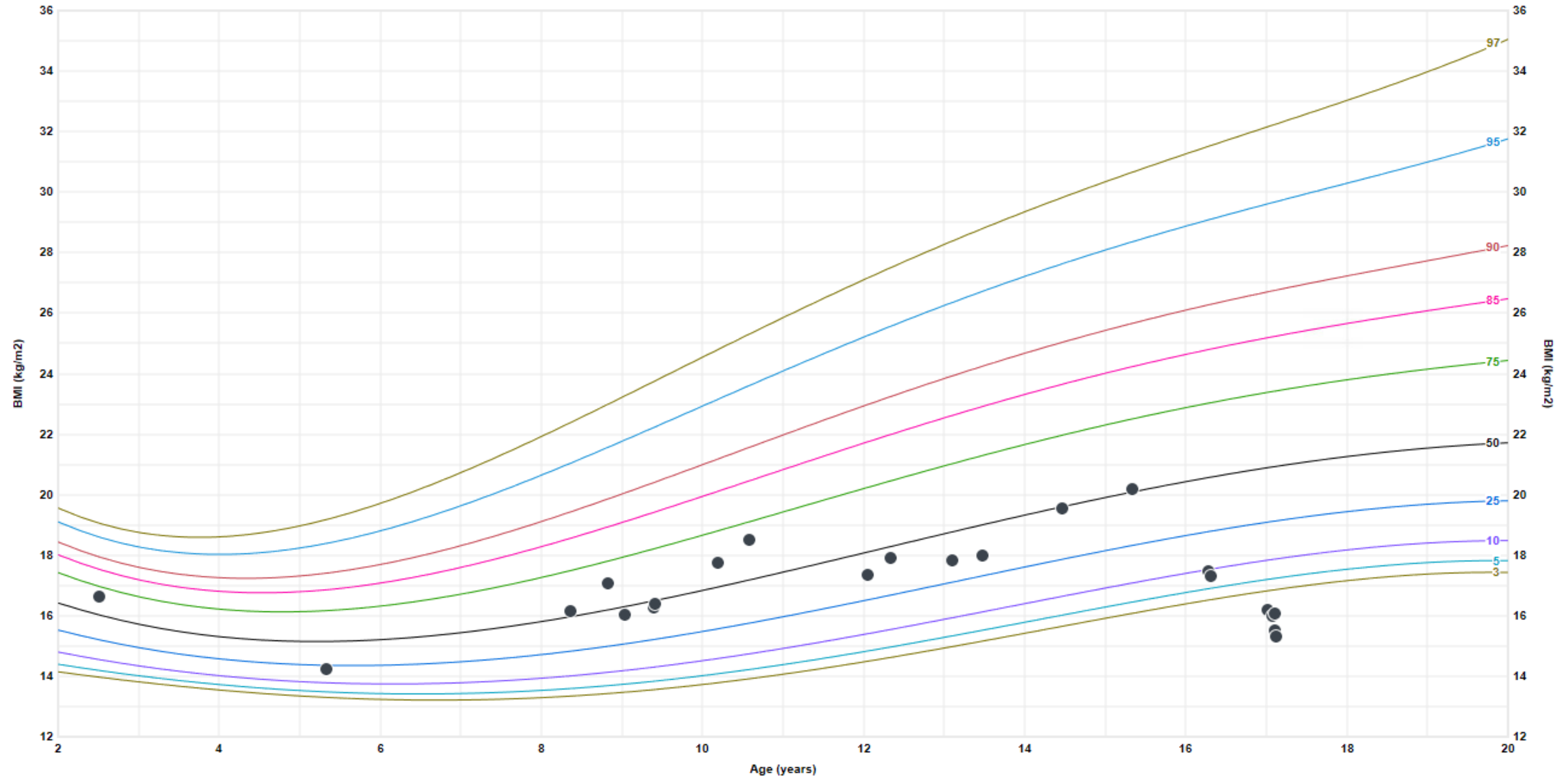
① CDC GIRLS (2-20 YEARS)

☐ Do not show this again [Hide](#)

Try the new Extended BMI Chart Girls (2-20 YEARS) dataset for a better visualization of BMI for high-BMI patients

BMI-for-age Percentiles (Girls, 2 to 20 years)

100 % 100 % [Zoom In](#) [Zoom Out](#)



Source: Centers for Disease Control and Prevention (CDC), 2000

Bulimia Nervosa

A. Binging- Recurrent episodes of binge eating including both:

- Eating an amount of food that is larger than most people would eat during a similar period of time and under similar circumstances
- A sense of **lack of control** over eating during the episode

B. Purging- Recurrent inappropriate compensatory behavior

- Self-induced vomiting
- Misuse of laxatives, diuretics, enemas, or other medications
- Fasting
- Excessive exercise

C. The binge eating and purging both occur at least once a week for 3 months.

D. Self evaluation is unduly influenced by body shape and weight.



Truth 3

An eating disorder is a health
crisis that disrupts personal
and family functioning

ARFID

Avoidant Restrictive Food Intake Disorder



ARFID

Avoidant Restrictive Food Intake Disorder

- An **eating or feeding disturbance** as manifested by persistent failure to meet appropriate nutritional and/or energy needs associated with one or more of the following:
- Significant **weight loss** (or failure to achieve expected weight gain or faltering growth in children).
- Significant **nutritional deficiency** .
- Dependence on enteral feeding or oral nutritional supplements.
- Marked **interference with psychosocial functioning** .

Three types of “picky” eaters:

- 1.) Limited palate
- 2.) Low hunger cues
- 3.) Food/eating phobias

Orthorexia

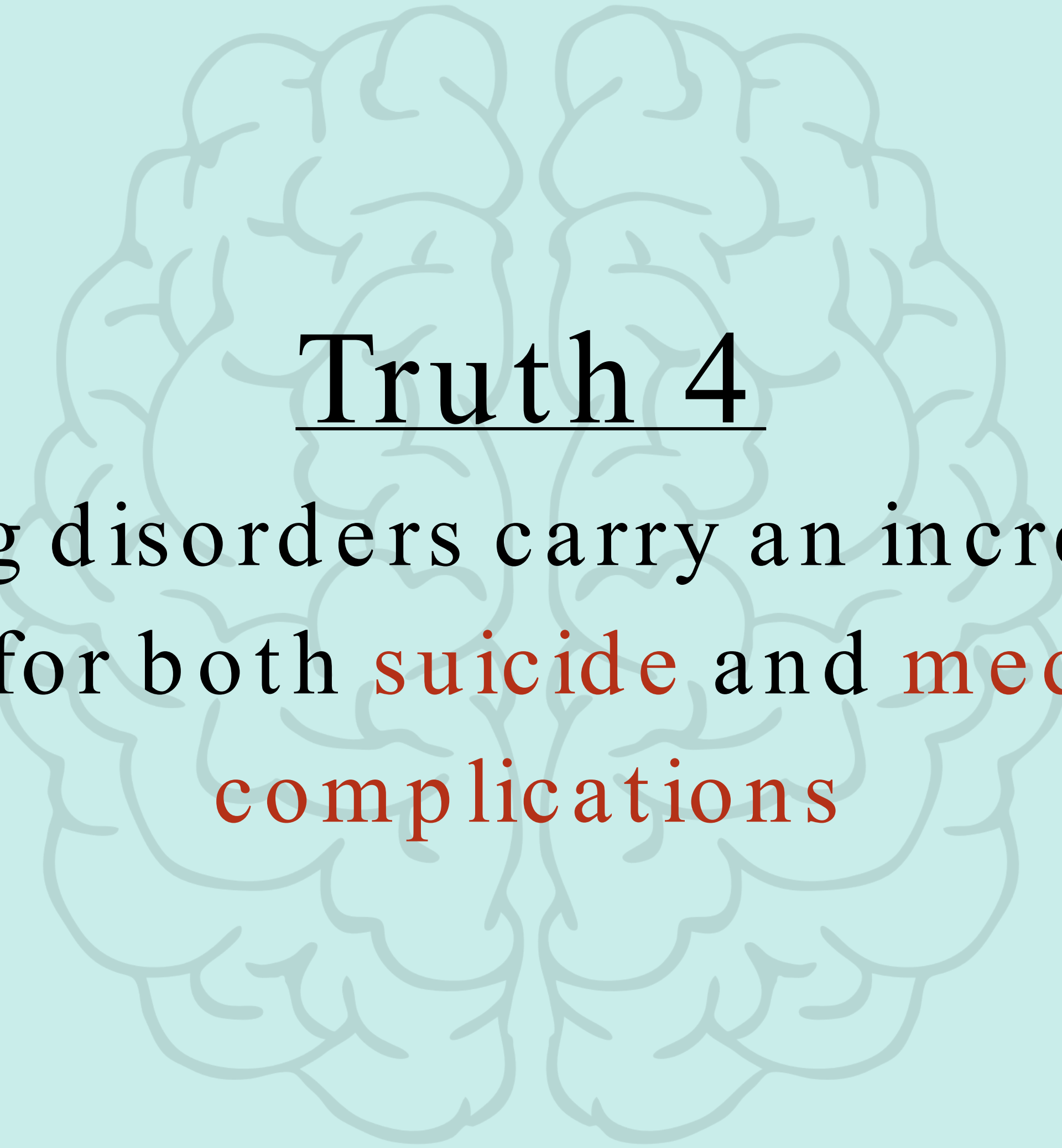
Obsession with eating “pure, perfect, and/or clean”



Orthorexia

Obsession with eating “pure, perfect, and/ or clean”

- Not officially a diagnosis
- Differs from “healthy” eating in due to impairment in functioning
- Neglect other areas of life
- Inordinate amount of time thinking about food, excessive guilt/compensatory behavior if “imperfect”



Truth 4

Eating disorders carry an increased
risk for both **suicide** and **medical**
complications

Medical Complications

- Cognitive Changes
 - Volume loss
 - Mood changes
 - Concentration difficulties
- Cardiovascular
 - Abnormally slow heartrate
 - Irregular rhythm
 - Low blood pressure
- Renal (Kidney)
 - Dehydration
 - Kidney injury or failure
- Gastrointestinal
 - Constipation, Diarrhea
 - Slowed motility
- Musculoskeletal
 - Muscle wasting and weakness
 - Changes to bone density
 - Growth stunting
- Endocrine
 - Loss of period
 - Cold intolerance
 - Growth of extra fine downy hair

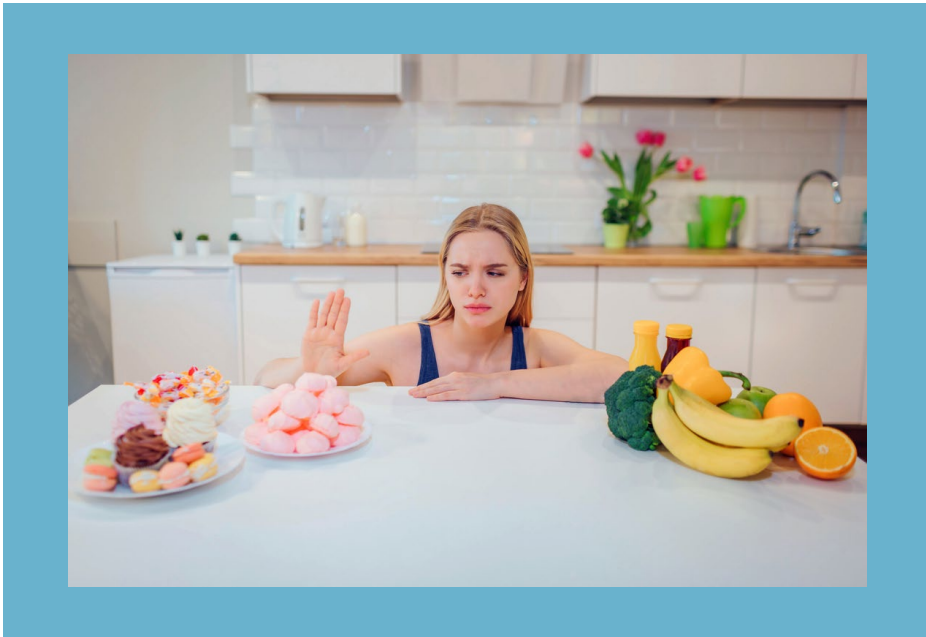
How EDs May Present

Physical symptoms reflect degree of malnutrition

- Loss of menses
- Stomach pain/Constipation
- Fatigue
- Cold intolerance
- Light-headedness, fainting
- Emotional changes/cognitive blunting
- Other psychiatric symptoms may appear
primary



Warning Signs AN



- Rigid, restricted eating patterns
- Food rituals
- Avoidance of social situations involving food; avoidance of eating in public
- Excessive, compulsive exercise
- Excessive, compulsive working or studying
- Excessive water drinking
- Guilt/shame after eating or pride after restricting



Medical Complications of Bulimia

- Electrolyte imbalances that can lead to irregular heartbeat and seizures
- Edema / swelling
- Dehydration
- Vitamin and mineral deficiencies
- Gastrointestinal problems
- Chronic irregular bowel movements and constipation
- Inflammation and possible rupture of the esophagus
- Chronic kidney problems / failure
- Tooth decay



Warning Signs of BN

- Secretive eating
- Refusal to eat with friends
- Disappearance to the bathroom after meals
- Ability to eat large amount of food without weight gain
- Compulsive exercise
- Emotion dysregulation
- Swollen parotid glands
- Marks on knuckles/hands
- Guilt/shame after eating or pride after restricting

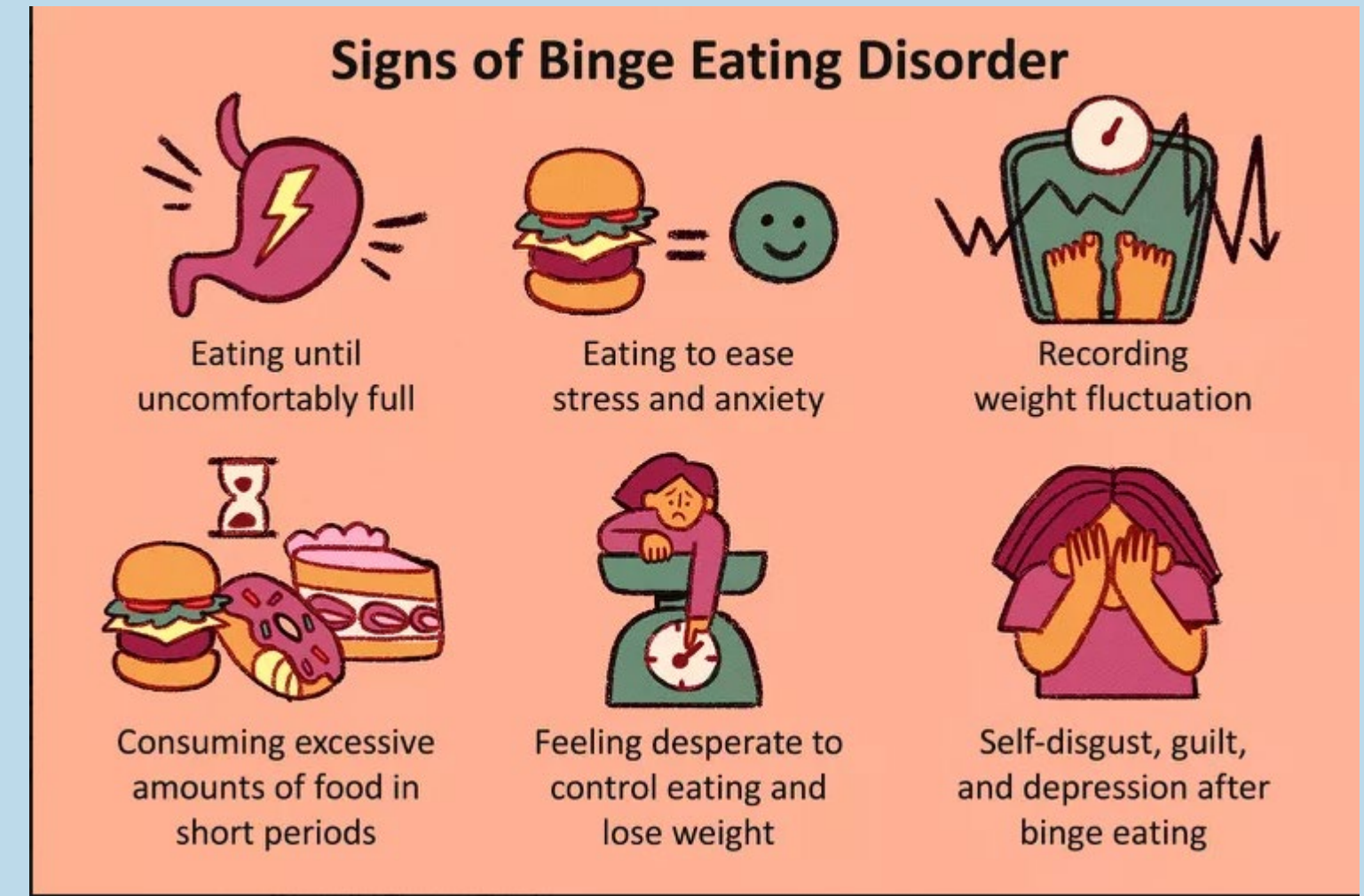


Binge Eating Disorder

- Recurrent episodes of binge eating characterized by BOTH of the following:
 - Eating in a discrete amount of time (within a 2 hour period) **large amounts** of food
 - Sense of **lack of control**
- The binge eating episodes are associated with three or more of the following:
 - Eating much more rapidly than normal
 - Eating until feeling uncomfortably full
 - Eating large amounts of food when not feeling physically hungry
 - Eating alone because of feeling embarrassed by how much one is eating
 - Feeling disgusted with oneself, depressed, or very guilty afterward

Medical Complications of BED

- Similar to complications of obesity
- High cholesterol
- Hypertension
- Fatty liver
- Diabetes
- GI distress
- Ruptured stomach, creating a life-threatening emergency
- Fullness at bedtime can create difficulties falling or staying asleep
- Increased risk of sleep apnea



Is it an eating disorder?

- Thoughts
 - Monopolized by food and/ or body
- Behaviors
 - Want to stop but can't
 - Harmful to your health and/ or functioning
- Functioning
 - Occupational/ academic
 - Social
 - Athletic





Truth 5

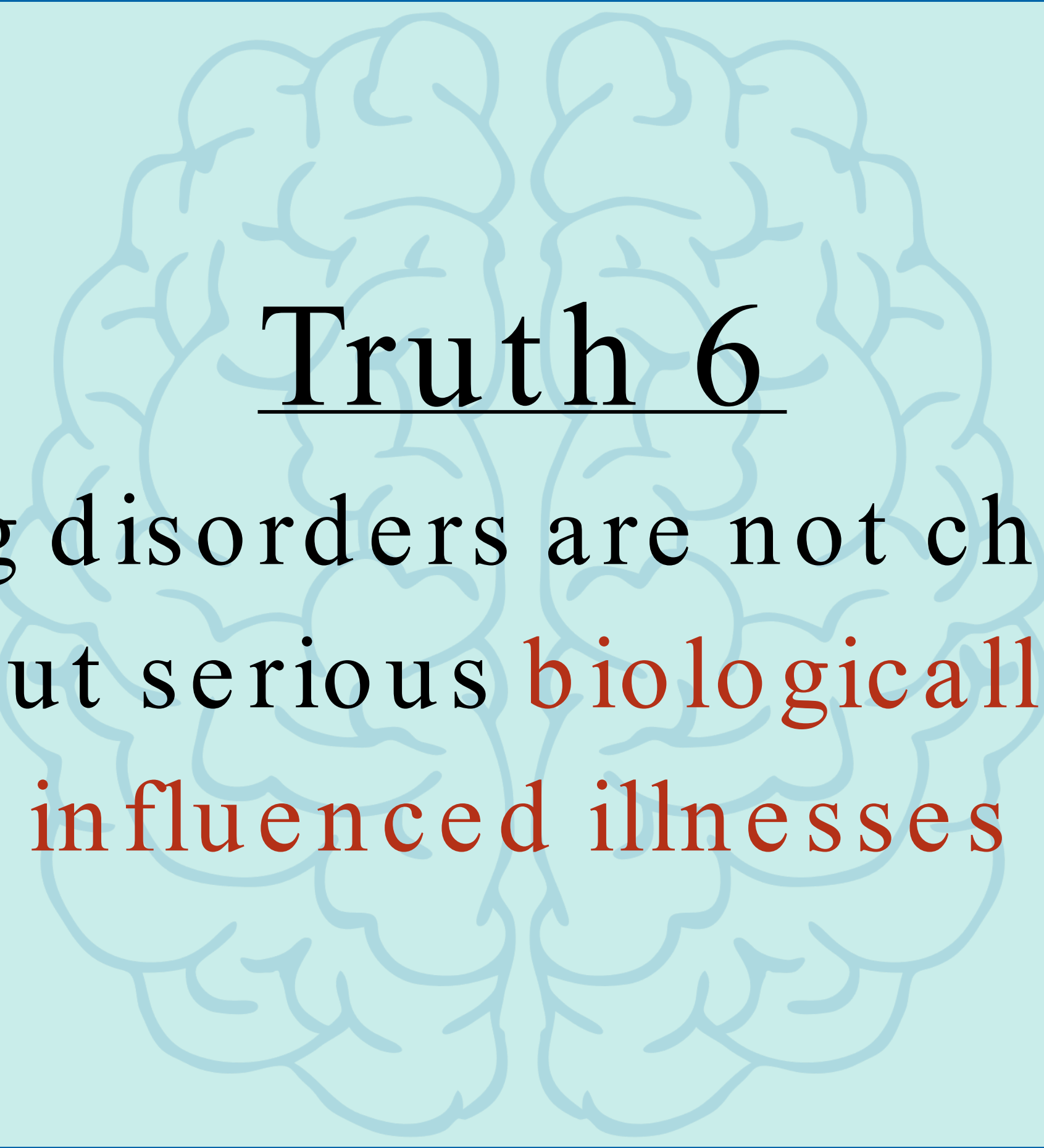
Environment and **GENES**
play important roles in the
development of eating
disorders.

Powerful Neurobiology

- **Family studies** (Kendler, 1991; Walters 1995; Lilenfeld , 1998; Strober, 2000)
 - Increased rate of AN, BN, ED NOS in first degree relatives
- Twin studies Approximately **50 to 80% heritable** **ris** (Kendler, 1991; Treasure 1994; Berrettini, 2000; Bulik, 2006)
 - Genes more powerful than culture
- Genes cause childhood (pre-morbid) behaviors (Anderluch 2003; Stice 2002; Lilenfeld 2006; Kaye 2009)
 - Anxiety, perfectionism, inhibition, compliance, obsessive personality, drive for achievement

Starvation Study

- Minnesota Starvation Study (1950)
 - 36 health men
 - 3-month observation, 6 months restricted intake
- Dramatic increase in food preoccupation
- Emotional / personality changes
- Social changes
- Cognitive Changes
- Physical Changes



Truth 6

Eating disorders are not choices,
but serious **biologically**
influenced illnesses



Temperament Traits


Great Students! Great Athletes!

- Achievement oriented; pursuit of excellence
- Sensitive to consequences = high compliance; very teachable/coachable, people pleasing
- Altered interoceptive awareness = denial of discomfort; performance despite pain
- Intense volume and level of exercise; commitment to training
- High attention to detail; high error detection rate



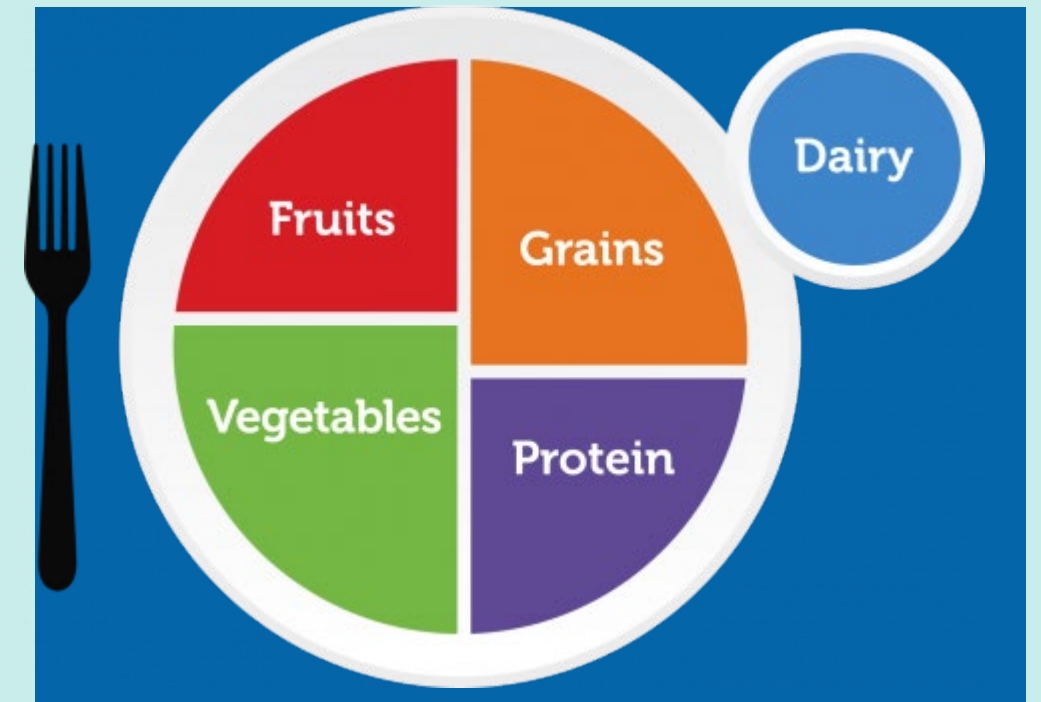
Truth 7

Families are not to blame,
and can be the patients'
and providers' best allies
in treatment



Prevention

- Modeling balanced eating
 - Avoid fad diets, elimination diets, etc.
 - Avoid labeling foods as “good” vs “bad”
 - Family meals
- Establish healthy habits



Prevention



- Discuss media messages and supervise usage
- Promote a healthy body image
 - Healthy body shapes vary
- Foster self-esteem
 - Avoid negative body talk

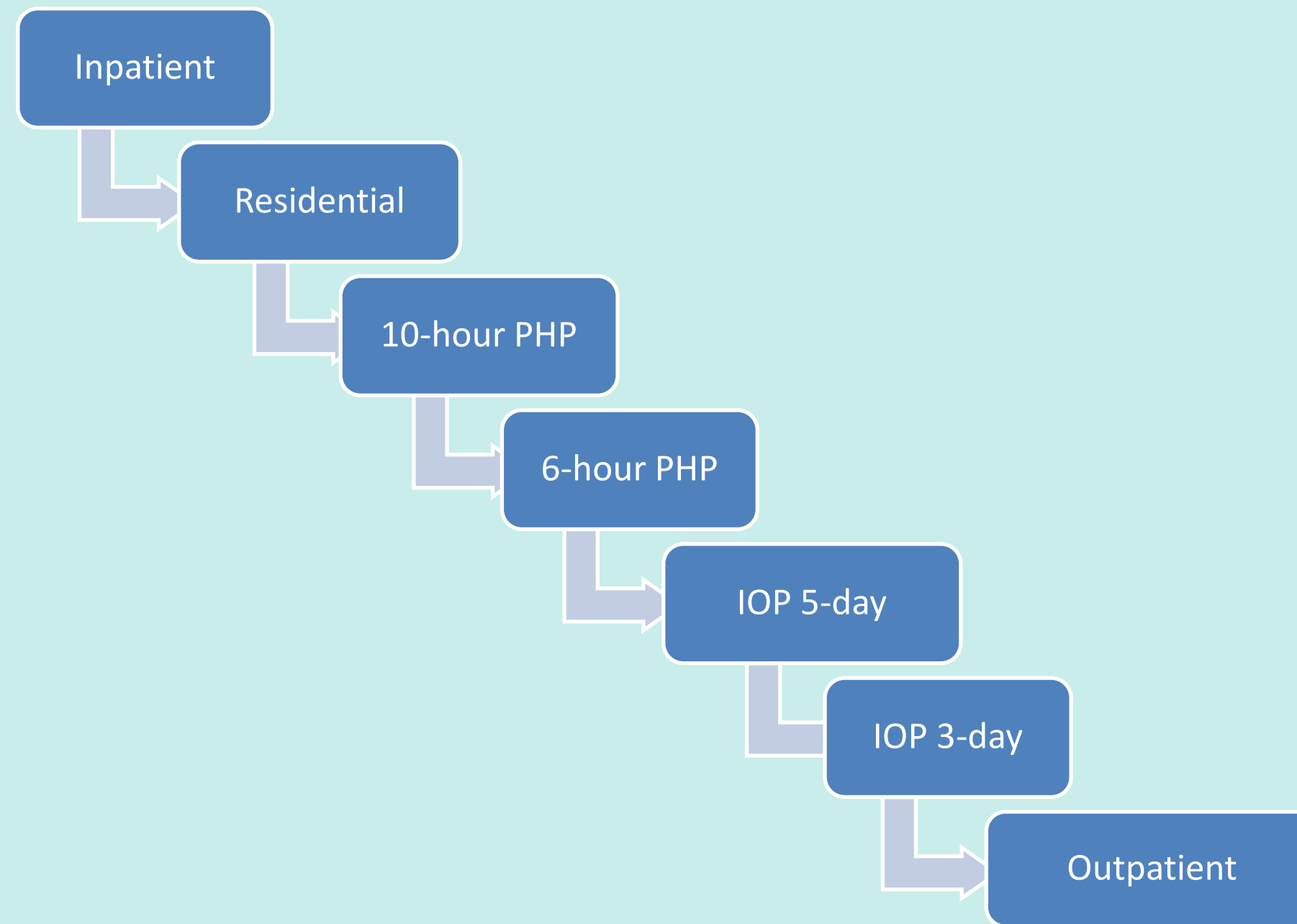


If you are concerned...

- Start with a medical evaluation by a physician
 - ER versus PCP
- Consider treatment options
 - Levels of care
- Support and encourage the child/teen
 - Validate their experience, not the eating disorder




Levels of Care





Truth 8

Full recovery from an eating disorder is possible. **Early detection** and intervention are important.



Resources

- National Eating Disorder Association
 - Educational materials for families, Helpline chat to identify treatment and provide support

<https://www.nationaleatingdisorders.org>

- Eating Disorders Hope

<https://www.eatingdisorderhope.com>

- Treatment centers by state, educational materials
- ANAD

<https://anad.org/>

- Eating disorder helpline to identify centers, resources for families including support groups
- FEAST

<https://www.feast-ed.org/>

- Evidenced based educational materials and resources for parents

Thank you

mbu@health.ucsd.edu