

# Not All Hunger is the Same

## Identifying the type of hunger your patient has can help:

- lead to optimal management of their specific disease
- raise suspicion for a possible MC4R pathway disease
- reduce the progression of obesity and its cumulative impact on overall health and quality of life, especially if diagnosed early

### Episodic/Periodic

#### Occasional overeating

Eating beyond satiety at a special occasion or celebratory meal (eg, Thanksgiving)<sup>1</sup>

#### Hedonic overeating

Eating beyond satiety and metabolic needs, influenced by appetite and cravings<sup>2,3</sup>

#### Cause:

- The pleasure centers in the brain, often driven by emotion or environmental circumstances<sup>2,3</sup>

#### Binge eating

Episodic consumption of large amounts of food beyond hunger and/or satiety within a short period with a loss of control. If recurring, defined as Binge Eating Disorder (BED).<sup>1,2</sup>

#### Behaviors may include:

- Rapid eating<sup>5</sup>
- Eating in isolation<sup>5</sup>
- Distress due to eating behavior<sup>1</sup>

#### Cause:

- Psychological factors, family history, dieting, gender<sup>2,4,5</sup>



### Persistent

#### Hyperphagia caused by MC4R pathway impairment

Pathological, insatiable hunger and impaired satiety differentiated from other types of overeating by its severity and persistence.

Hyperphagia is also marked by:

- Persistent preoccupation with food<sup>4</sup>
- Prolonged time to satiation and shortened duration of satiety<sup>4</sup>
- Prolonged feeling of hunger<sup>4</sup>
- Specific abnormal behaviors

#### Behaviors may include:

- Distress if food is unavailable
  - Children: may exhibit as tantrums or persistent negotiation/demand for food<sup>7,8</sup>
  - Adults: may manifest in emotional effects including sadness, frustration, irritability, anxiety and/or guilt<sup>9</sup>
- Abnormal food-seeking behaviors such as night eating or hiding food (children may also steal/sneak food)<sup>10</sup>
- Eating excessively – not to be confused with binge eating<sup>7</sup>

Symptoms and behaviors may range in severity<sup>1</sup>

#### Cause:

- Rare genetic variants in the MC4R pathway, a signaling pathway in the hypothalamus<sup>6</sup>

According to 2023 AAP and OMA guidelines, managing hyperphagia can be challenging and may require the use of pharmacotherapy<sup>4,11</sup>

If you have patients with hyperphagia and early-onset obesity, it may be time to take a closer look as these are among the common features in people with MC4R pathway driven obesity

# Are You Differentiating Hyperphagia Amongst Your Patients?

## Differentiating and diagnosing hyperphagia can be challenging

- The behaviors associated with hyperphagia, and their severity, can vary among patients
- Adult patients may have adapted their eating behaviors over time or feel shame in discussing their behaviors

## Knowing the right questions to ask, and framing them as part of a medical diagnosis may help

### To diagnose hyperphagia

Ask if your patient\* experiences most of these on a consistent basis, and for how long:

- **Patient:** Feels hungry after having just eaten  
**Caregiver:** Asks for more food after they have just eaten
- **Patient:** Feels stressed due to hunger and/or often worries about food  
**Caregiver:** Displays distress due to hunger and/or often worries about food
- **Patient/Caregiver:** Wakes up asking for or seeking food in the middle of the night
- **Patient/Caregiver:** Eats extremely quickly
- **Patient:** Hides what they are eating, or how much they are eating from others  
**Caregiver:** Sneaks, steals or hides food
- **Patient/Caregiver:** Eats food that has been discarded or dropped by someone else
- **Caregiver:** Tries to negotiate or argue for more food than provided

\* When possible ask the patient directly. For young children and/or patients who are unable to self-report, it may be necessary to ask their caregiver

### To assess the impact of hyperphagia

Ask if your patient's\* overeating behaviors consistently have a negative impact on the following:

<b>Sleep</b>	Does hunger impact sleep?
<b>Mood or emotions</b>	Does hunger impact mood? Does hunger or access to food cause distress?
<b>School or work</b>	Does hunger impact ability to concentrate at work/ school or to get things done?
<b>Leisure/recreational activities</b>	Does hunger impact participation in social/ recreational activities?
<b>Relationships</b>	Does hunger impact relationships with family or friends? Are there strained or uncomfortable interactions with others around food?

**References:** 1. Haqq AM et al. *Child Obes.* 2021;17(4):229-240. 2. Espel-Huyhn HM et al. *Obes Sci Pract.* 2018;4(3):238-249. doi:10.1002/osp4.161. 3. Tanajewski 2023- *Food Quality and Preference* 109 (2023) 104889 4. Hampl SE et al. *Pediatrics.* 2023;151(2):e202206064. doi:10.1542/peds.2022-060640. 5. NIH\_Symptoms and Causes of Binge Eating Disorder—NIDDK<https://www.niddk.nih.gov/health-information/weight-management/binge-eating-disorder/symptoms-causes>. 6. Eneli I et al. *Appl Clin Genet.* 2019;12:87-93. 7. Heymsfield SB et al. *Obesity* (Silver Spring). 2014;22(suppl 1):S1-S17. doi:10.1002/oby.20646. 8. Forsythe E et al. *Orphanet J Rare Dis.* 2023 Jan 16;18(1):12. 9. Ervin C et al. *Adv Ther.* 2023;40(5):2394-2411. doi:10.1007/s12325-023-02443-y. 10. Sherafat-Kazemzadeh R et al. *Pediatr Obes.* 2013;8(5):e64-e67. doi:10.1111/j.2047-6310.2013.00182.x. 11. Tondt J et al. *Obesity Algorithm*® 2023. Obesity Medicine Association; 2023. Accessed June 13, 2023. <https://obesitymedicine.org/obesity-algorithm>.