



NCEED

National Center of Excellence
for Eating Disorders

Pediatric Eating Disorders

Jean Doak, Ph.D.

Professor, Center of Excellence for Eating Disorders, UNC at Chapel Hill

Deputy Director, National Center of Excellence for Eating Disorders

September 4, 2024

Objectives

- Review eating disorders diagnoses
- Differentiate ARFID vs picky eating
- Discuss case example
- Provide resources





National Center of Excellence
for Eating Disorders

Facts About Eating Disorders

**Eating disorders impact millions of individuals
and families every year**

28.8

million Americans have had or
will have an eating disorder at
some point during their lives

10,200

estimated deaths from eating
disorders each year

Deloitte Access Economics. The Social and Economic Cost of Eating Disorders in the United States of America: A Report for the Strategic Training Initiative for the Prevention of Eating Disorders and the Academy for Eating Disorders. June 2020.



National Center of Excellence
for Eating Disorders

Teens Visiting ER for Eating Disorders Doubled During Pandemic



Rawpixel/Getty Images

Eating disorders in teens skyrocketing during pandemic

Experts are concerned about a dramatic rise in [eating disorders](#) among teenagers over the past year. Possible explanations for the increase include teens' loss of familiar routines and regular connections with friends, anxiety about the [COVID-19](#) pandemic, boredom, and [food insecurity](#) at home.

[Bryn Austin](#), professor in the [Department of Social and Behavioral Sciences](#) at Harvard T.H. Chan School of Public Health and director of the [Strategic Training Initiative for the Prevention of Eating Disorders](#), said in an April 28, 2021, New York Times article that the demand for eating disorder treatment “is way outstretching the capacity to address it.”

More Teenage Girls With Eating Disorders Wound Up in the E.R. During the Pandemic

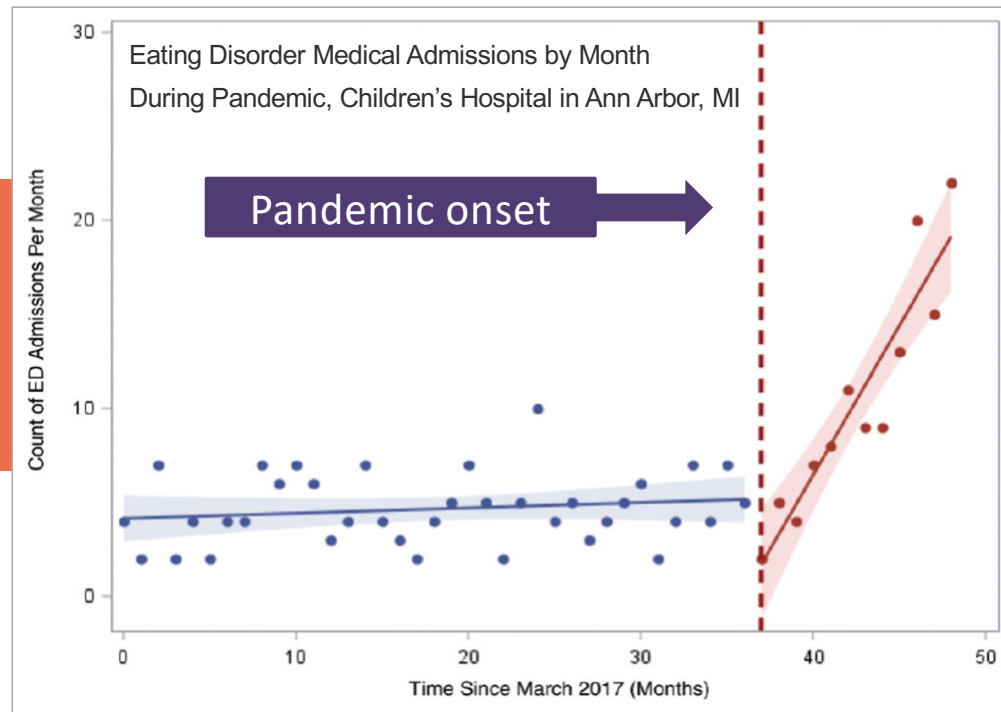
A new C.D.C. study underscored the mental health issues facing teenagers in the past few years.

Give this article



Impact of Pandemic on Eating Disorders

During Pandemic, Eating Disorders Caseload Increased **2-3 Times Higher** Than Pre-Pandemic





National Center of Excellence
for Eating Disorders

Eating Disorders are a Public Health Concern

Challenges

Only 20-57% with eating disorder receive treatment; less for marginalized communities

When care is available, it is costly and often only available in major metropolitan areas

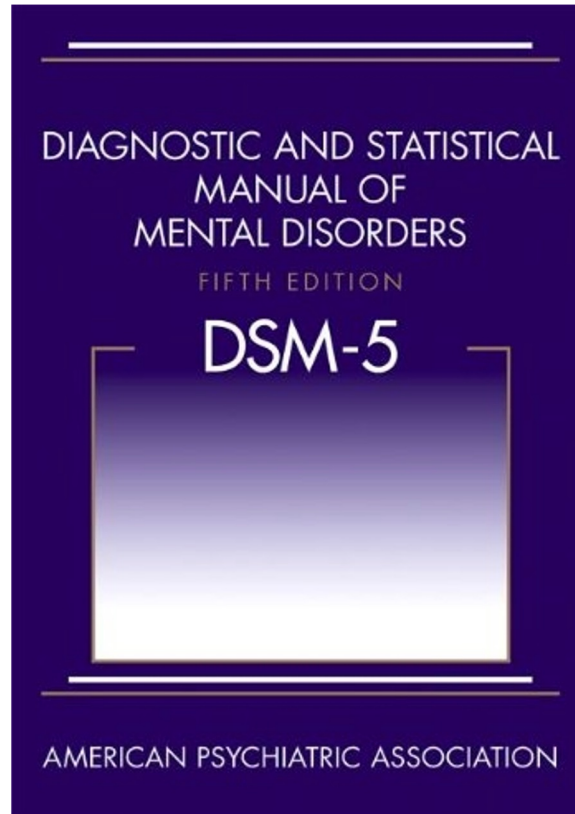
Healthcare providers are not routinely trained, and the general public has limited eating disorder literacy

Consequences

- **Lack of detection**
- **Poorer prognosis**
- **Increased health service utilization**
- **Prolonged illness**
- **Morbidity and mortality**

Eating Disorders Review

Who meets DSM-5 criteria for an eating disorder?



Anorexia nervosa

- Defining features:
 - intense fear of gaining weight and restriction of energy intake
 - significantly low body weight relative to age, sex, developmental trajectory physical health
 - disturbance in the way one's body weight or shape is experienced
- 2 subtypes
 - Restricting subtype or binge/purge subtype

Binge eating

Episodes:

- Eating an unusually large amount of food in ~2 hours while experiencing:
- A sense of **loss of control** over what/how much is eaten

Objective vs. subjective binge episodes

Binge eating features

Endorse (3+) eating:

- more rapidly than usual
- until uncomfortably full
- when not physically hungry
- alone due to embarrassment
- feeling disgusted, depressed, or guilty after a binge



National Center of Excellence
for Eating Disorders

Bulimia Nervosa

- Binge eating and compensatory behavior to prevent weight gain:
 - self-induced vomiting, misuse of laxatives, diuretics, or other medications, fasting, or excessive exercise
- Both occur, on average, at least once a week for three months
- Self-evaluation is unduly influenced by body shape and weight
- Bingeing or purging does not occur exclusively during episodes of anorexia nervosa

Binge eating disorder

- Recurrent binge-eating episodes without regular ICB
- DSM-5 severity ratings
 - Mild: 1-3 binges/week
 - Moderate: 4-7 binges/week
 - Severe: 8-13 binges/week
 - Extreme: 14+ binges/week

OSFED (Other Specified Feeding or Eating Disorder)

- Atypical anorexia nervosa
- Bulimia nervosa or binge-eating disorder of limited frequency or duration
- Purging disorder
- Night eating syndrome



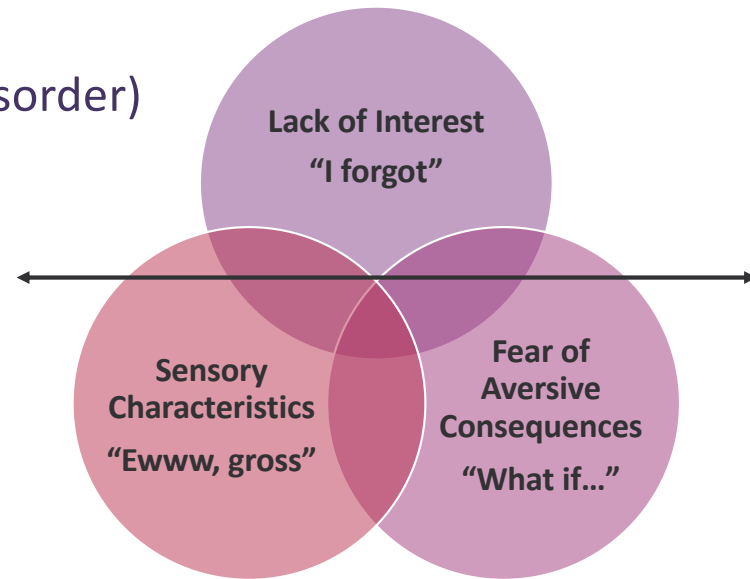
National Center of Excellence
for Eating Disorders

ARFID (Avoidant/Restrictive Food Intake disorder)

- **Persistent failure to meet appropriate nutritional and/or energy needs**
- Subtypes:
 - Lack of interest in food
 - Avoidance of food due to sensory characteristics
 - Avoidance of food due to aversive experiences
- Common features:
 - Significant weight loss
 - Nutritional deficiencies
 - Dependence on enteral feeding or nutritional supplements

ARFID (Avoidant/Restrictive Food Intake disorder)

- An eating or feeding disturbance
 - Lack of interest
 - Avoidance based on sensory characteristics
 - Concern about aversive consequences of eating
- Characterized by 1+:
 - Significant weight loss/growth failure
 - Significant nutritional deficiency
 - Enteral feeding or oral supplements
 - Marked interference with psychosocial functioning



- Rule-outs
 - Cultural influences or issues with food availability
 - "Eating disorder" - not driven by shape/weight concern
 - Skill dysfunction or underlying medical cause
- *Exception:* severe/atypical symptoms warranting clinical attention

ARFID subtypes and clinical characteristics

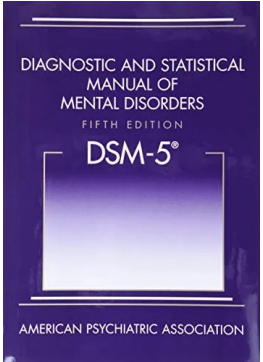
- Subtypes
 - Lack of interest
 - Avoidance based on sensory characteristics
 - Fear of aversive consequences of eating

- Characteristics (compared to other EDs)
 - Younger, male
 - Longer duration of illness prior to seeking treatment
 - Co-occurring medical condition

- Clinically *significant* impairment



National Center of Excellence
for Eating Disorders



Formerly Feeding Disorder of
Infancy or Early Childhood
(FDIEC), < 6y

**Persistent failure to meet
appropriate nutritional and/or
energy needs**

Prevalence: .3% (15+y); 3.2% (8-13y)

What... is... ARFID?



Infant Toddler Early childhood Middle childhood Adolescence Adult Older Adult



ARFID vs Other Eating Disorders

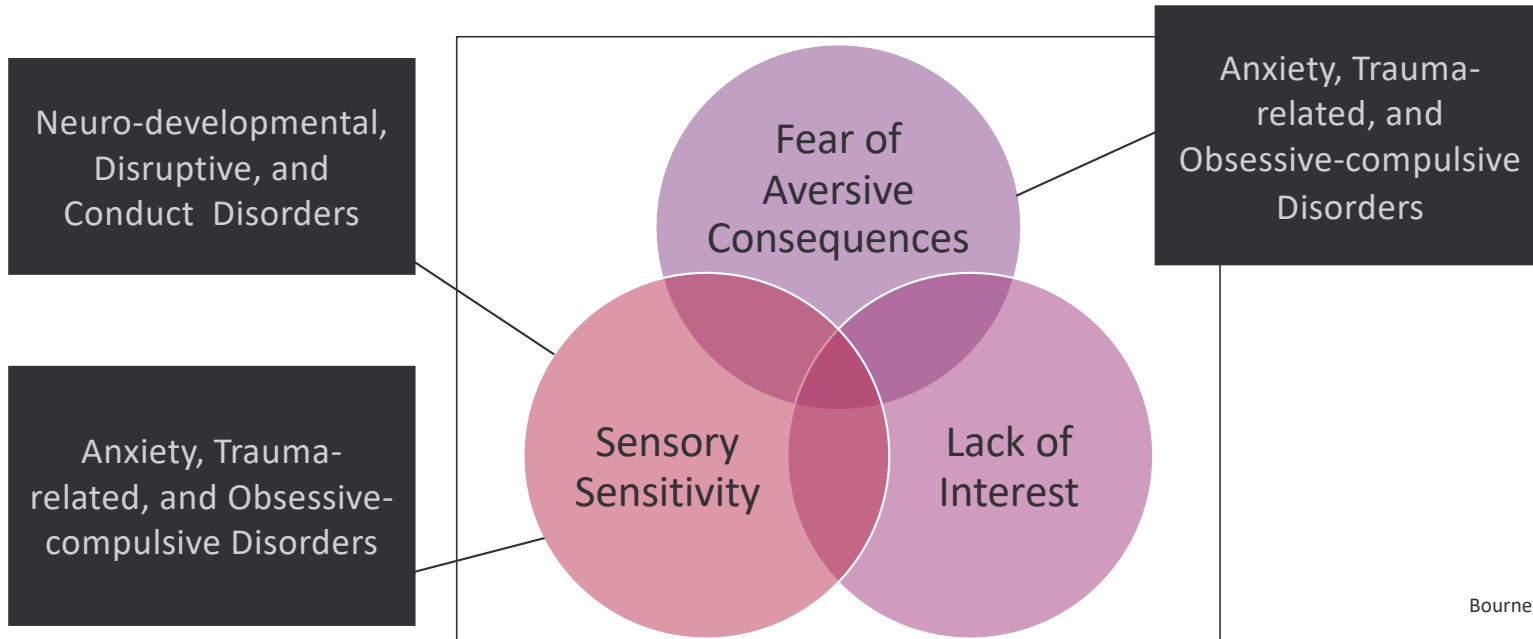
- ARFID is a *feeding* disorder
- Anorexia nervosa (AN), Bulimia nervosa (BN), Binge-eating disorder (BED) are *eating* disorders
 - Commonality of the eating disorders is over-evaluation of shape/weight
 - *Intentional* restriction or dieting for shape/weight manipulation
 - Can be difficult to tease apart due to lack of insight with low body weight/AN
- Restrictive F/EDs initial treatment goal is the same → nutritional rehabilitation and weight restoration



National Center of Excellence
for Eating Disorders

Characteristics

- ~50% current psychiatric diagnosis
 - Anxiety disorders
 - Mood Disorders
 - Internet gaming disorder
- Neurodevelopmental disorders
 - Autism Spectrum Disorder
 - ADHD



Bourne et al., 2020, 2022, Kambanis et al., 2020

Characteristics

- Medical co-occurrences
 - Low bone density
 - Electrolyte imbalance
 - Chronic abdominal pain
 - Disorders of gut-brain interaction (functional GI)
- Compared to other Eating Disorders
 - Younger, male
 - Longer duration of illness prior to seeking treatment
 - Co-occurring medical condition

Brigham et al., 2018, Mahr et al, 2021



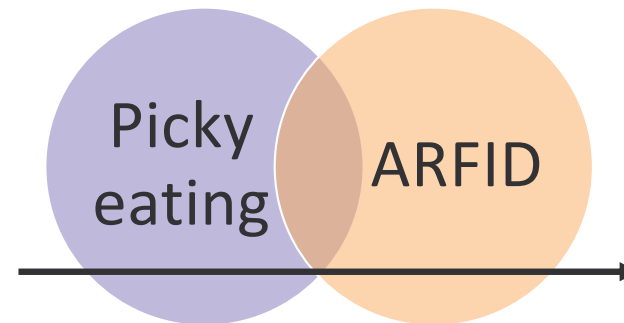
National Center of Excellence
for Eating Disorders

Is ARFID *just* picky eating?

- Picky eating... unwillingness to eat familiar foods, try new foods, limited variety
- Common! 15-50%
- Peak age 3y
- *Majority* of youth with picky eating show appropriate growth over time
- Typically managed by PCP
- Adult ARFID > picky eating



2-6y



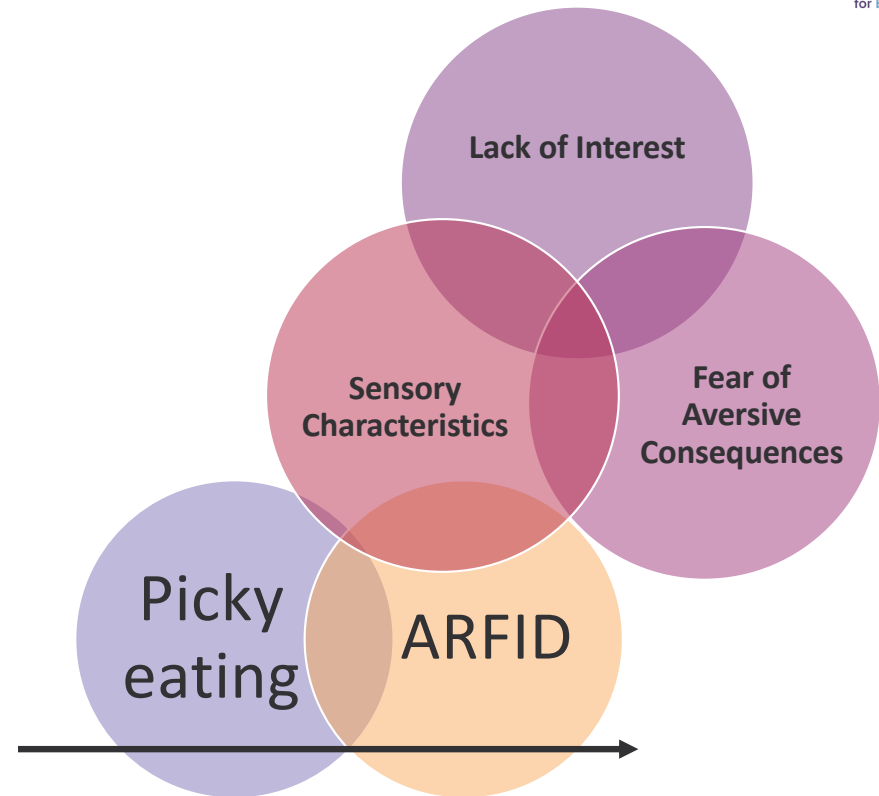
Taylor, et al., 2015, Zickgraf et al., 2016



National Center of Excellence
for Eating Disorders

Is ARFID *just* picky eating?

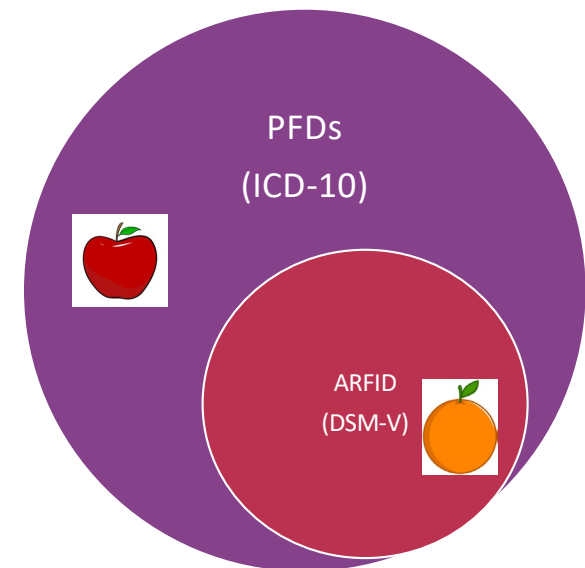
- Picky eating... unwillingness to eat familiar foods, try new foods, limited variety
- Common! 15-50%
- Peak age 3y
- *Majority* show appropriate growth over time; food-seeking
- Adult ARFID > picky eating
- Typically managed by PCP
- There's still a lot to learn...



Dovey et al., 2020, Taylor, et al., 2015, Zickgraf et al., 2016

Is ARFID a Pediatric Feeding Disorder?

- No... but overlapping... and lots of gray
- PFDs: impaired oral intake that is not age-appropriate, and is associated with **medical**, nutritional, **feeding skill**, and/or psychosocial dysfunction
 - Emphasis on medical problems and/or developmental delay
 - Medical diagnosis → multidisciplinary feeding team
- ARFID
 - Emphasis on eating *behavior* in the absence of underlying medical condition
 - *Or* eating difficulties in excess of medical condition
 - *Psychiatric* diagnosis → behavioral health is key



ARFID Treatment

- Inpatient
 - Significant medical concerns, BMI <75% EBW
 - Significant suicidality or other psychiatric concern

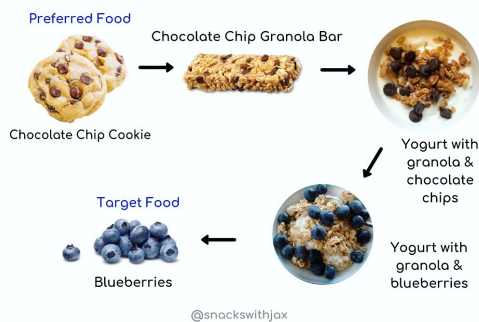
- Residential
 - Severe and/or long-standing symptoms
 - Significant suicidality or other psychiatric concern

- Outpatient multidisciplinary care – behavioral health, medical monitoring and/or GI, OT, psychiatry, dietetics

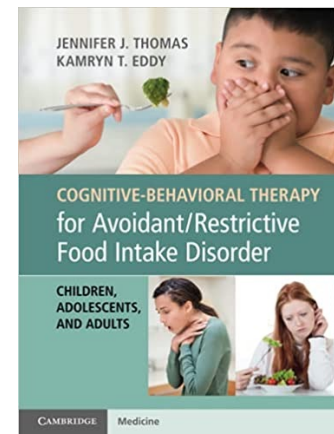
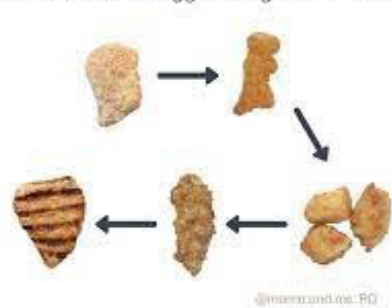
- Pharmacological – varying and preliminary results
 - Olanzapine
 - Buspirone
 - SSRIs + hydroxyzine
 - Cyproheptadine

Outpatient Treatment

- Behavioral
- Cognitive Behavioral Therapy-ARFID (10y+)
- Family-based treatment (FBT, children/adolescents)
- Volume > variety (by the clock)
- Chaining
- Exposures with coping



favorite chicken nuggets -> grilled chicken



ARFID Case Example

- Adolescent female presenting to GI clinic
- Onset of abdominal pain and constipation, intermittent nausea
- Thorough work-up → diagnosed IBS-C
- Generalized anxiety predating GI symptoms

Eating-related symptoms:

- Elimination of foods perceived to trigger GI symptoms → reducing portion sizes
- Loss of appetite ↔ fear of eating
- Down to 400 calories/day within 6 months, supplements
- Denied shape/weight concerns

Medical symptoms:

- 20 lbs. weight loss
- Amenorrhea/menstrual irregularity
- Fatigue

Case example: Presenting Information

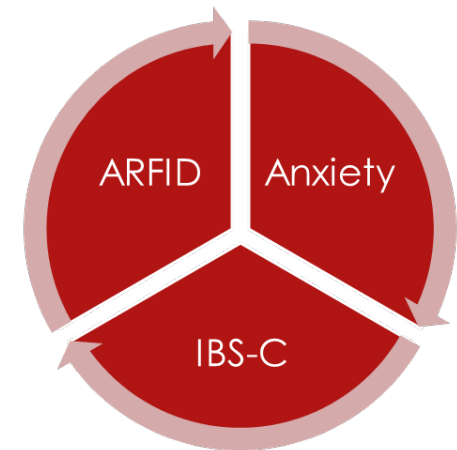
- Typical intake:
 - B:** (8-9a)– Ensure or FairLife protein shake; occasionally adds granola
 - L:** (12-1p) – a few pieces of lunch meat – turkey or ham, adds several pieces of fruit or crackers every other day
 - D:** (8:30p) – a few pieces of chicken or salmon or eggs, GF crackers or toast 3x/wk; also adds an Ensure 1-2x/wk
- Denied weight/shape concerns, denied overt ED behavior, expressed desire for weight gain to support athletics
- Psychiatric co-morbidities:
 - Low mood/energy with onset of eating difficulties, improving with refeeding
 - Anxiety pre-dating eating concerns, non-specific/global



National Center of Excellence
for Eating Disorders

Treatment

- Team: GI physician + CBT/ED therapist + ED dietitian + psychiatry + adolescent medicine/pediatrician
- Pharmacologic:
 - Prozac + Cymbalta (Duloxetine)
 - Miralax + Linzess
- Non-pharmacologic:
 - Dietitian to work on expanding intake (chaining)
 - Psychology to target GI coping, anxiety management, and disordered eating



Case example: Treatment

- Adaptive coping (pain): diaphragmatic breathing, guided imagery, distraction after eating
- CBT (anxiety): targeting distorted thinking, teaching distress tolerance techniques for anxiety, targeting improved parent-child communication for emotional support
- CBT/FBT (ARFID):
 - Positive self-coping, improving motivation for change
 - Improving family communication around eating
 - Family support around meals/nutrition targets → eating not optional



National Center of Excellence
for Eating Disorders

Treatment Outcome

ARFID:

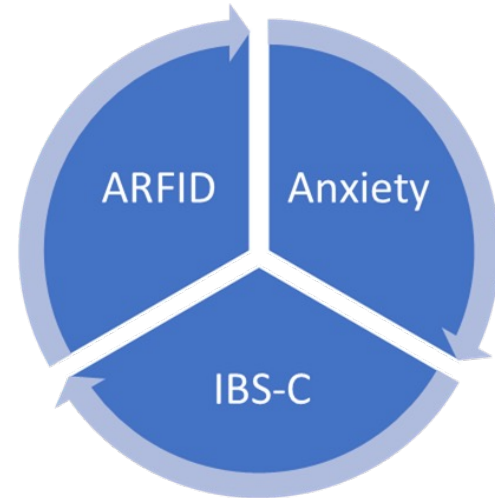
- Eating 3 meals and snacks daily with improved variety
- Weight-restored
- Improved communication around eating/feeding

Anxiety:

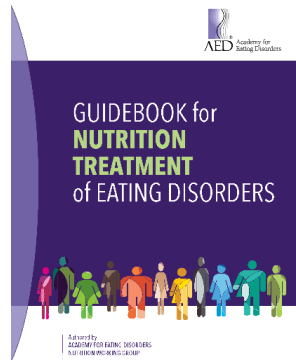
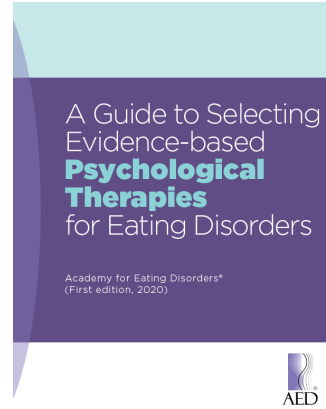
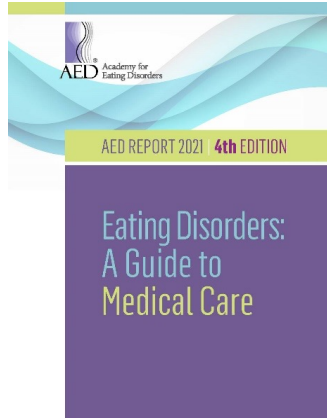
- Improved coping
- Increased socialization

IBS-C:

- Improved pain management
- Tapered off medications



Resources



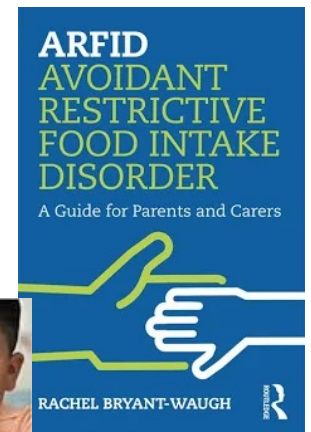
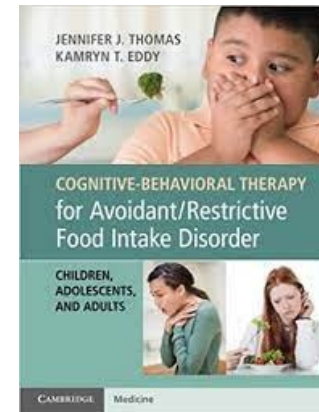


National Center of Excellence
for Eating Disorders

Resources

- F.E.A.S.T. (parent organization): <https://www.feast-ed.org/>
- Duke Center for Eating Disorders: <https://eatingdisorders.dukehealth.org/>
- *ARFID A Guide for Parents and Carers* (Bryant-Waugh)
- *Cognitive Behavioral Therapy for ARFID* (Thomas & Eddy)

Discussion and Questions?





NCEED

National Center of Excellence
for Eating Disorders

Thank you!

jean_doak@med.unc.edu