Obesity Medicine Association

Obesity 101

Preceptor Guide

Introduction

The OMA Obesity 101 course provides an opportunity for health professional students and residents to obtain foundational learning in obesity medicine. The course is a self-directed series of six lectures (totaling 3 hours and 46 mins) plus readings from the Abridged Obesity Algorithm and select journal articles. The course is divided into four modules. Each module includes questions and provides a certificate of completion at the end of the module.

Curriculum:

	Required Reading	Required Lecture Modules
	Obesity Algorithm Abridged 2023	**Obesity Medicine Academy**
Module 1 Slides 1-83	Executive Summary Chronic Disease of Obesity Assessment and Evaluation	Chronic Disease of Obesity (39 mins)
Module 2 Slides 84-130	Nutrition Physical Activity	Nutrition (35 mins) Physical Activity (19 mins)
Module 3 Slides 131-181	Motivational Interviewing Behavior Concomitant Medications	Behavior (47 mins) Bariatric surgery (27 mins)
Module 4 Slides 182-258	Anti-Obesity Medications Bariatric Surgery	Pharmacotherapy (56 mins)

	Required Reading
	Journal Articles
Module 1	- Casazza, K., Fontaine, K. R., Astrup, A., Birch, L. L., Brown, A. W., Bohan Brown, M. M., ... & McIver, K. (2013). Myths, presumptions, and facts about obesity. *New England Journal of Medicine*, *368*(5), 446-454.
Module 2	- Chao, A. M., Quigley, K. M., & Wadden, T. A. (2021). Dietary interventions for obesity: clinical and mechanistic findings. *The Journal of Clinical Investigation*, *131*(1)
Module 3	- Reims K, and Ernst D. Using Motivational Interviewing to Promote a Healthy Weight, *Fam Pract Manag.* 2016 Sep-Oct;23(5):32-38.
Module 4	- Banerjee, E. S., Schroeder, R., & Harrison, T. D. (2022). Metabolic Surgery for Adult Obesity: Common Questions and Answers. *American Family Physician*, *105*(6), 593-601. - Srivastava, G., & Apovian, C. M. (2018). Current pharmacotherapy for obesity. *Nature Reviews Endocrinology*, *14*(1), 12-24.

Obesity 101 Course Outline

Lecture 1 - The Chronic Disease of Obesity

Learning Objectives

- Identify obesity as a disease
- List the different definitions of obesity
- Describe the basic regulators of hunger and satiety
- Name adiposity-related diseases
- Facilitate appropriate discussion of obesity with patients
- Utilize essential history and physical exam components in an obesity evaluation
- Recommend essential diagnostic tests used in evaluation the patient with obesity

Content outline

- Prevalence of Obesity
- Case discussion
- Obesity stigma and bias
    - Weight bias in healthcare – implicit and explicit
    - Impact on patient care
- Obesity as a chronic disease
    - Multifactorial causes – genetic, traumatic, biologic, environmental, and behavioral
- Diagnosing obesity
        - BMI – categories, limitations, ethnic differences, associated health risks
    - Waist circumference
    - Percent body fat
- Appetite regulation
    - Hormonal regulation of appetite
        - Ghrelin
        - CCK, PYY, GLP-1, Leptin
        - Long-term effect of weight loss on appetite regulators
    - Other influences on appetite
        - Emotional, stress, hedonic, environmental stimuli, genetics, sleep
- Adiposity-Related Diseases
    - Sick-fat disease – metabolic dysfunction
        - Insulin resistance/hyperinsulinemia
        - Glucose elevation and progression to T2D
        - Lipid disorders, hemodynamic changes
        - Uric acid, Inflammation
    - Fat-mass disease
- Discussing obesity with patients – focusing on health effects of obesity
    - 5 A's of obesity management
    - Appropriate terminology
- Obesity evaluation
    - Top H&P components of
    - Lipedema
    - Laboratory elevation
- Summary

Lecture 2 – Nutrition

Learning Objectives

- Identify the characteristics of different types of nutrients
- Discuss the hormonal concept of energy balance
- Describe metabolic responses to common dietary interventions

Content outline

- Essential components of nutrition
    - Macro- and micronutrients
    - Food as a source of energy
    - Calorie content of macronutrients
- Protein
    - Complete vs. incomplete
    - Protein role in weight loss
    - Protein deficiency diseases
- Fat
    - Role of fat in metabolic processes
    - Mono- and polyunsaturated fats & Essential fatty acids
    - Saturated fat, trans-fats, and cholesterol
- Carbohydrates
    - Simple and complex
    - Glycemic index
    - Fructose
    - Fiber, prebiotics, and resistant starches
- Case study
- Vitamins
- Nutritional Therapies
    - Macronutrients and insulin
    - Patient-centered considerations
    - Diet and appetite regulators
    - Dietary guidelines
    - Examples of dietary interventions and their metabolic effects
    - Long-term approach to nutritional intervention

Lecture 3 – Physical Activity

Learning objectives

- Describe the benefits of physical activity
- Apply the fundamentals of physical activity used in the treatment of obesity
- List the latest Physical Activity Guidelines
- Utilize the components of an exercise prescription

Content Outline

- Benefits and limitations of physical activity on weight and role in obesity treatment
- Types of physical activity
- NEAT – Non-Exercise Activity Thermogenesis

- METS – light, moderate, and vigorous activity
- Health effects
    - Benefits of Physical Activity
    - Risks of Sedentary activities
- Physical activity goals
    - USHHS Physical activity guidelines – General
    - Role in weight loss
    - Role in weight maintenance
- Discussing physical activity with patients
    - 5 A's
    - Exercise prescription – FITTE
        - Aerobic & strength training
- Case study

Lecture 4 – Behavioral Treatment of Obesity

Learning Objectives

- Describe the reward pathways that influence eating behaviors
- Utilize unbiased language to facilitate discussion of obesity
- Develop a patient-centered approach to obesity treatment plans
- Utilize some common patient behavioral techniques when treating obesity

Content Outline

- Case presentation
- Physiologic drivers of consumption
- Psychological drivers of consumption
    - Dopamine and serotonin pathways
        - Eating disorders - binge-eating disorder
    - Adverse childhood experiences
- Environmental drivers
    - External influences
    - Social influences
- Compensatory weight loss vs compensatory weight gain
- Discussing obesity
    - Barriers – time, patient resistance, weight bias
    - Weight bias in healthcare
    - Avoiding weight bias
- Patient-center communication
    - 5 A's
    - Readiness scale
    - Stages of change
    - Motivational interviewing
        - Collaborative conversation strengthening patient's own motivation
        - Spirit of MI – partnership, acceptance, evocation, compassion
        - Skills – OARS
        - Goal setting – SMART goals

- Role of medication to improve eating behaviors & cravings
- Cognitive Behavioral Therapy
    - Automatic thoughts
    - Cognitive restructuring
    - Behavioral therapy
        - Reinforce or extinguish behaviors
        - Restructure environment
        - Relaxation training
        - Sample components of behavioral therapy

Lecture 5 – Bariatric Surgery

Learning Objectives

- Recognize indications for bariatric surgery
- Identify the elements of appropriate pre-operative assessment for bariatric surgery
- Describe the different types of bariatric surgery
- Diagnose common complications of bariatric surgery
- Provide longitudinal care for the post bariatric surgery patient

Content Outline

- Indications for bariatric surgery
- Pre-operative assessment
    - Laboratory testing
    - Dietary consult and preop education
    - Cardiovascular, GI, endocrine, and mental health evaluation
- Contraindications to bariatric surgery
- Types of bariatric surgery
    - Vertical sleeve gastrectomy
    - Roux-en-Y gastric bypass
    - Biliopancreatic diversion with duodenal switch
    - Single anastomosis duodenal ileostomy with sleeve
    - Laparoscopic adjustable gastric banding
- Complications of bariatric surgery
    - Leak or perforation
    - Stomal stenosis/stricture
    - Gastro-gastric fistula
    - Marginal ulcer
    - Dumping syndrome
    - Sleeve/pouch dilatation
    - Incisional and internal hernia
    - Gallbladder disease
    - Small bowel obstruction
- Long-Term Care
    - Lab monitoring – types and frequency of micronutrient testing
    - Common micronutrient deficiencies
    - Micronutrient replacement dosing

Lecture 6 – Pharmacotherapy

Learning Objectives

- Describe the basic mechanisms of action of current anti-obesity medications
- Identify the currently available weight management medications how to use them in the treatment of obesity
- Recognize the role of pharmacotherapy as part of an overall individualized treatment plan

Content outline

- Why use medication to treat obesity
    - Appetite regulation
    - Physiologic adaptation to weight loss
    - Anti-obesity medication treatment targets
    - Anti-obesity medication treatment goals
- Treatment guidelines and resources
    - Indications for use of AOM's
    - Documentation
    - Indication for stopping or switching AOM's
    - Long-term use
    - Barriers to treatment
- Anti-obesity medications – each medication presented with case examples
    - Medications for long-term use
    - Indications, dosing, MOA, contraindications, side effects, and expected weight loss
        - Phentermine/topiramate
        - Bupropion/naltrexone
        - Liraglutide
        - Semaglutide
    - Treatment outcomes – lifestyle, surgery, and medications
    - Medications for short-term use
        - Phentermine, phendimetrazine, diethylpropion
        - Case study using phentermine
    - Cardiovascular risk benefits with AOM's
    - Consideration of other disease when selecting an AOM
    - Medications that promote weight gain
    - Long-term use of AOM to treat obesity
    - Managing patient expectations