

Weight and Comorbidities

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1

Obesity is a Disease

A chronic, relapsing, multi-factorial, neurobehavioral disease, wherein an increase in body fat promotes adipose tissue dysfunction and abnormal fat mass physical forces, resulting in adverse metabolic, biochemical, and psychosocial health consequences.

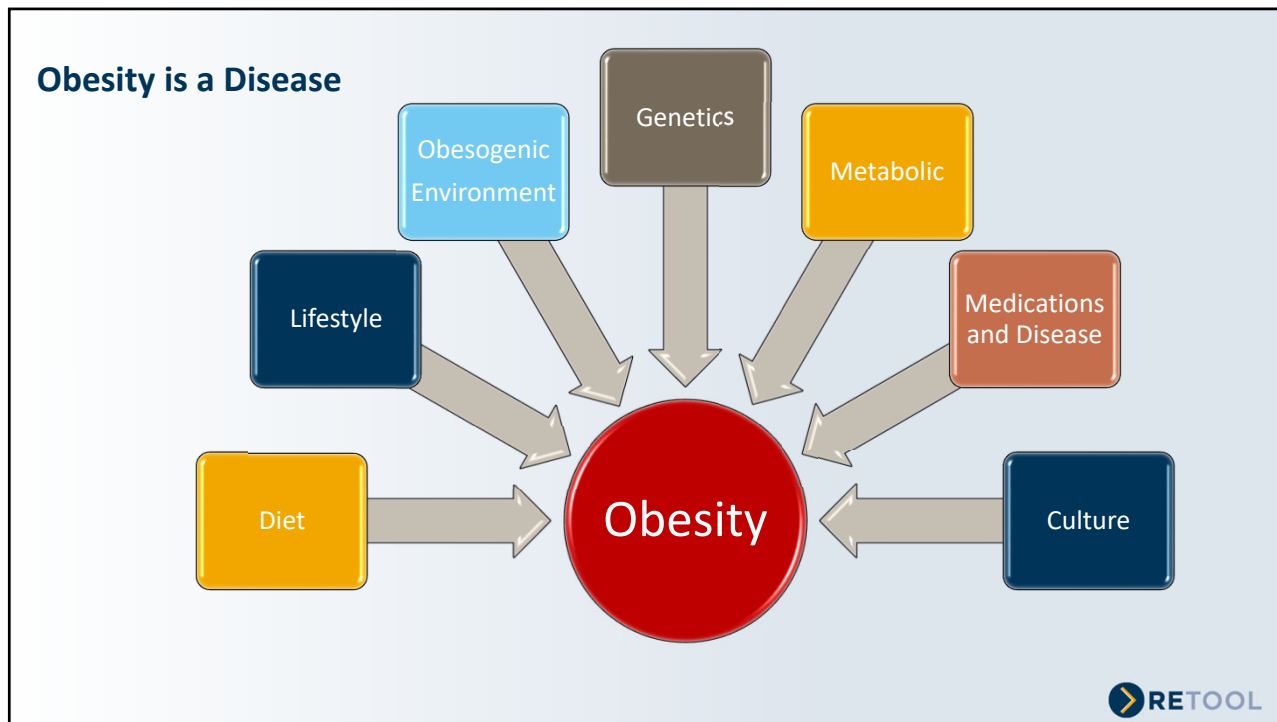
- 2014-2015 American Society of Bariatric Physicians

Obesity Myths

- Body weight = calories in – calories out
- Obesity is primarily caused by voluntary overeating and a sedentary lifestyle
- Obesity is a lifestyle choice
- Obesity is a condition, not a disease
- Severe obesity is usually reversible by voluntarily eating less and exercising more



2



3

Why Treat Obesity?


Obesity is a leading cause of mortality, morbidity, disability, and healthcare cost (\$190 billion annually) and utilization in the US

By Treating Obesity, We Can...

- Improve the health and wellness of individuals with excess weight
- Reduce the rate of obesity-related conditions in our population
- Reduce healthcare costs and utilization

RETOOL

4



Obesity doesn't exist in a bubble

diabetes

Heart Failure

AND an increased risk of recurrence and worsened outcomes

knee replacements

transplant patients

admissions

5

Common Health Consequences

Pulmonary

- Asthma
- Obstructive Sleep Apnea
- Hypoventilation Syndrome
- Abnormal PFTs: ↓ FEV1, FVC, and FEV1/FVC

Neurologic

- Cerebral Vascular Disease
- Pseudotumor Cerebri
- Migraines

Genitourinary

- Focal Segmental Glomerulosclerosis
- Nephrolithiasis
- Urinary Incontinence

Cardiovascular

- Coronary Heart Disease
- Hyperlipidemia
- HTN
- Varicosities, Thromboembolic Disease
- Congestive Heart Failure, Cardiomyopathy
- Atrial Fibrillation, Other Dysrhythmias

Musculoskeletal


- Connective Tissue Disease
- Osteoarthritis
- Gout
- Chronic Pain

Endocrine

- Type 2 Diabetes/Prediabetes
- Metabolic Syndrome
- Menstrual Abnormalities
- High Risk Pregnancy
- Infertility (men and women)
- Decreased libido
- Erectile Dysfunction
- Testosterone Deficiency

Gastrointestinal

- NAFLD/cirrhosis
- Pancreatitis
- Biliary Disease
- GERD



6

Common Psychosocial Consequences

- Depression
- Anxiety
- Poor Quality of Life
- Low Self-Esteem
- Poor Body Image
- Diminished sex drive
- Impaired intimacy and sexual relationships
- Eating Disorders
- Increased Employment Absenteeism
- Substance Abuse
- Poor Physical Functioning
- Sleep Disturbance
- Cognitive Impairment
- Bias and Stigmatization

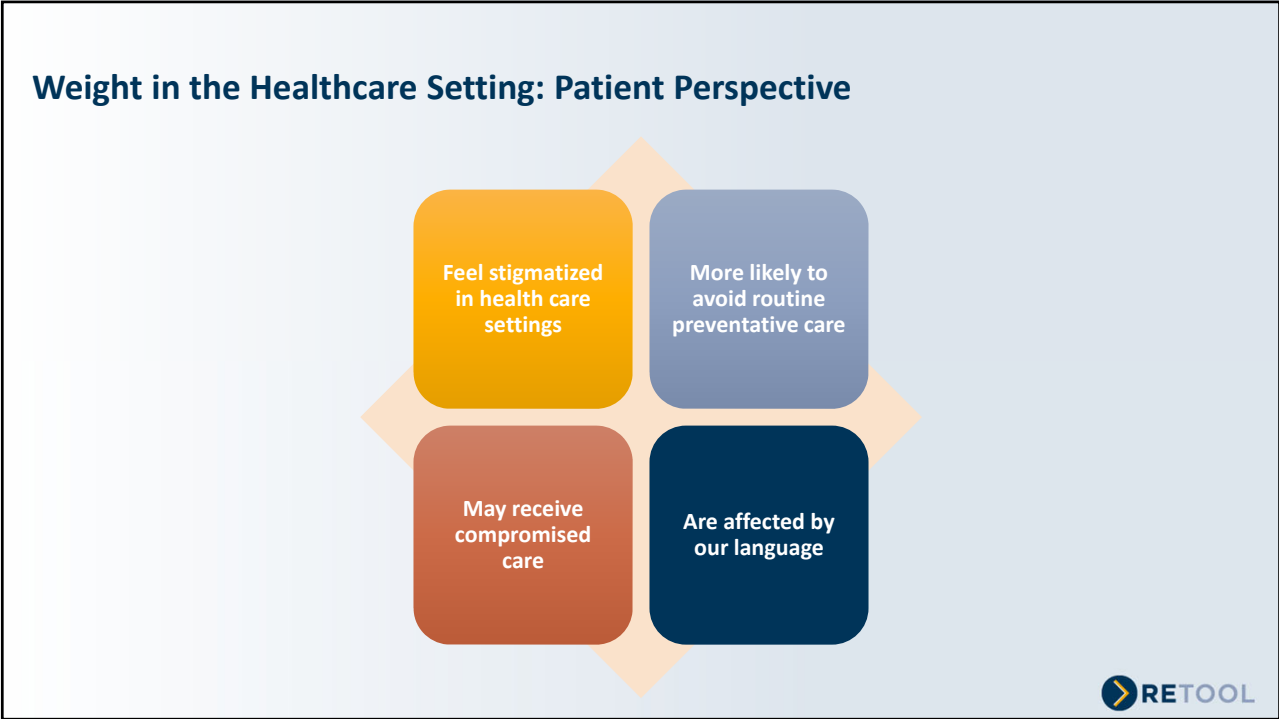


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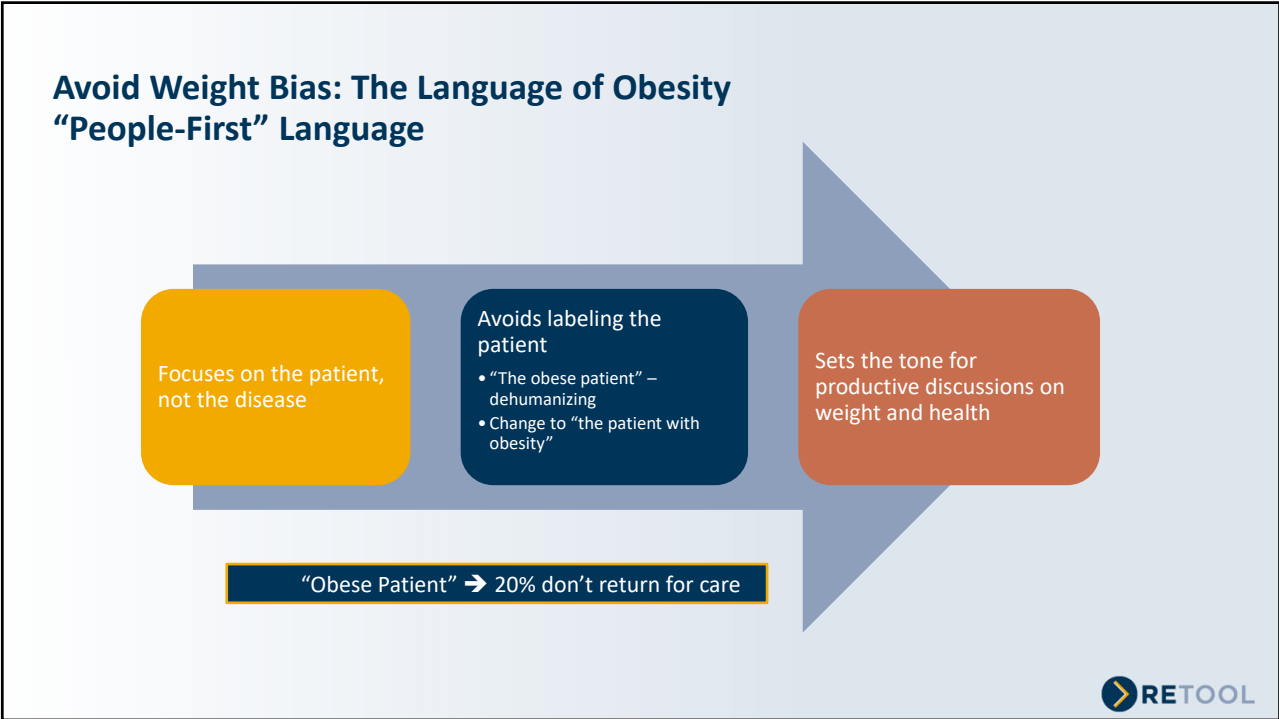
Clinical Pearls to Care for Patients with Obesity



8




9



10

Avoid Weight Bias: The Healthcare Environment

Ask	}	<ul style="list-style-type: none"> • Permission before weighing someone
Create	}	<ul style="list-style-type: none"> • Private space for weights with appropriate scales (600lb scale)
Use	}	<ul style="list-style-type: none"> • Properly sized equipment (e.g., BP cuffs, gowns, chairs, beds) ready prior to patient arrival
Ensure	}	<ul style="list-style-type: none"> • Seating, doorways, tables, gowns, toilets are safe/comfortable




11

5 A's of Obesity Management

Ask	Assess	Advise	Agree	Arrange/Assist
<ul style="list-style-type: none"> • Ask for permission to discuss body weight • Explore readiness for change 	<ul style="list-style-type: none"> • Assess BMI, waist circumference, and obesity stage • Explore drivers and complications of excess weight 	<ul style="list-style-type: none"> • Advise the patient about the health risks of obesity, the benefits of modest weight loss (5-10%), the need for long term strategies, and treatment options 	<ul style="list-style-type: none"> • Agree on realistic weight-loss expectations, targets, behavioral changes, and specific details of the treatment plan 	<ul style="list-style-type: none"> • Assist in identifying and addressing barriers • Provide resources • Assist in finding and consulting with appropriate providers • Arrange for regular follow-up

Adapted from Obesity Algorithm, Obesity Medicine Association.



12

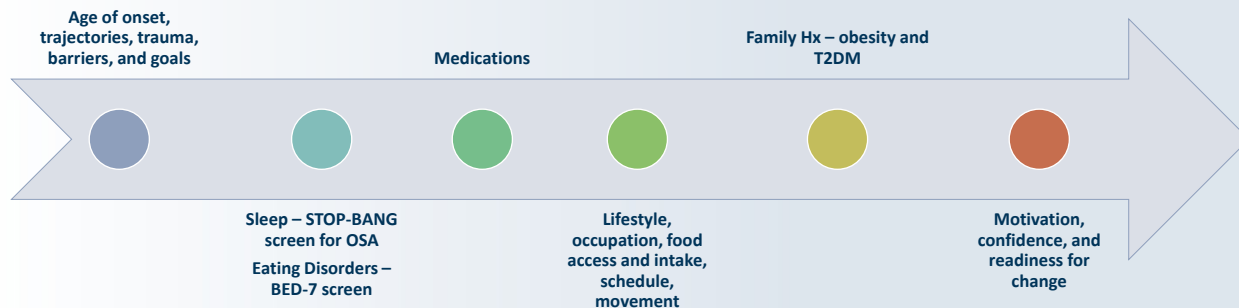
5 A's of Obesity Management

- Would you mind telling me about the history of your weight?
- When did it first become an issue for you?
- What are your concerns?
- On a scale of 1 to 10, how important is weight loss for you?
- On the same scale, how motivated are you to change your lifestyle?
- When you think about starting a weight loss journey, what are your challenges?
- Do you have any particular goals around your weight?



13

Ideal Key Components of the History



14

Ideal Key Components of a Nutrition History


Patterns

- Meals, snacks, and drinks (24-hour recall)
- Frequency
- Quality
- Portions
- Schedule, convenience and meal planning
- Restrictions

Behaviors

- Triggers – hunger, boredom, stress, emotions
- Literacy
- Nighttime eating or other disordered eating patterns
- Family Influences
- Depression/Anxiety
- Food security
- Any other barriers


Identify single target for initial nutrition and movement goals



15

Nutrition History Prompts

- Can you tell me about your nutrition?
- What are your struggles around your eating?
- Do you have any barriers or concerns with buying food or food shopping?
- How many of your meals do you prepare at home?
- If you eat out, what types of places do you eat at?
- Do you think you have excessive hunger?
- If yes, when does that happen or is it all the time?
- Are there reasons other than hunger that you eat?
- Are portions a concern for you?
- Do you ever eat in the middle of the night?
- Do you have any other vulnerabilities around food or food choices?
- Can you tell me what you ate and drank yesterday from the time you got up until the time you went to bed?



16

Ideal Key Components of the Physical Exam

Vitals

- BMI, BP, Waist Circumference (BMI <35)


Adipocyte Distribution

Underlying Medical Contributors

- Thyroid exam (Hypothyroidism)
- Lymphedema/lipedema
- Hirsutism, acne (PCOS)
- Moon facies, prominent supraclavicular and dorsocervical fat pad, striae (Cushing's)

Health Consequences

- Acanthosis Nigricans (Insulin Resistance)
- Neck Circumference and Mallampati Score (OSA)
- Signs of cardiac and/or liver disease



17

Laboratory Testing

Routine Labs


- Hemoglobin A1c
- Fasting lipid levels
- Complete Metabolic Panel
- Thyroid stimulating hormone (TSH)
- Vitamin D level

If Indicated

- Complete Blood Count
- Uric acid
- Urinalysis (including urine albumin)
- Salivary Midnight Cortisol x 2
- Fasting Insulin
- Total Testosterone and DHEA-S

Other

- Liver Ultrasound
- Routine Cancer Screens
- Sleep Study (STOP-BANG >4)



18

Obesity Treatment Recommendations

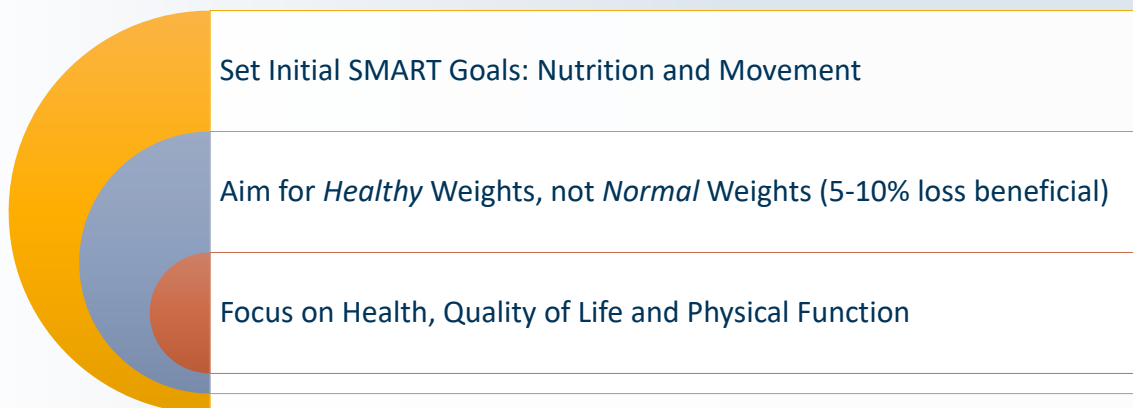
Treatment	BMI Category (kg/m ²)				
	25-26.9	27-27.9	30-34.9	35-35.9	≥ 40
Diet, physical activity and behavioral therapy	Yes, with comorbidities	Yes, with comorbidities	Yes	Yes	Yes
	→				
Pharmacotherapy		Yes, with comorbidities	Yes	Yes	Yes
	→				
Surgery				Yes, with comorbidities	Yes
	→				

Michael D. Jensen et al. Circulation. 2014;129:S102-S138.



19

Manage Expectations



20

Benefits Associated with Modest Weight Loss

	≥ 2%	≥ 5%	≥ 10%	≥ 16%
Improved glucose metabolism	X	X	X	X
Reduction in systolic blood pressure	X	X	X	X
Reduction in triglycerides	X	X	X	X
Improvements in PCOS/infertility	X	X	X	X
Reduction in diastolic blood pressure		X	X	X
Improvement in Impact on Weight on Quality-of-Life score		X	X	X
Improved depression		X	X	X
Improved mobility		X	X	X

Bays, H. E., Fitch, A., Christensen, S., Burridge, K., & Tondt, J. (2022). Anti-obesity medications and investigational agents: An obesity medicine association (OMA) clinical practice statement (CPS) 2022. Obesity Pillars, 2. <https://doi.org/10.1016/j.obpill.2022.100018>.



21

Benefits Associated with Modest Weight Loss

	≥ 2%	≥ 5%	≥ 10%	≥ 16%
Improved functionality & pain w/ knee OA	X	X	X	X
Reduction in hepatic steatosis	X	X	X	X
Improved urinary incontinence	X	X	X	X
Improved sexual function	X	X	X	X
Increased HDL-cholesterol	X	X	X	X
Improvements healthcare costs	X	X	X	X
Improved obstructive sleep apnea			X	X
Improved non-alcoholic steatohepatitis			X	X
Potential reduction in cardiovascular and overall mortality				X

Bays, H. E., Fitch, A., Christensen, S., Burridge, K., & Tondt, J. (2022). Anti-obesity medications and investigational agents: An obesity medicine association (OMA) clinical practice statement (CPS) 2022. Obesity Pillars, 2. <https://doi.org/10.1016/j.obpill.2022.100018>.



22

Managing Weight-Promoting Pharmacotherapy

- Discuss the weight-related side effects of various medication options
 - Facilitate patient-centered therapeutic decisions
 - Manage weight gain expectations
 - Communicate with specialists

- Overall goal is to reduce iatrogenic causes of weight gain
 - Choose weight-neutral medications if possible
 - Initiate lifestyle interventions and monitor weight regularly when starting weight-promoting medications

- Most commonly prescribed medications to consider: Neurontin/Lyrica, SSRIs, Atypical Antipsychotics, and Insulin



23

Antidepressants Associated with Weight Gain

Class	Name	Alternative Therapy
SSRIs/SNRIs	Most Weight Promoting: Paroxetine Fluoxetine* Citalopram Venlafaxine	Bupropion
	Less Weight Promoting: Vortioxetine Desvenlafaxine Duloxetine Escitalopram* Sertraline*	
Tricyclics: 0.4-4kg/month	Amitriptyline Trimipramine Imipramine Doxepin	Nortriptyline
Atypical Antidepressant	Mirtazapine Trazodone	

*Acute results demonstrate weight loss/no weight gain (<6 months)

Obesity (2020) 28, 2064-2072. <https://www.obesityaction.org/resources/prescription-medications-weight-gain/>



24

Other Psychiatric and Neurologic Medications Associated with Weight Gain

Class	Name	Weight Gain	Alternative Therapy
Antipsychotics	Haloperidol Clozapine Chlorpromazine Fluphenazine Risperidone* Olanzapine Quetiapine Aripiprazole	5-10 kg * Up to 5 KG	Ziprasidone Lurasidone Consider adding metformin Lamotrigine
Antiseizure	Valproic Acid Carbamazepine Gabapentin Pregabalin	More than 10 kg	Topiramate Zonisamide Lamotrigine

Canadian Adult Obesity Clinical Practice Guidelines.



25

Medications for T2DM Associated with Weight Gain

Class	Name	Weight Gain	Alternative Therapy
Insulins	Insulin	5-10 KG	Metformin GLP1 RAs (liraglutide, dulaglutide, semaglutide) GIP and GLP1 RA (Tirzepatide) SGLT2 inhibitors (canagliflozin, dapagliflozin, empagliflozin) DPP4i (alogliptin, lingliptin, sitagliptin, saxagliptin)
Thiazolidinedione	Pioglitazone	5-10 kg	
Sulfonylureas	Glipizide	Up to 5 kg	
	Glyburide	5-10 kg	
	Glimepiride	5-10 kg	
	Chlorpropamide Tolbutamide Gliclazide	5-10 kg	
Meglitinides	Repaglinide	Up to 5 kg	

Canadian Adult Obesity Clinical Practice Guidelines and Pharmacologic Approaches to Glycemic Treatment: *Standards of Care in Diabetes—2023*.



26

Other Common Medications Associated with Weight Gain

Class	Name	Alternative Therapy
Beta-Blockers	Atenolol Propranolol Metoprolol	Carvedilol ACE Inhibitors ARBs CCBs
Antihistamines	Diphenhydramine	Fexofenadine Loratadine
Corticosteroids		NSAIDs DMARDS
Hormonal Therapy and Contraception	Progesterone Tamoxifen Aromatase Inhibitors	

Obesity (2020) 28, 2064-2072. <https://www.obesityaction.org/resources/prescription-medications-weight-gain/>



27

Questions?



28

Guidelines for Obesity Treatment

- 2013 AHA/ACC/TOS Guideline for the Management of Overweight and Obesity in Adults
- 2015 Obesity Algorithm – ASBP
- 2015 Pharmacological Management of Obesity: An Endocrine Society Clinical Practice Guideline
- 2020 Canadian Medical Association Clinical Practice Guideline <https://obesitycanada.ca/guidelines/>
- 2022 AGA Clinical Practice Guideline on Pharmacological Interventions for Adults With Obesity [https://www.gastrojournal.org/article/S0016-5085\(22\)01026-5/fulltext](https://www.gastrojournal.org/article/S0016-5085(22)01026-5/fulltext)
- 2022 American Society for Metabolic and Bariatric Surgery (ASMBS) and International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO): Indications for Metabolic and Bariatric Surgery [https://www.soard.org/article/S1550-7289\(22\)00641-4/fulltext](https://www.soard.org/article/S1550-7289(22)00641-4/fulltext)

