Episode 70: Obesity
Written By: Dr Thomsen D'hont & Dr Eleanor Crawford

Obesity Canada published a guideline in 2020 that we will be referring to a lot in this episode. It defines obesity as a chronic, progressive and relapsing disease characterized by the presence of adiposity that impairs health and social well-being.

So today you'll learn what you need to know for the exam, but also some practical considerations for real life visits that take into account the pressures of diet culture, and how we as physicians can provide evidence based advice that doesn't isolate and judge our patients. And because we know language matters, you'll hear us use terms like "large bodies", instead of saying someone is fat. There are advocates who have reclaimed the term fat, but today we'll stick with medical jargon and terms aimed to avoid stigma.

Objective One:
In patients who appear to be obese, make the diagnosis of obesity using a clear definition (i.e., currently body mass index) and inform them of the diagnosis.

Note the most recent obesity guidelines!

Yeah, the CCFP needs to update themselves. For the exam you'll need to know what a 'normal' BMI is, and the cutoff for elevation which is how they diagnose obesity.

As per the World Health Organization: BMI exceeding 30 kg/m^2 and is subclassified into:

- class 1 (30-34.9),
- class 2 (35-39.9) and
- class 3 (≥40).

There is variation in the risks associated with these values in different populations: in Asian and South Asian populations, similar risk levels are met at lower BMIs. In Black people, similar risk levels are met at higher values.

Another diagnostic criteria they endorse is waist circumference, which is measured at the level of the iliac crest. There are cutoffs where someone might be considered high risk for overall mortality, heart disease, diabetes, hypertension, dyslipidemia and nonalcoholic fatty liver disease:

- Men: ≥102 cm
- Women: ≥88 cm

- Asian men: ≥90 cm
- Asian women: ≥80 cm

No need to memorize all the waist circumferences, but it is good to know that different ethnic groups have different distributions of what normal should be.

Childhood obesity isn't classified as BMI absolute values. Instead, there are percentile cut-offs based on the WHO growth charts, which are standards that identify how children should grow when provided optimal conditions.

- Overweight: >85%
- Obesity: >97%
- Severe obesity: >99.9%

For annual visits, it is suggested to collect a height and weight, calculate BMI, and for those adults at BMI 25-35 measure a waist circumference to better risk stratify. But remember - neither BMI or waist circumference alone adequately determine risk. They are proxies!

Staging with a tool such as the Edmonton Obesity Staging System (EOSS) better determines risk. Take a second to image search the EOSS because there is an excellent graphic that explains this which we will link in the show notes.

The second part of this objective is very nuanced, and is a perfect oral exam scenario. Eleanor, do you have any tips for informing patients of a new diagnosis of obesity?
The thing is, Caleb, patients are not oblivious. Larger people face stigma regardless of if they fit "obesity" criteria or not. And according to the 2020 Obesity Clinical Practice Guideline, that bias actually increases morbidity and mortality independent of weight or body mass index. Which means that it should be dealt with tactfully and sensitively so we don't cause more harm.

The new obesity guideline encourages asking patients permission to discuss their weight. Be prepared for them to decline, in which case you have to move on and can address at a future point.

Stage	Description	Management
0	No apparent obesity-related risk factors (e.g., blood pressure, serum lipids, fasting glucose, etc. within normal range), no physical symptoms, no psychopathology, no functional limitations and/or impairment of well-being	Identification of factors contributing to increased body weight Counselling to prevent further weight gain through behavioural measures, including healthy eating and increased physical activity
1	Presence of obesity-related subclinical risk factors (e.g., borderline hypertension, impaired fasting glucose, elevated liver enzymes, etc.), mild physical symptoms (e.g., dyspnea on moderate exertion, occasional aches and pains, fatigue, etc.), mild psychopathology, mild functional limitations and/or mild impairment of well-being	Investigation for other (non-weight-related) risk factors More intense behavioural interventions, including nutrition therapy, exercise and psychological treatments to prevent further weight gain Monitoring of risk factors and health status
2	Presence of established obesity-related chronic disease (e.g., hypertension, type 2 diabetes, sleep apnea, osteoarthritis, reflux disease, poly-cystic ovary syndrome, anxiety disorder, etc.), moderate limitations in activities of daily living and/or well-being	Initiation of obesity treatment, including considerations of all psychological interventions, pharmacological and surgical treatment options Close monitoring and management of comorbidities as indicated
3	Established end-organ damage such as myocardial infarction, heart failure, diabetic complications, incapacitating osteoarthritis, significant psycho-pathology, significant functional limitations and/or impairment of well-being	More intensive obesity treatment including consideration of all psychological interventions, pharmacological and surgical treatment options Aggressive management of comorbidities as indicated
4	Severe (potentially end-stage) disabilities from obesity-related chronic diseases, severe disabling psychopathology, severe functional limitations and/or severe impairment of well-being	Aggressive obesity management as deemed feasible Palliative measures including pain management, occupational therapy and psychosocial support

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Objective Two:
In all obese patients, assess for treatable co-morbidities such as hypertension, diabetes, coronary artery disease, sleep apnea, and osteoarthritis, as these are more likely to be present.

This is in line with the Edmonton Obesity Staging System, where a concerted effort should be made to treat obesity along with obesity-associated diseases, especially the more severe the disease is. As mentioned before, BMI and waist circumference alone aren't enough to assess risk level and to plan for treatment. Identifying comorbidities provides targets for treatment. We won't go over treatment of these conditions here.

Let's remember that you can have an elevated BMI, but not have the disease state of obesity as per the EOSS. Patients can be large and healthy!

This is where the Edmonton Obesity Scale does it right. It tries to separate size from health in a way that says "yes, obesity can be a disease, but you can also have a big body and be perfectly healthy."

Tons of thin people have high blood pressure, dyslipidemia and diabetes. And some large people are perfectly healthy. In order to be good doctors we need to recognize the difference between correlation and causation.

That's the number 1 rule in EM - keep a wide differential! And check your biases so you don't inadvertently miss a serious problem.

Objective Three:
In patients diagnosed with obesity who have confirmed normal thyroid function, avoid repeated thyroid-stimulating hormone testing.

There is an association between obesity and hypothyroidism, but a causal link has not been established. Overt hypothyroidism is associated with modest weight gain, but a similar link for subclinical hypothyroid is not clear. There is no indication to treat obese patients with levothyroxine except in the context of hypothyroidism. In these cases, modest weight loss may occur while being treated.

Within their family medicine section, Choosing Wisely Canada recommends not ordering thyroid function tests in asymptomatic patients. Like other medicine, it is not prudent to chase possible causes of a condition, such as low thyroid hormone, especially if they are not established as causal. (Sanyal & Raychaudhuri, 2016)

Objective Four:
In obese patients, inquire about the effect of obesity on the patient's personal and social life to better understand its impact on the patient.

An important part of any FIFE, the all-important history taking technique that is crucial in OSCEs, but also very useful in real life. This can be a huge help in guiding the conversation towards what is important for the patient.

- Ask if there are concerns about managing self-care activities (Level 3, grade C from guideline)
- Assess fall risk (can impact ability and interest in physical activity). (level 3, grade C).

Objective Five:
In a patient diagnosed with obesity, establish the patient's readiness to make changes necessary to lose weight, as advice will differ, and reassess this readiness periodically.

Or: *"Oooobjective Five: In a patient diagnosed with obesity, establish the patient's readiness to make changes necessary to improve health, and reassess readiness periodically."*

We've already established that weight stigma impacts health negatively. Let's take the focus off size and rephrase this objective in a way where we can actually tackle it –

This is in line with the clinical practice guideline that says we must shift the focus of obesity management toward improving patient-centred health outcomes, rather than weight loss alone. (CMAJ, 2020)

Sometimes patients are hyperfocused on weight so we don't need to dismiss it entirely. Rather, understand that good health behaviors can be beneficial despite not leading to weight loss.

To assess someone's readiness for change, recall that stages of change:

- Precontemplation
- Contemplation
- Preparation
- Action
- And Maintenance - the tricky one.

Try: "how do you move your body in ways that you enjoy."
Because if you like it you'll stick with it. Some people use their pets as an excuse to stay active, others love to watch a favorite show exclusively at the gym, or play rec sports. Whatever they like, encourage it! Habitual activity is great to avoid injury and promote cardiovascular health.

Objective Six: Advise the obese patient seeking treatment that effective management will require appropriate diet, adequate exercise, and support (independent of any medical or surgical treatment), and facilitate the patient's access to these as needed and as possible.

Medical nutrition therapy and exercise are the main pillars of managing obesity regardless of body size or composition.

For exercise
It's recommended to do 30-60 minutes of moderate to vigorous exercise most days of the week.

A Cochrane review by Shaw et al. which looked at over 3600 participants in over 40 studies concluded that that exercise alone resulted in small amounts of weight loss (around 1 kg).

The cool finding is that exercise is associated with improved cardiovascular risk factors even if no weight is lost.

Appropriate diet involves personalization to meet individual values, preferences and treatment goals in a way that is safe, effective, nutritionally adequate, culturally acceptable and affordable for long-term adherence. If possible, provided by a registered dietitian.
Options for diets vary and include:

- calorie restricted,
- DASH,
- Mediterranean, etc.,
- as well as specific recommendations for food groups to incorporate into one's diet, including pulses, fruits and veggies and whole grains.

The principles for these diets should be discussed with patients and the focus should be on what the patient is willing to adopt as a long term behavioral change that can be sustainable for them, rather than focusing on "just eating less" or on choosing "good" foods. That's the mindset which can lead to disordered eating, and it's why most diets fail.

The guideline provides some really helpful key messages for people living with obesity, which can also be adopted as phrases for counseling, such as:

1. "There is no one-size-fits-all healthy eating pattern. Choose an eating pattern that supports your best health and can be maintained over time rather than a short-term diet."
2. "How you eat is as important as what and how much you eat. Practice eating mindfully and promote a healthy relationship with food."

There is a Tool for Practice put together by PEER, the Edmonton-based primary care research group. They are 1-2 page articles developed free of industry bias and are based on the best available evidence like trials, reviews, and meta-analysis that provide clinicians a focused answer to a clinical question.

One from 2015 posed the question, "Is any diet better for weight loss or preventing negative health outcomes?" They concluded Weight loss for all diets is very similar at two years. Only the Mediterranean diet has demonstrated positive results on hard outcomes like mortality, despite not causing differences in weight or surrogate markers like lipid profiles.

They also noted that in cohort studies when obese people intentionally lose weight, mortality results vary (sometimes even increasing). The evidence they reviewed suggests that physical activity likely has more impact on outcomes like mortality.

Objective Seven:
As part of preventing childhood obesity, advise parents of healthy activity levels for their children.

The Canadian Pediatrics Society has a physical activity guideline from 2012 that provide guidance on amount of physical activity:

Infants <1 yr of age: physical activity several times per day, mainly through interactive floor-based play (tummy time, reaching, pushing, pulling and crawling).

Toddlers (1-2 yrs) and preschoolers (3-4 yrs): at least 180 minutes of physical activity per day at any intensity, including: a variety of activities, both structured and unstructured, in different environments, activities that develop movement skills, aiming to progress to 60 minutes per day of energetic play by 5 yrs of age. Activities include play, games, transportation, recreation and physical education.

Children (5-11 yrs) and youth (12-17 yrs): at least 60 minutes of moderate to vigorous intensity physical activity daily. Including vigorous activities at least 3 days per week and activities that strengthen muscle and bone at least 3 days per week. More physical activities has more health benefits!

The guideline also has recommendations to minimize the amount of time spent sedentary and to limit the time spent on screens. In 2019 there was an updated guideline from the Canadian

Pediatric Society on screen use that acknowledges the ubiquitous nature of digital media in recent years.

This guideline focuses on clinicians and families incorporating four principles (4 Ms): healthy management, meaningful screen use, positive modelling, and balanced/informed monitoring of screen time and behaviours. We won't get into this here, but we felt it was important to point out that this resource exists.

Objective Eight:
In managing childhood obesity, challenge parents to make appropriate family-wide changes in diet and exercise, and to avoid counterproductive interventions (e.g., berating or singling out the obese child).

The Canadian Pediatric Society has a position statement from 2012 on the psychosocial aspects of child and adolescent obesity that provides recommendations for how to engage parents in adopting family-wide behavior changes.

They suggest motivational interviewing to encourage parents to consider change and to encourage them to become more sensitive and nonjudgmental. They recommend assessing whether changing family behavior is a priority and assessing how confident the parent or parents are about achieving the required changes.

Changes can include parental eating choices (limiting high fat/sugar foods, focusing on healthy snacks and avoiding casual snack); avoid using food as a reward or bribe; having meals together as a family; avoiding missing breakfast; exercising together as a family; having healthy and consistent routine, limits and supervision at home, etc.

It's essential to encourage parents to be sensitive and nonjudgmental, so that they don't stigmatize their children. This could also be an opportunity to discuss with parents how other negative social interactions with others, such as bullying, can cause emotional eating behaviors.

EXTRO

Listen to the White Coat Black Art podcast on CBC where Dr. Brian Goldman interviews bariatric surgeon Dr. Arya Sharma, one of the creators of the Edmonton Obesity Staging System.

Or if you want to be on the cutting edge, look up the health at every size movement, explore the concepts of "intuitive eating" and read the UBC article "this changed my practice" by Dr.

Katarina Wind, explaining why she no longer prescribes weight loss, calculates BMI, or uses the term “obesity”.

References

Wharton, Sean et al. “Obesity in adults: a clinical practice guideline.” *CMAJ : Canadian Medical Association journal = journal de l'Association medicale canadienne* vol. 192,31 (2020): E875-E891. doi:10.1503/cmaj.191707.
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Shaw KA, Gennat HC, O'Rourke P, Del Mar C. Exercise for overweight or obesity. Cochrane Database of Systematic Reviews 2006, Issue 4. Art. No.: CD003817. DOI: 10.1002/14651858.CD003817.pub3

https://thischangedmypractice.com/why-i-no-longer-prescribe-weight-loss/https://thischangedmypractice.com/why-i-no-longer-prescribe-weight-loss/

https://www.cps.ca/en/documents/position/physical-activity-guidelines
https://www.cps.ca/en/documents/position/psychosocial-child-adolescent-obesity

Sanyal, D., & Raychaudhuri, M. (2016). Hypothyroidism and obesity: An intriguing link. *Indian journal of endocrinology and metabolism*, *20*(4), 554–557. https://doi.org/10.4103/2230-8210.183454

Wait: Does weight impact diabetes?

- RCT of 298 primary care patients: DM <6yrs, BMI 27-45, not on insulin.
  - Diet replacement (Counterweight-Plus) ~840 kcal/day for 3 months (+ 2 optional) then slow re-intro. Stopped all DM and Hypertension drugs (added with monitoring)
  - In 2 yr follow-up if Wgt gain ≥2 kg, offered 2-4 week rescue
  - Baseline Mean patient = 54 y.o., 59% male, BMI 35, A1c 7.6%
- Results:
  - 1 yr: lost ≥15kg=0 vs 24% (NNT 5), Diabetes remission 4% vs 46% (NNT 3), Qol: down 3 vs up 7 (out of 100).
    - Remission by wt lost <5kg (7%), 5-10kg (34%), 10-15 (57%), & >15 (86%)
  - 2yr: lost ≥15kg=2% vs 11% (NNT 11), Diabetes remission 3% vs 36% (NNT 4), Qol: up 2 vs up 8 (out of 100).
- **Bottom-Line**: Surprise, weight loss can truly treat DM.

Lancet Diabetes Endocrinol. 2019;7(5):344-55. Lancet 2018; 391: 541–51

(Above from BS medicine podcast). Interpretation of above: in intervention arm of the 840 calories per day (essentially a starvation diet), 24% had weight loss of ≥15 kg. Of those who had this much weight loss, 86% had remission of their diabetes! Quality of life also higher in those on the calorie restricted diet.

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EOSS: EDMONTON OBESITY STAGING SYSTEM - *Staging Tool*

STAGE 0

- **NO** sign of obesity-related risk factors
- **NO** physical symptoms
- **NO** psychological symptoms
- **NO** functional limitations

Case Example:
Physically active female with a BMI of 32 kg/m², no risk factors, no physical symptoms, no self-esteem issues, and no functional limitations.

Class I, Stage 0 Obesity
EOSS Score
WHO Obesity Classfication

STAGE 1

- Patient has obesity-related **SUBCLINICAL** risk factors (borderline hypertension, impaired fasting glucose, elevated liver enzymes, etc.) - *OR* -
- **MILD** physical symptoms - patient currently not requiring medical treatment for comorbidities (dyspnea on moderate exertion, occasional aches/pains, fatigue, etc.) - *OR* -
- **MILD** obesity-related psychological symptoms and/or mild impairment of well-being (quality of life not impacted)

Case Example:
38 year old female with a BMI of 59.2 kg/m², borderline hypertension, mild lower back pain, and knee pain. Patient does not require any medical intervention.

Class III, Stage 1 Obesity

WHO CLASSIFICATION OF WEIGHT STATUS (**BMI kg/m²**)

Obese Class I ..... 30 - 34.9
Obese Class II ..... 35 - 39.9
Obese Class III ..... ≥40

Stage 0 / Stage 1 Obesity

Patient ***does not meet clinical criteria for admission*** at this time.
Please refer to primary care for further preventative treatment options.

STAGE 2

- Patient has **ESTABLISHED** obesity-related comorbidities requiring medical intervention (HTN, Type 2 Diabetes, sleep apnea, PCOS, osteoarthritis, reflux disease) - *OR* -
- **MODERATE** obesity-related psychological symptoms (depression, eating disorders, anxiety disorder) - *OR* -
- **MODERATE** functional limitations in daily activities (quality of life is beginning to be impacted)

Case Example:
32 year old male with a BMI of 36 kg/m² who has primary hypertension and obstructive sleep apnea.

Class II, Stage 2 Obesity

STAGE 3

- Patient has **significant** obesity-related end-organ damage (myocardial infarction, heart failure, diabetic complications, incapacitating osteoarthritis) - *OR* -
- **SIGNIFICANT** obesity-related psychological symptoms (major depression, suicide ideation) - *OR* -
- **SIGNIFICANT** functional limitations (eg: unable to work or complete routine activities, reduced mobility)
- **SIGNIFICANT** impairment of well-being (quality of life is significantly impacted)

Case Example:
49 year old female with a BMI of 67 kg/m² diagnosed with sleep apnea, CV disease, GERD, and suffered from stroke. Patient's mobility is significantly limited due to osteoarthritis and gout.

Class III, Stage 3 Obesity

STAGE 4

- **SEVERE** (potential end stage) from obesity-related comorbidities - *OR* -
- **SEVERELY** disabling psychological symptoms - *OR* -
- **SEVERE** functional limitations

Case Example:
45 year old female with a BMI of 54 kg/m² who is in a wheel chair because of disabling arthritis, severe hyperpnea, and anxiety disorder.

Class III, Stage 4 Obesity

Alberta Health Services
UNIVERSITY OF ALBERTA

Sharma AM & Kushner RF, *Int J Obes* 2009

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Resources for Patients & Providers

1. Books
   a. Body Respect (Dr. Lindo Bacon)
   b. Intuitive Eating (Evelyn Tribole & Elyse Resch)
2. Podcasts
   a. Food Psych (Christy Harrison, MPH, RD)
   b. White Coat Black Art - episode with Dr. Arya Sharma (Dr. Brian Goldman)
   c. I Weigh Podcast (Jameela Jamil)
   d. CFPC Podcast Episode - Third Rail: The stigma of obesity in medicine
3. Social Media
   a. I Weigh Community
   b. Your Fat Friend
   c. Lainey Molnar