

Obesity Medicine Association Education Syllabus

Health Professional Students

Course Title: Obesity Medicine Health Professional Student Rotation – Study Material

Mission: To provide foundational information and training in obesity medicine for health professional students in an online format

Purpose: Obesity is the most common disease encountered in medical practice. Obesity is a cause or contributing factor to over 200 other diseases. The treatment of obesity can improve or resolve many of these conditions. Nutrition and obesity education in medical school is limited. Most students graduating from medical school do not feel adequately trained to treat obesity. The intention of this curriculum is to provide a two- or four-week online obesity education program for medical health professional students.

Course Description:

The obesity medicine online rotation will provide students with the opportunity to build an understanding of the unique conditions involved in the care of the patient with obesity. Students will develop the knowledge, skills, and attitudes necessary to assess patients with obesity and develop treatment recommendations utilizing self-directed, online educational programming and dedicated reading assignments. Students will develop the foundational tools necessary address problem solving, patient assessment, and the coordination of health care for the individual with obesity.

Course Overview:

The obesity medicine course is an online resource providing foundational study in the disease of obesity beginning with the pathophysiologic factors impacting weight. The course encompasses a comprehensive approach to the evaluation and treatment of the patient with obesity. Course content includes identifying and evaluating both the causes and health consequences of obesity. The medical treatment of obesity centers on the four pillars of obesity care: Nutritional intervention, physical activity, behavioral therapy, and pharmacotherapy. The course will review each of these modalities and incorporate each component into patient evaluation and treatment. Patient care begins with a compassionate and empathetic approach, which is patient focused. Engagement tools such as the 5 A's and motivational interviewing are essential components of effective patient communication. Beyond basic knowledge, effective integration of obesity medicine must take into a broader scope of patient care including: prevention and screening; coordination of health care; continuity of service; and, family and community dynamics. The course includes required readings, lecture modules, and case studies.

Course Requirement: Access to the Obesity Medicine Association online education program.

Required Journal Article Reading

1. Apovian, Caroline M., W. Timothy Garvey, and Donna H. Ryan. "Challenging obesity: patient, provider, and expert perspectives on the roles of available and emerging nonsurgical therapies." *Obesity* 23.S2 (2015).
2. Reims K, and Ernst D. Using Motivational Interviewing to Promote a Healthy Weight, *Fam Pract Manag.* 2016 Sep-Oct;23(5):32-38.
<https://www.aafp.org/fpm/2016/0900/p32.html>
3. Sumithran, Priya, et al. "Long-term persistence of hormonal adaptations to weight loss." *New England Journal of Medicine* 365.17 (2011): 1597-1604.
4. Bays, H. E. (2011). Adiposopathy: is "sick fat" a cardiovascular disease?. *Journal of the American College of Cardiology*, 57(25), 2461-2473.
5. 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.
6. Gadde, K. M., Martin, C. K., Berthoud, H. R., & Heymsfield, S. B. (2018). Obesity: pathophysiology and management. *Journal of the American College of Cardiology*, 71(1), 69-84.

Recommended Textbooks:

1. Wadden, T. A., & Bray, G. A. (Eds.). (2018). *Handbook of obesity treatment*. Guilford Publications.
2. Steelman, G. M., & Westman, E. C. (Eds.). (2016). *Obesity: Evaluation and treatment essentials*. CRC Press.
3. Bray, George A., and Claude Bouchard, eds. *Handbook of Obesity—Volume 1: Epidemiology, Etiology, and Pathophysiology*. Vol. 1. CRC Press, 2014.
4. Bray, George A., and Claude Bouchard, eds. *Handbook of Obesity—Volume 2: Clinical Applications*. Vol. 2. CRC Press, 2014.

OMA Course Resources

1. Obesity Medicine Academy – "Fundamentals of Obesity Medicine" – A series of 6 lectures which cover the evaluation and treatment of obesity. <http://omacademy.org>
2. Obesity Medicine Association's Obesity Algorithm eBook
<https://obesitymedicine.org/obesity-algorithm/>
3. Adult Obesity Algorithm 2020: A de
4. tailed overview of Obesity Medicine. Bays HE, McCarthy W, Christensen S, Wells S, Long J, Shah NN, Primack C. Obesity Algorithm eBook, presented by the Obesity Medicine Association. www.obesityalgorithm.org. 2019.
<https://obesitymedicine.org/obesity-algorithm/>

Obesity competencies for medical education were produced by the Obesity Medicine Education Collaboration (OMEC). OMEC consisted of 36 members from 12 professional societies which developed 32 competencies across the ACGM domains. Each competency has 5 associated benchmarks intended to evaluate learner progress from student to specialist. The competencies were published in *Obesity* in July, 2019.

Kushner, R. F., Horn, D. B., Butsch, W. S., Brown, J. D., Duncan, K., Fugate, C. S., ... & Pennings, N. (2019). Development of obesity competencies for medical education: a report from the Obesity Medicine Education Collaborative. *Obesity*, 27(7), 1063-1067.

An instructional toolkit on utilizing the obesity medicine competencies including a full list of the competencies and associated benchmarks is available with cost from the Obesity Medicine Association website at: <https://obesitymedicine.org/omec/>

Obesity Core Domains and Associated Competencies

A. Practice-Based Learning and Improvement	
1	Evaluates strengths and deficiencies in knowledge of obesity medicine and set and achieve goals for improvement
2	Analyzes practice systems using quality improvement methods to monitor and optimize obesity care
3	Utilizes resources to locate, interpret and apply evidence from scientific studies regarding obesity treatment and its co-morbidities
4	Uses evolving information technology related to obesity treatment to optimize delivery of care including EHR's, software applications and related devices (i.e. accelerometers, and resting metabolic rate/body composition analysis technology)
5	Effectively educates patients, students, residents, and other health professionals on the disease of obesity

B. Patient Care and Procedural Skills	
1	Elicits comprehensive obesity focused medical history
2	Performs and documents comprehensive physical examination for the assessment of obesity
3	Effectively applies clinical reasoning skills when ordering and interpreting appropriate laboratory and diagnostic tests during the evaluation of patients with obesity
4	Utilizes evidence-based models of health behavior change to assess patient's readiness to change to effectively counsel patients for weight management
5	Engages the patient and their support systems in shared-decision making by incorporating their values and preferences in the development of a comprehensive personalized obesity management plan

C. System-Based Practice	
1	Works collaboratively within an interdisciplinary team dedicated to obesity prevention and treatment strategies
2	Advocates for policies which are respectful and free of weight bias
3	Utilizes chronic disease treatment and prevention models to advance obesity intervention and preventive efforts within the clinical, community, and public policy domains
4	Describes the costs of obesity intervention and prevention with regards to the individual, the healthcare system, and the community

Medical Knowledge	
1	Demonstrates knowledge of obesity epidemiology
2	Demonstrates knowledge of energy homeostasis and weight regulation
3	Demonstrates knowledge of anthropometric (body composition) measurements and clinical assessments of energy expenditure
4	Demonstrates knowledge of the etiologies, mechanisms and biology of obesity
5	Demonstrates knowledge of obesity-related comorbidities and the corresponding benefits of BMI reduction
6	Applies knowledge of the principles of primary, secondary, and tertiary prevention of obesity to the development of a comprehensive personalized obesity management care plan
7	Applies knowledge of obesity treatment guidelines to the development of a comprehensive personalized obesity management care plan
8	Applies knowledge of using nutrition interventions to develop a comprehensive personalized obesity management care plan
9	Applies knowledge of using physical activity interventions to develop a comprehensive personalized obesity management care plan
10	Applies knowledge of using behavioral interventions to develop a comprehensive personalized obesity management care plan
11	Applies knowledge of the pharmacological treatments of obesity as part of a comprehensive personalized obesity management care plan
12	Applies knowledge of the surgical treatments of obesity as part of a comprehensive personalized obesity management care plan
13	Applies knowledge of emerging treatment modalities for obesity to the development of a comprehensive personalized obesity management care plan

E. Interpersonal and Communication Skills	
1	Uses appropriate language in verbal, nonverbal, and written communication that is non-biased, non-judgmental, respectful and empathetic when communicating with patients with obesity
2	Uses appropriate language in verbal, nonverbal, and written communication that is non-biased, non-judgmental, respectful and empathetic when communicating about patients with obesity with colleagues within one's profession and other members the healthcare team
3	Demonstrates awareness of different cultural views regarding perceptions of desired weight and preferred body shape when communicating with the patient, family and other members of the healthcare team

F. Professionalism	
1	Demonstrates ethical behavior and integrity when counseling patients and their families who are living with overweight or obesity
2	Displays compassion and respect toward all patients and families who are living with overweight or obesity

Learning Objectives

A. Assessment		Obesity Core Competencies
1	Identify the different definitions of obesity	MK 1
2	Describe the basic regulators of appetite	MK 3
3	Identify genetic, environmental and cultural factors in obesity	MK 4
4	Explain why obesity is a disease	MK 5
5	Identify adiposity-related diseases	MK 5
6	Initiate appropriate discussion of obesity with patients	IPCS 1
7	List the essential history and physical exam components to an obesity evaluation	PCPS 1,2
8	Outline the essential diagnostic tests used in evaluation the patient with obesity	PCPS 3

B. Nutrition	
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1	Interpret nutrient labels	MK 8
2	Describe the characteristics of different types on nutrients	MK 8
3	Describe the hormonal concept of energy balance	MK 2
4	Recommend common dietary interventions	MK 8

C. Physical Activity		
1	Explain the benefits of physical activity improvement	MK 9
2	Identify the latest Physical Activity Guidelines	MK 7
3	Provide physical activity recommendations for the treatment of obesity	MK 9
4	Recommend an exercise prescription	MK 9

D. Behavioral Therapy		
1	Explain how behavior influences appetite	MK 2
2	Describe the role of neuromodulators in cognitive choice	MK 2
3	Utilize tools for behavioral therapy in the patient with obesity	MK 10, PCPS 4
4	Explain the impact of sleep disturbances on weight	MK 10
5	Identify some common eating disorders	MK 5

E. Pharmacotherapy		
1	Explain the rationale for using anti-obesity medication	MK 2
2	Identify approved anti-obesity medications	MK 11, MK 3
3	Recognize side effects and drug interactions of anti-obesity medications	MK 11
4	Identify medications that promote weight gain and their alternatives	MK 11

F. Case Study		
1	Describe the patient history components relevant to obesity	PCPS 1
2	Identify the patient physical components relevant to obesity	PCPS 2
3	Interpret laboratory testing in the patient with obesity	PCPS 3
4	Develop an appropriate diagnosis list in a patient with obesity	MK 7
5	Develop an appropriate treatment plan in a patient with obesity	PCPS 5

G. Skills		
1	Assign weight status based on BMI	MK 3
2	Engage in appropriate discussion of obesity with patients	IPCS 1
3	Apply the 5A's model for patient interviewing	PCPS 4, 5
4	Apply the essential history and physical exam components to an obesity evaluation	PCPS 1
5	Recommend the essential diagnostic tests used in evaluation the patient with obesity	MK 7, PCPS3
6	Read nutrition labels	MK 8

7	Utilize shared decision making in establishing a treatment plan	PCPS 5
8	Develop a nutrition plan to treat obesity	MK 8
9	Recommend an exercise prescription	MK 9
10	Apply components of motivational interviewing and cognitive behavioral therapy in patient care	MK 10
11	Make appropriate anti-obesity medication recommendations	MK 11
12	Develop a comprehensive obesity treatment plan	MK 13, PBLI 4, MSK 12

Key	PCPS - Patient Care and Procedural Skills
	MK - Medial Knowledge
	PBLI - Practice-Based Learning and Improvement
	IPCS - Interpersonal and Communication Skills
	P - Professionalism
	SBP - Systems-Based Practice

Curriculum:

	Required Reading	Required Lecture Modules
	Obesity Algorithm eBook 2020	Obesity Medicine Academy
Week 1	Chronic Disease of Obesity 7-16; 21-26;28-60 Assessment and Evaluation 61-73; 84-91	- Basic Sciences and Assessment Lectures on Obesity Introduction to the Obesity Medicine Course for Health Professional Students Understanding Obesity Pathophysiology Part 1 Pathophysiology Part 2 Confronting Biologic Adaptations to Weight Loss Adiposity-Related Disease: Consequences or "Comorbidities" Metabolic Syndrome and Insulin Resistance Obesity and Lipid Disorders Treat the Roots, Not the Fruits of Obesity

Week 2	Nutrition 101-122 Physical Activity 123-128 Behavior 129-156	<p>-Nutrition Intervention Fundamentals – Nutrition Creating a Meal Plan for Patients with Obesity Eating Patterns for Weight Management Meal Replacement Strategies in a Comprehensive Weight Management Program Nutrition Case Study: Evidence for Current Eating Plans and Helping Patients Make the Choice Nutrition Case Study: Impacting Type 2 Diabetes</p> <p>-Physical Activity Fundamentals – Physical Activity Webinar – Evaluating Risk for Physical Activity Prescriptions</p>
Week 3	Mediation 157-159; 167-174; 177-196 Obesity Disease State 199-212; 216-223; 226-262	<p>-Physical Activity Exercise Physiology Physical Activity Case Study: Overcoming Barriers to Activity Physical Activity Case Study: Physical Activity Strategies for Patients with Obesity</p> <p>-Behavioral Therapy Fundamentals – Behavioral Therapy Bias and ACTION: Overcoming Barriers to Effective Obesity Care Motivational Interviewing: What, Why & How Behavior Case Study: Using MI and CBT in Obesity Treatment Behavior Case Study: Managing Overeating – Using CBT in Weight Management</p>
Week 4	Obesity Myths 263-288 Bariatric Surgery 313-354	<p>-Pharmacotherapy Fundamentals – Medication Mechanism of Anti-obesity Medications Medication-induced Weight Gain Pharmacotherapy Case Study</p> <p>-Additional Topics (3 hours) Writing a Lifestyle Prescription Review Course: Pediatric Obesity Review Course: Bariatric Surgery</p>

	Required Reading
	Journal Articles

Week 1	- Gadde, K. M., Martin, C. K., Berthoud, H. R., & Heymsfield, S. B. (2018). Obesity: pathophysiology and management. <i>Journal of the American College of Cardiology</i> , 71(1), 69-84.
Week 2	- Reims K, and Ernst D. Using Motivational Interviewing to Promote a Healthy Weight, <i>Fam Pract Manag.</i> 2016 Sep-Oct;23(5):32-38. https://www.aafp.org/fpm/2016/0900/p32.html - Sumithran, Priya, et al. "Long-term persistence of hormonal adaptations to weight loss." <i>New England Journal of Medicine</i> 365.17 (2011): 1597-1604.
Week 3	- Bays, H. E. (2011). Adiposopathy: is "sick fat" a cardiovascular disease?. <i>Journal of the American College of Cardiology</i> , 57(25), 2461-2473. - 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. <i>New England Journal of Medicine</i> , 368(5), 446-454.
Week 4	- Apovian, Caroline M., W. Timothy Garvey, and Donna H. Ryan. "Challenging obesity: patient, provider, and expert perspectives on the roles of available and emerging nonsurgical therapies." <i>Obesity</i> 23.S2 (2015).