# Adolescent Health: Eating Disorders

Presented by: Yolanda Evans MD MPH

Division of Adolescent Medicine

2019

Seattle Children's®
HOSPITAL • RESEARCH • FOUNDATION

# Disclosures

- No financial relationships to disclose
- I have no commercial, financial, research ties to any companies that manufacture medications mentioned in this presentation
- I may use brand names of medications in this presentation

# Objectives

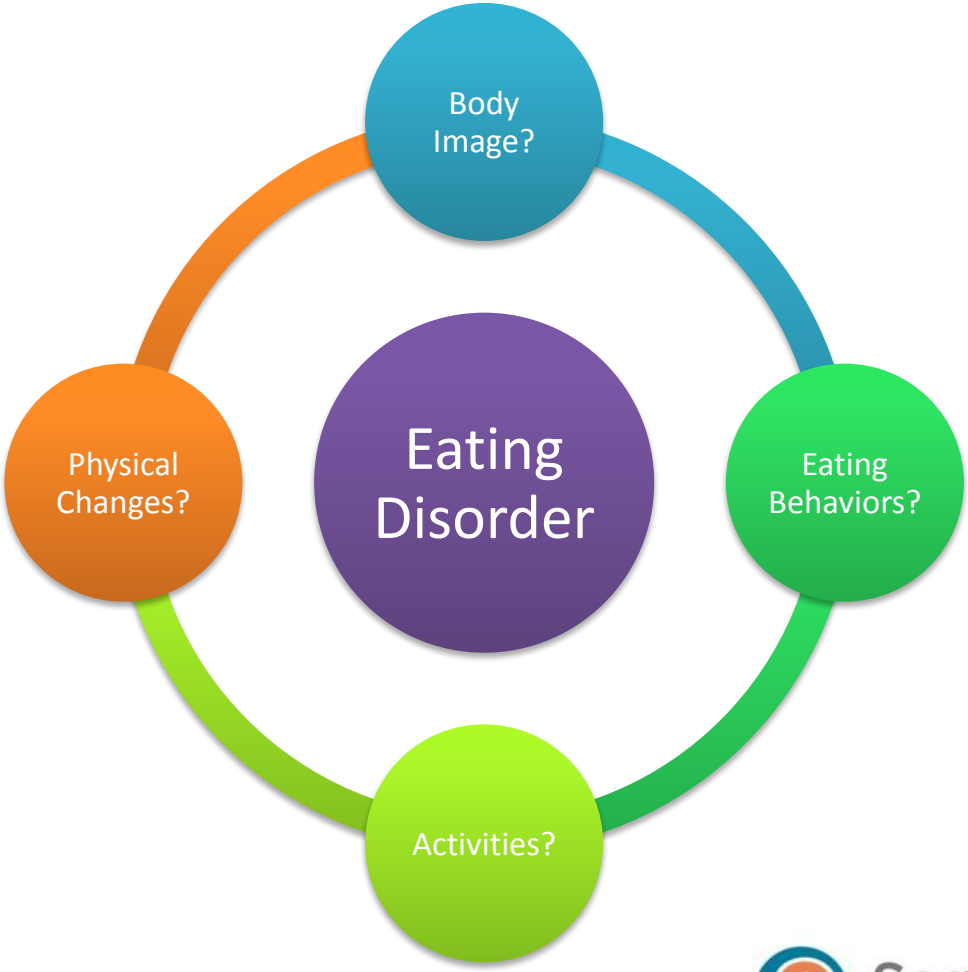
- Know diagnostic criteria of the different eating disorders affecting the pediatric and adolescent population
- Recognize complications associated with eating disorders
- Understand the different treatment models used to care for eating disorder symptoms

# Overview

- Eating disorders
  - DSM IV vs DSM V
  - Signs and symptoms
  - Complications
  - Small group discussion
  - Treatment Approaches

Seattle Children's®
HOSPITAL • RESEARCH • FOUNDATION

# What questions do you want to ask?




Seattle Children's®
HOSPITAL • RESEARCH • FOUNDATION

# Eating Disorders: DSM IV

- Old Criteria:

### Anorexia Nervosa 307.1

- Refusal to maintain body weight greater than normal **(e.g.<85%)**
- Intense fear of gaining weight even though underweight
- Disturbance in the way one's shape is experienced
- **Postmenarchal-absence of 3 consecutive cycles**

### Bulimia Nervosa 307.51

- Recurrent episodes of binge eating
- Recurrent inappropriate compensatory behavior to lose weight
- Episodes average at least **twice per week for 3 months**
- Self-evaluation unduly influenced by body shape and weight


### Eating d/o NOS 307.59

- **Distorted body image**
- **Restrictive eating and refusal to maintain body weight**
- **May have episodes of binge/purge**

Seattle Children's®
HOSPITAL • RESEARCH • FOUNDATION

# NEW DSM 5

## Anorexia Nervosa (ICD 10 subtypes for coding)

- Restriction of energy intake relative to requirements, leading to significantly low body weight
  - *Significantly low weight* = weight less than minimally expected for children/adolescents
- Intense fear of gaining weight or becoming fat
- Disturbance in the way in which one's body weight or shape is experienced (distorted body image)
- Restricting type (F50.01): during the last 3 months, weight loss through dieting, fasting, or excessive exercise

- Binge-eating/purging type (F50.02): during the last 3 months, recurrent episodes of binge eating or purging

- Severity:
  - Mild: BMI≥17 kg/m2
  - Moderate: BMI 16-16.99
  - Severe: BMI 15-15.99
  - Extreme: BMI <15

Seattle Children's®
HOSPITAL • RESEARCH • FOUNDATION

# Bulimia Nervosa (F50.2)

- Recurrent episodes of bing eating. An episode is both:
  - 1) eating more food in a discrete period than most individuals would eat in a similar period under similar circumstances
  - 2) a sense of lack of control over eating during the episode
- Recurrent inappropriate compensatory behaviors in order to prevent weight gain, such as
  - self-induced vomiting
  - laxative misuse, diuretics, or other meds
  - fasting or excessive exercise
- The binge eating and inappropriate compensatory behavior both occur on average at least once a week for 3 months
- Self-evaluation is unduly influenced by body shape & weight

- Severity:
  - Mild: avg 1-3 episodes per week
  - Moderate: avg 4-7/wk
  - Severe: avg 8-13/wk
  - Extreme: avg 14+/wk

# Binge Eating disorder (F50.8)

- Recurrent episodes of binge eating. An episode is
  - 1) eating a large amount in a discrete time period
  - 2) a sense of lack of control over eating during the episode
- Binge eating episodes are associated with 3+ of the following
  - Eating much more rapidly than normal
  - Eating until uncomfortably full
  - Eating large amounts of food when not physically hungry
  - Eating alone b/c of feeling embarrassed by the amount
  - Feeling disgusted with oneself, depressed, or very guilty afterwards
- Marked distress regarding binge eating is present
- Binge eating occurs on average once a week over 3 mo
- Not associated with recurrent use of inappropriate compensatory behavior in bulimia nor exclusively during the course of bulimia or anorexia nervosa
- Severity
  - Mild: 1-3 episodes/week
  - Moderate: 4-7
  - Severe: 8-13
  - Extreme: 14+

# Other specified feeding/eating disorder (F50.8)

- Atypical anorexia
  - meets all criteria for anorexia except: despite significant weight loss, weight is within normal or above normal
- Bulimia nervosa (of low frequency or limited duration)
  - Less than once a week and/or less than 3 month
- Binge eating (low frequency an/or limited duration)
- Purging disorder
  - recurrent purging behavior to influence weight or shape in absence of binge eating

# Avoidant/Restrictive Food Intake Disorder

- Avoiding/restricting may be based on lack of interest in food, sensory characteristics, or conditioned negative response (such as choking)

- The eating behavior leads to:
  - Significant weight loss, poor growth, or growth failure
  - Nutritional deficiency
  - Supplemental or enteral feeding
  - Impaired psychosocial function

# Potential New Disorders

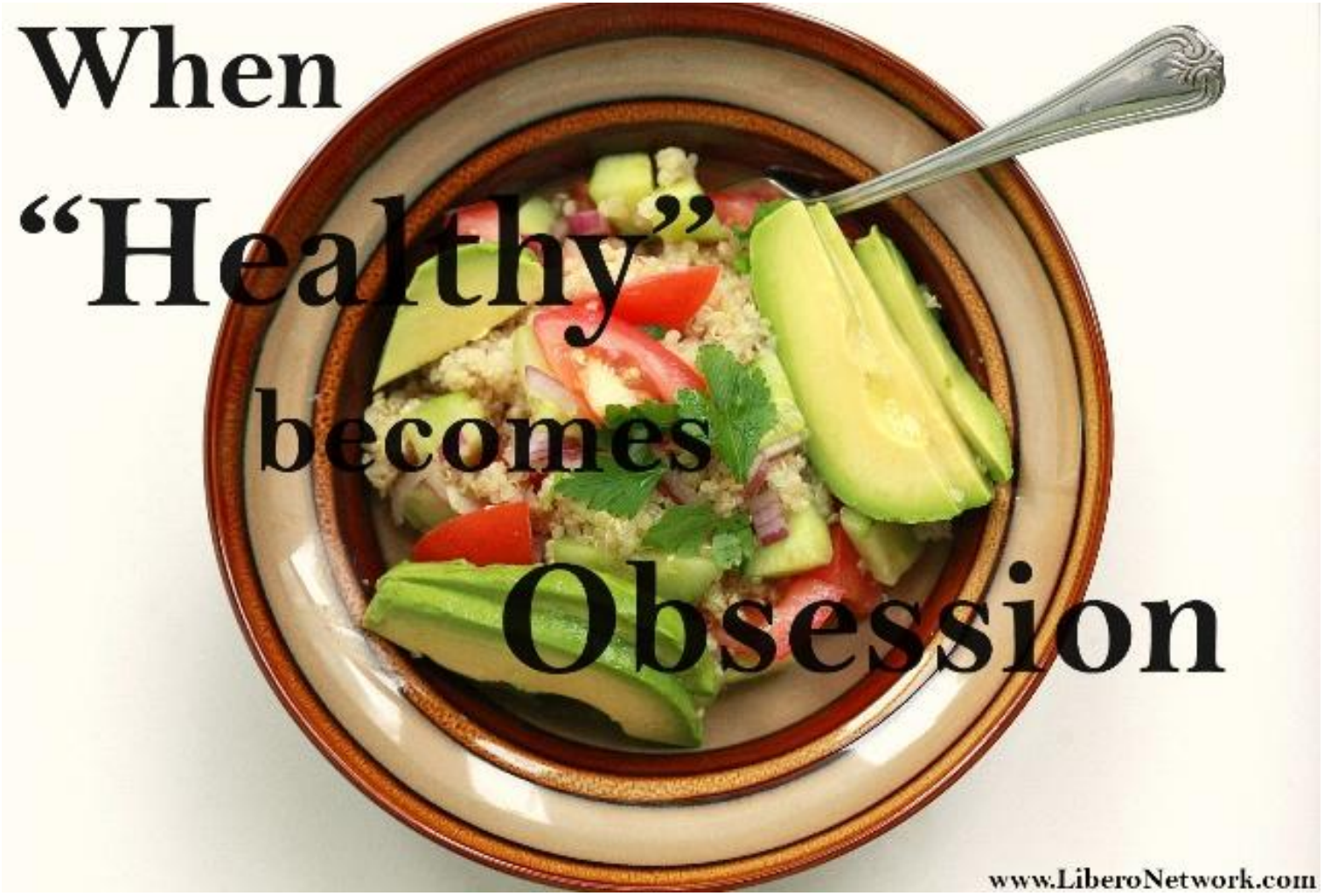
## Orthorexia

- Extreme Obsession with ‘healthy eating’
- Tendency to avoid artificial colors, flavors, processed foods, sugar, added salt, fat

## Diabulimia

- In insulin dependent diabetics
- With holding insulin as a form of purging

Seattle Children’s®
HOSPITAL • RESEARCH • FOUNDATION




Seattle Children's®
HOSPITAL • RESEARCH • FOUNDATION

# Definition of orthorexia

- Greek ortho = correct or right
- Orexis = appetite, desire
- Term introduced in 1997 by Steven Bratman

- Pathological fixation with righteous and healthy eating
  - Avoidance of foods or ingredients considered unhealthy by the individual

- No clear classification criteria
  - Is it an eating disorder or OCD???

# Risk Factors for developing an eating disorder

- Female
- Positive family history
- Perfectionistic
- Difficulty communicating negative emotions
- Difficulty resolving conflict
- Low self-esteem

Seattle Children's®
HOSPITAL • RESEARCH • FOUNDATION

# Epidemiology

- With classic symptoms->90% are female (~0.5% of population), >95% are white and >75% are adolescents when they first develop the eating disorder

- Prevalence rates using the entire population underestimate the prevalence of target populations

American Academy of Pediatrics. Clinical Report – Identification and Management of Eating Disorders in Children and Adolescents. Pediatrics. 126(6):1240-52, 2010 Dec

# Prevalence

- The 2013 Youth Risk Behavior Surveillance survey:
  - 13% of high school students did not eat for 24 hrs in order to lose weight
    - 18.7% of females and 7.4% of males
  - 5% of students took diet pills, powders or liquids to lose weight in the 30 days prior to the survey
    - 6.6% of females and 3.4% of males
  - 4.4% vomited or took laxatives to lose weight or keep from gaining weight in the 30 days prior to the survey
    - 6.6% females and 2.2% of males

# Screening Tool

**The SCOFF questions***

- Do you make yourself **S**ick because you feel uncomfortably full?
- Do you worry you have lost **C**ontrol over how much you eat?
- Have you recently lost more than **O**ne stone in a 3 month period?
- Do you believe yourself to be **F**at when others say you are too thin?
- Would you say that **F**ood dominates your life?

- *One point for every “yes”; a score of ≥2 indicates a likely case of anorexia nervosa or bulimia

*One stone = 14lbs = 6.35kg*

Morgan John F, Reid Fiona, Lacey J Hubert. The SCOFF questionnaire: assessment of a new screening tool for eating disorders BMJ 1999; 319 :1467

# Irreversible Complications

- Eating disorders are complex, but malnutrition can have irreversible consequences:
  - Stunted growth – if malnutrition occurs before epiphyses close
  - Tooth enamel damage
  - Pubertal delay
  - Osteoporosis and increased fracture risk
  - Possible constitutional brain changes on MRI and PET scan

# Other Complications

- Bone health and amenorrhea
  - Poor nutrition leads to hypothalamic pituitary dysfunction
  - Low levels of estrogen =>amenorrhea and low bone density
  - Supplement with oral contraceptives or other hormone replacement does not improve bone health and is not recommended

Seattle Children's®
HOSPITAL • RESEARCH • FOUNDATION

Mitan, LAP. Mini Review: Menstrual Dysfunction in Anorexia. J of Ped and Adolesc Gynecology. 2004, 17: 81-85

# Small group break out 1

# Case 1

- 13 y/o female with secondary amenorrhea
- Her current BMI is within normal at 23
- You review her past growth charts with clinic notes and notice that she was seen 6 months ago for a well child visit.
- At that time she was told her weight was too high and she was at risk for diabetes. Her BMI was then 29.

# Small group break out 2

# Case 2

- 16 y/o male who presents with 4 months of fatigue. Parents note that he has always been a ‘picky eater.’
- He recently took a class at school that discussed the dangers of hormones in dairy products and watched a documentary about the dangers of processed foods.
- Due his fear that his food could be contaminated with chemicals and hormones, he’s further restricted his food choices and is now practicing veganism with additional elimination of all processed foods.

# Outpatient Approaches to Treatment

- Traditional Approach
  - Teen has some autonomy early on
  - Relies heavily on parent cooperation/support
  - 3 professionals: Medical, Nutrition, Mental Health

  Focus on goal of intuitive eating

  Rarely use the word ‘calorie’

  Food is used to fuel the body; aim to have 3 meals and 3 snacks each day

- Maudsley or Family Based Treatment
  - 3 stages
  - Initially, teen has no autonomy; parents provide all food
  - Focus is on refeeding initially, then move towards emotions
  - 2 professionals: Medical, Mental Health
  - http://www.maudsleyparents.org/

Seattle Children's®
HOSPITAL • RESEARCH • FOUNDATION

# Medications for Eating Disorders

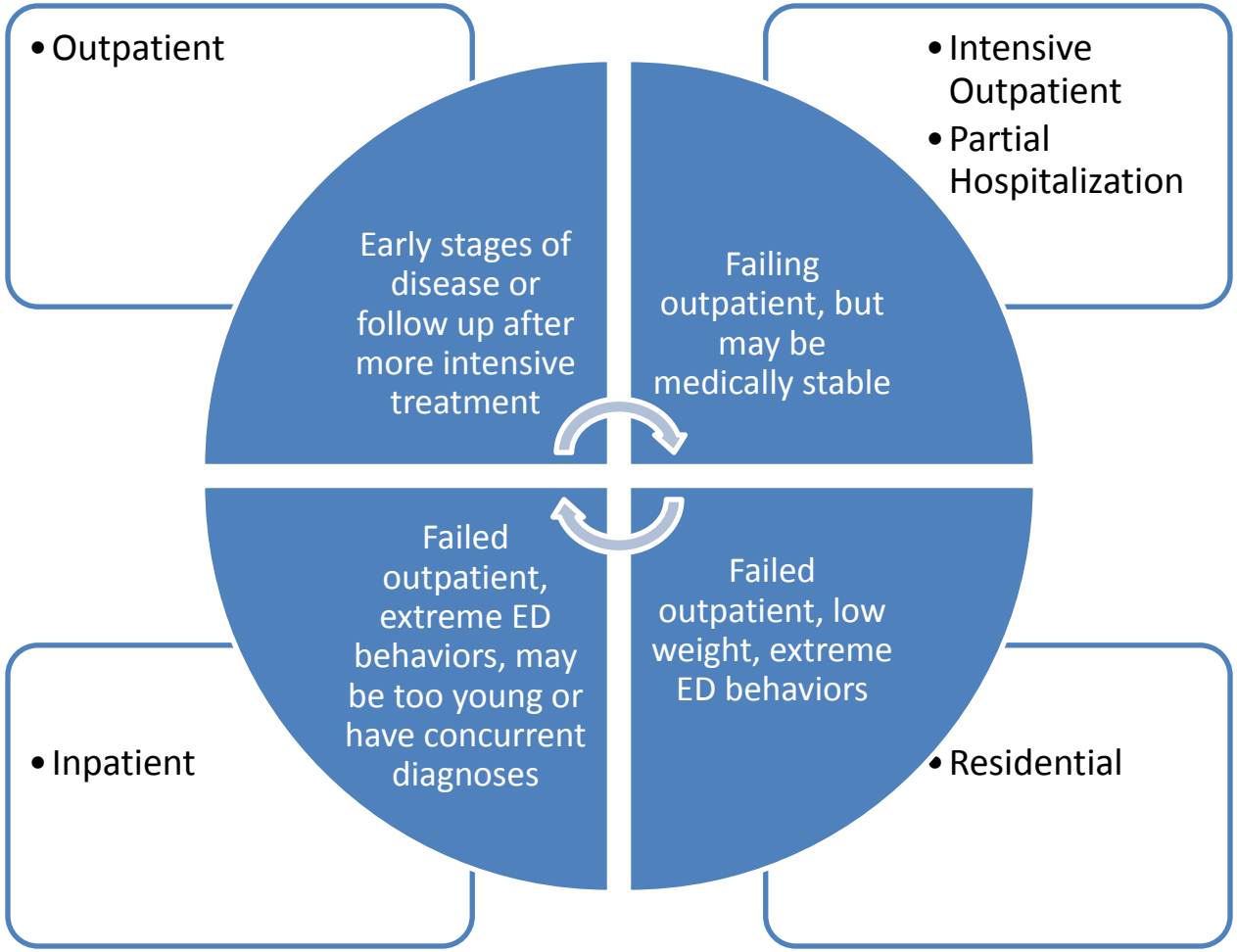
- Medications are not recommended for eating disorders alone
- However, there are often co-morbidities
  - Depression/anxiety
  - OCD
- SSRI's are often used initially, but only in conjunction with therapy
- Atypical antipsychotics are increasing in frequency
  - Side effect of increased appetite
  - risky to use without adequate knowledge of side effects

# Medications for Eating Disorders

- Promising research on improving bone mineral density
- 1 study out of Mass General in 2011
  - 52 girls with anorexia nervosa age 15-18 yrs randomized to received (100mcg 17B estradiol) cycled with progesterone 2.5mg x 10days/month over 18 months
  - Compared to placebo (54 girls with AN and no hormone) they had improved DXA
  - All received 1200mg calcium & 400 IU vitamin D
  - DXA results were still lower than controls

Misra et. al. J Bone Miner Res. 2011 October ; 26(10): 2430–2438. doi:10.1002/jbmr.447

# Different Levels of Care




Seattle Children's®
HOSPITAL • RESEARCH • FOUNDATION

# Resources in Western Washington

## Seattle Children's

- (206) 987-2028
- Seattle <18yrs, but admission dependent on medical criteria

## Center for Discovery

- 1-866-458-5441
- Edmonds (<18 yrs) and Kirkland (18+); IOP/PHP Bellevue, Tacoma

## The Eating Recovery Center

- (425) 451-1134
- Bellevue (<18 yrs)

## Emily Program

- 1-888-364-5977
- <18 yrs (though <18 for residential is only in Minnesota)

## Opal

- (206) 926-9087
- Seattle 18+

Seattle Children's HOSPITAL • RESEARCH • FOUNDATION

# Criteria for Medical Stabilization

- Our hospital admission (this is not eating disorder treatment)
  - Bradycardia <50 bpm
  - Symptomatic orthostatic changes (more than 20 point change)
  - Electrolyte abnormalities/EKG changes
  - Extremely low weight/rapid weight loss (<75% of IBW)
  - Suicidal ideation
  - Syncope

Seattle Children's®
HOSPITAL • RESEARCH • FOUNDATION

# Refeeding Syndrome

- Depletion of phosphorus stores with refeeding can lead to cardiac instability
- There is varying literature on the safest way to re-feed a malnourished patient
- Our inpatient Nutrition team typically recommends:
  - Start at 1200 cal/day
  - Increase by 200 cal/day
  - Check electrolytes 3/week for the first week, then weekly

# Prognosis for Patients with ED

- 71-86% recover
- Exception is in the development of osteoporosis
  - 15-25% will develop this over time
- Mortality with treatment < 5%

# Recommended resources

- 20 ways to love body: http://www.nationaleatingdisorders.org/index-handouts
- Size diversity: http://www.nationaleatingdisorders.org/size-diversity
- Healthy Bodies by Kathy Kater: http://bodyimagehealth.org/healthy-bodies-curriculum/

# Questions?


Seattle Children's®
HOSPITAL • RESEARCH • FOUNDATION