

## Obesity 201 Preceptor Guide

### Introduction

The OMA’s Obesity Medicine 201 course provides an opportunity for health professional students and residents to obtain in-depth, advanced education in obesity medicine. The course is a self-directed series of 31 lectures, 7 journal articles, as well as select readings from the Obesity Algorithm. The course is divided into four modules. Each module includes a quiz at the end of the module that students must pass to receive a certificate of completion. This guide includes the learning objective for each section as well as the learning objectives or each lecture. The program also comes with a series of assignment options for additional and more rigorous application of knowledge and learning assessment. The assignments are located at the end of this Guide.

### Curriculum:

	Required Reading	Required Lecture Modules
	Obesity Algorithm eBook 2024	Obesity Medicine Academy
Module 1	2024-25 content Executive Summary The Disease of Obesity Genetic Syndromes an Epigenetics Lipodystrophy & Lipedema Classification of Obesity Fat Mass Disease Weight Bias Sleep Disruption Adiposopathy Obesity and Elevated Blood Sugar Obesity & CVD, HTN, Dyslipidemia, MAFLD Obesity & Cancer, Stress, Women	<b>Basic Sciences and Assessment Lectures on Obesity</b> -Introduction to the Obesity Medicine Course for Health Professional Students -Fundamentals - Understanding Obesity -Review course - Physiology -Review course – Pathophysiology -Weight Loss and Weight Maintenance: Different Problems, Different Solutions -Novel Concepts and Controversies in Obesity Medicine -Treating Diabetes by Targeting Obesity
Module 2	Evaluation and Treatment Body Composition Energy Expenditure Nutrition Therapy for Obesity Physical Activity and Obesity	<b>Nutrition</b> -Fundamentals Course – Nutrition Therapy -Eating Patterns for Weight Management -Nutrition Case Study: Evidence for Current Eating Plans and Helping Patients Make the Choice -Prescriptive Nutritional Intervention using Meal Replacements  <b>Physical Activity Part 1</b> -Fundamentals – Physical Activity Basics -Webinar – Evaluating Risk for Physical Activity Prescriptions

	<b>Required Reading</b>	<b>Required Lecture Modules</b>
	<b>Obesity Algorithm eBook 2024</b>	<b>Obesity Medicine Academy</b>
Module 3	Interviewing Techniques Behavior Therapy Obesity and Psychiatric disease Concomitant Medications	<b>Physical Activity Part 2</b> -Exercise Physiology -Weight a Minute: Considerations for Physical Activity Being Effective for Weight Loss and Maintenance -Physical Activity Case Studies  <b>Behavioral Therapy</b> -Fundamentals – Behavioral Modification -Weight Bias in Pediatric Obesity -Motivational Interviewing: What, Why & How -Short and Sweet: Utilizing MI in Primary Care -Effective Use of Cognitive Behavioral Therapy for Weight Management -Clinical Excellence: Recognizing and Managing Disordered Eating Behaviors
Module 4	Anti-obesity Medications Investigational Anti-obesity Pharmacotherapy Functional Foods, Supplements, & OTC Therapies Metabolic and Bariatric Surgery Obesity Paradox Obesity Myths and Misunderstandings	<b>Pharmacotherapy</b> -Fundamentals – Medication Management -The Essentials of Anti-Obesity Medications – A Case-Based Approach -Making the Switch -Overcoming Barriers to Initiating Anti-obesity Medications -Framework for Individualizing Anti-Obesity Medication Therapy  <b>Bariatric Surgery</b> -Obesity 201 Bariatric Surgery Lecture -MBS Beyond Weight Loss <b>Additional Topics (hours)</b> -ABOM Review Course: Childhood and Adolescent Obesity -Obesity and Health Disparities

	<b>Required Reading</b>
	<b>Journal Articles</b>
Module 1	<p>- Pathophysiology – Gjermeni, E., Kirstein, A. S., Kolbig, F., Kirchof, M., Bundalian, L., Katzmann, J. L., Laufs, U., Blüher, M., Garten, A., &amp; Le Duc, D. (2021). Obesity-An Update on the Basic Pathophysiology and Review of Recent Therapeutic Advances. <i>Biomolecules</i>, 11(10), 1426. <a href="https://doi.org/10.3390/biom11101426">https://doi.org/10.3390/biom11101426</a></p> <p>- Pathophysiology – Gołacki J, Matuszek M, Matyjaszek-Matuszek B. Link between Insulin Resistance and Obesity—From Diagnosis to Treatment. <i>Diagnostics</i>. 2022; 12(7):1681. <a href="https://doi:10.1159/000471488">https://doi:10.1159/000471488</a></p>
Module 2	<p>- Nutrition – Forouhi NG. Embracing complexity: making sense of diet, nutrition, obesity and type 2 diabetes. <i>Diabetologia</i>. 2023 May;66(5):786-799. doi: 10.1007/s00125-023-05873-z. Epub 2023 Feb 14. PMID: 36786838; PMCID: PMC9925928.</p> <p>- Physical Activity – Jakicic, J. M., Rogers, R. J., &amp; Church, T. S. (2023). Physical activity in the new era of antiobesity medications. <i>Obesity</i>. <a href="https://doi.org/10.1002/oby.23930">https://doi.org/10.1002/oby.23930</a></p>
Module 3	<p>- Behavioral Therapy - Freshwater, M., Christensen, S., Oshman, L., &amp; Bays, H. E. (2022). Behavior, motivational interviewing, eating disorders, and obesity management technologies: an Obesity Medicine Association (OMA) Clinical Practice Statement (CPS) 2022. <i>Obesity Pillars</i>, 2, 100014. <a href="https://doi.org/10.1016/j.obpill.2022.100014">https://doi.org/10.1016/j.obpill.2022.100014</a></p> <p>- Pharmacotherapy - Bays, H. E., Fitch, A., Christensen, S., Burrridge, K., &amp; Tondt, J. (2022). Anti-obesity medications and investigational agents: an obesity medicine association (OMA) clinical practice statement (CPS) 2022. <i>Obesity Pillars</i>, 2, 100018.</p>
Module 4	<p>- Bariatric surgery - Akalestou E, Miras AD, Rutter GA, le Roux CW. Mechanisms of Weight Loss After Obesity Surgery. <i>Endocr Rev</i>. 2022 Jan 12;43(1):19-34. doi: 10.1210/endrev/bnab022. PMID: 34363458; PMCID: PMC8755990.</p>

## Accessing the Course

### *For Preceptors of an Enrollment Group*

- Go to [www.academy.obesitymedicine.org](http://www.academy.obesitymedicine.org)
- Login or create a user account
- Once you have created an account and logged into the system, please email [cme@obesitymedicine.org](mailto:cme@obesitymedicine.org) so that you can be added as a manager of the enrollment group

## Obesity 201 Course Outline

### Module 1 – Basic Sciences and Assessment of Obesity

#### *Section Learning Objectives*

- Identify obesity as a disease
- List the different definitions of obesity
- Explain how CNS and peripheral agents regulate hunger and satiety
- Describe the impact of weight loss on appetite regulation
- Define metabolic adaptation and its impact on weight regain

- Describe metabolic and mass related diseases connected to obesity
- Utilize essential history and physical exam components in an obesity evaluation
- Recommend essential diagnostic tests used in evaluation the patient with obesity
- Identify and explain common misconceptions related to obesity
- Describe the relationship between obesity and the development of type 2 diabetes and other metabolic diseases
- Discuss some of the challenges of weight maintenance

### **Lectures**

#### **Introduction to Obesity Medicine for Clinicians-in-Training**

- Diagnosing obesity
- Health consequences of obesity
- Basic review of nutritional therapy, physical activity, behavioral modification, anti-obesity medications, and bariatric surgery in the treatment of obesity
- Review of the course syllabus

#### **Review Course – Physiology**

- Regulation of appetite by the GI system
- Regulation of appetite by the pancreas
- Regulation of appetite by adipose tissue
- Regulation of appetite by CNS system
- Effects of appetite regulators on meal termination
- Discussion of the role of the gut microbiome on weight regulation

#### **Review Course – Pathophysiology**

- Impact of sleep and obstructive sleep apnea on weight and metabolic health
- Function of brown fat and white adipose tissue
- Relationship between adiposopathy and metabolic disease
- Description of the relationship between obesity and common adiposity related diseases
  - Diabetes, Hypertension, Dyslipidemia, CVD, NAFLD(MASLD), PCOS, Male Hypogonadism, Thyroid disease, Cancer, and Gout

#### **Weight Loss and Weight Maintenance**

- In depth review of metabolic adaptation/adaptive thermogenesis
- Physiologic challenges created by weight loss and its impact on weight maintenance

#### **Novel Concepts in and Controversies in Obesity Medicine**

- Limitations of BMI
- Role of caloric balance/deficit in weight loss
- Low metabolism and obesity
- Changes in adipocytes and the set point theory
- Willpower
- Benefits of treating obesity first

- Rationale for using anti-obesity medications
- Use of artificial intelligence in obesity medicine

### **Treating Diabetes by Targeting Obesity**

- Epidemiology of obesity and diabetes
- Relationship between obesity and the development of T2D
- Case-based discussion of developing a treatment plan that addresses obesity and T2D

## **Module 2 – Nutrition & Physical Activity (Part 1)**

### **Nutritional Therapy**

#### ***Section Learning Objectives***

- Identify the characteristics of different types of nutrients
- Discuss the hormonal concept of energy balance
- Describe metabolic responses to common dietary interventions
- Review different types of nutritional therapies
- Discuss the strengths and weakness of different dietary interventions

#### ***Lectures***

#### **Fundamentals of Nutritional Therapy**

- Identify the characteristics of different types of nutrients
- Review the hormonal concept of energy balance in relation to nutrition
- Utilize common dietary interventions

#### **Eating Patterns for Weight Management**

- Compare definitions for eating occasions vs meals & snacks
- Describe traditional vs. modern day eating patterns
- Recognize implications of various eating patterns for health
  - Breakfast skipping
  - Eating late in the day
  - Alternate day fasting
  - High meal frequency

#### **Nutrition Case Study: Evidence for Current Eating Plans and Helping Patients Make the Choice**

- Identify assessment of patients current eating habits
- Describe the evidence for common eating plans and patterns
- Illustrate methods for selecting an eating plan with the patient

#### **Prescriptive Nutritional Intervention using Meal Replacements**

- Summarize the clinical evidence for meal replacements for the treatment of obesity and Adiposity Related Diseases (ARD's)
- Describe the value of meal replacements in multiple weight management contexts: weight loss, weight loss maintenance, treatment of chronic diseases, and in the treatment of weight regain.
- Prescribe meal replacements as a strategy for treating obesity and ARD's

#### **What's on the Menu**

- Compare different nutritional plan options including the low-carbohydrate, Mediterranean, and plant-based diets
- Recognize the impact of different diets in managing patients with obesity
- Employ different nutritional interventions to provide patients with dietary options based on personal preferences, needs and goals

### **Physical Activity (Part 1)**

#### ***Section Learning Objectives***

- Identify the key components of physical activity
- Describe the health and weight benefits of physical activity
- Review physical activity guidelines
- Develop a physical activity plan with patients
- Recognize the need for cardiac evaluation in patients at risk
- Describe the role of physical activity in weight loss and weight maintenance
- Utilize case studies to develop a detailed physical activity plan

#### ***Lectures***

##### **Fundamentals – Physical Activity Basics**

- Describe the fundamentals of physical activity
- Recognize the benefits of physical activity
- Discuss the role of physical activity in the treatment of obesity
- Follow the latest Physical Activity Guidelines
- Write an exercise prescription and effectively counsel patients on physical activity

##### **Evaluating Risk for Physical Activity Prescriptions**

- Review Benefits of Physical Activity
- Determine precautions and considerations when prescribing exercise
- Review ACSM exercise recommendations

### **Module 3 – Physical Activity (Part 2) & Behavioral Therapy**

#### **Physical Activity (Part 2)**

##### ***Section Learning Objectives***

##### **Exercise Physiology**

- Review the impact of sedentary behavior
- Describe physiologic adaptations with regular physical activity
- Examine the impact of regular physical activity on obesity and obesity-related complications
- Implement Physical Activity Prescribing

##### **Weight a Minute: Considerations for Physical Activity Being Effective for Weight Loss and Maintenance**

- Describe the effects of physical activity on weight loss and weight loss maintenance in adults with overweight or obesity.

- Describe the effects of different volumes and intensities of physical activity on weight loss and weight loss maintenance in adults with overweight or obesity.
- Describe the effects of different modes of physical activity on weight loss and weight loss maintenance in adults with overweight or obesity.

### **Physical Activity Case Studies**

- Develop a patient-centered activity plan
- Utilize tools to track physical activity progress and outcomes
- Analyze and strategize ways to help overcome activity limitations

### **Behavioral Therapy**

#### ***Section Learning Objectives***

- Recognize the behavioral aspects of eating
- Identify weight stigma and bias towards people with obesity
- Utilize motivational interviewing techniques
- Apply cognitive behavioral strategies for treating obesity
- Recognize and treat eating disorders

### ***Lectures***

#### **Fundamentals – Behavioral Therapy**

- Recognize how behavior influences appetite
- Describe the science of neuromodulators in cognitive choice
- Utilize tools for behavioral therapy used to treat the patient with obesity
- Recognize the relationship between sleep disturbances and appetite
- Review common eating disorders

#### **Weight Bias in Pediatric Obesity**

- Define weight bias and its prevalence in our population
- Review environmental contributors to obesity development and maintenance
- Explore the sources of weight bias experienced by our patients
- Discuss the dangers of weight bias and how it can contribute to increasing obesity
- Review ways to combat weight bias in our system to promote health

#### **Motivational Interviewing: What, Why & How**

- Describe how motivational interviewing can enhance patient interactions
- Identify the core skills of motivational interviewing
- Discuss how a patient's stage of change and motivational interviewing skills can work together to enhance patient care

#### **Short and Sweet: Utilizing MI in Primary Care**

- Describe the components of Motivational Interviewing best utilized by primary care providers
- Identify opportunities to use MI in cases of patients with obesity
- Utilize MI to promote lifestyle change in patients with obesity



### **Effective Use of Cognitive Behavioral Therapy for Weight Management**

- Describe the role of weight stigma in generating limiting core beliefs
- Utilize the principles of effective behavioral therapy for weight management
- Explore the biological underpinnings that challenge weight loss and draw parallels to patient experience

### **Clinical Excellence: Recognizing and Managing Disordered Eating Behaviors**

- Recognize the signs and symptoms of different types of eating disorders such as anorexia nervosa, atypical anorexia, bulimia nervosa, and binge eating disorder.
- Identify and assess eating disorders in patients with overweight or obesity utilizing medical, nutritional, and psychological evaluations.
- Provide appropriate interventions that address both the eating disorder and the patient's weight management needs

## **Module 4 – Pharmacotherapy, Bariatric Surgery, Additional Topics**

### **Pharmacotherapy**

#### ***Section Learning Objectives***

- List the indications for use of anti-obesity medications
- Describe the effects of anti-obesity medications on the pathophysiology of obesity
- Discuss the mechanism of action of anti-obesity medications
- Recognize the dosing, side effects and contraindications to different anti-obesity medications
- Identify weight promoting medications and their alternatives
- Describe patient and physician barriers to prescribing anti-obesity medications

#### ***Lectures***

#### **Fundamentals - Medication Management**

- Describe the advantages of incorporating pharmacotherapy as part of an overall individualized treatment plan
- Utilize the current available anti-obesity medications that may be used in treatment
- Recognize the basic mechanisms, benefits and side effects of current anti-obesity medications

#### **The Essentials of Anti-Obesity Medications – A Case-Based Approach**

- Explore underlying causes of obesity in individual patients through interactive case presentations.
- Recognize factors in case scenarios that may influence the choice of anti-obesity medication and/or strategies to mitigate the effect of weight promoting medications.
- Develop strategies that optimize weight loss and improve or reverse obesity-related disease via pharmacological interventions.

#### **Making the Switch**

- Identify commonly used medications that promote weight gain
- List suitable alternatives to weight promoting medications



- Utilize strategies for the safe transition off weight promoting medications and on to weight favorable alternatives

### **Overcoming Barriers to Initiating Anti-obesity Medications**

- Describe patient factors leading to undertreatment of obesity
- Recognize physician factors leading to undertreatment of obesity
- Discuss strategies that can overcome barriers to treatment of obesity

### **Framework for Individualizing Anti-Obesity Medication Therapy**

- Evaluate evidence-based guidelines for pharmacologic management of chronic disease of obesity
- Identify available pharmacotherapeutics both on and off label that can be utilized to support treatment of chronic disease of obesity
- Utilize RXAOM to make individualized medication selection using case studies

### **Bariatric Surgery**

#### ***Section Learning Objectives***

- Explain the indications, types, and benefits of different bariatric procedures
- Recognize common complications to bariatric procedures
- Describe the micronutrient deficiencies associated with bariatric procedures

#### ***Lectures***

#### **Obesity 201 Bariatric Surgery Lecture**

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

#### **MBS Beyond Weight Loss**

- Review the disease of obesity in America
- Review the most common surgical procedures available for weight loss
- Discuss the far-reaching effect of the obesity epidemic
- Review the impact of bariatric/metabolic surgery beyond weight loss

#### **Additional Topics**

#### ***Section Learning Objectives***

- Discuss the diagnosis, health risks, treatment options for treatment of obesity in the pediatric population
- Describe the role of prevention and early treatment for children and adolescents with obesity
- Recognize the impact of health disparities on obesity and adiposity-related diseases
- Describe how social determinants of health impact obesity treatment

#### ***Lectures***

#### **ABOM Review Course: Childhood and Adolescent Obesity**

- Define obesity in children and adolescents



- Summarize the treatment guidelines for obesity in children and adolescents
- Describe advanced treatments for obesity in children and adolescents
- Discuss the role of family in the prevention and treatment of obesity

#### **Obesity and Health Disparities**

- Describe the institutional framework resulting in health disparities and the impact of race, culture, and policy on health outcomes.
- Identify the impact of social determinants of health on family-centered obesity treatment for the pediatric and adult population.
- Implement innovative strategies to apply a family-centered treatment model for patients.

## Assignments

The following are a series of practical assignments that students or residents can be assigned to complete teaching them to apply the material learned in the lectures and readings. They are divided according to modules and there are 3 assignment options for each module with the expectation that learners would do one of the 3 assignments and the end of each module. In addition, there is a final assignment which has 2 options. The assignments are intended to provide learners with an opportunity to apply the knowledge obtained from the lectures to develop a deeper understanding of a topic and/or improve specific skills that can be applied to patient care. Assignments should be reviewed and graded by a faculty member. A sample grading rubric is included at the end. If you have any questions regarding the assignments, please contact the OMA Executive Director of Clinical Education at [pennings@campbell.edu](mailto:pennings@campbell.edu).

### Choose one assignment for each week

#### Module #1 Pathophysiology

##### Assignment #1 – Describe appetite regulation pathways and adaptive thermogenesis

Part 1 - Create a concept map outlining the different regulators of appetite including neurologic, gastric, intestinal, and adipocyte influences on hunger and satiety. For information on how to construct a concept map see: <https://www.lucidchart.com/blog/how-to-make-a-concept-map>

Part 2 - Write a 300+ word description of adaptive thermogenesis and explain how it impacts weight loss and risk for weight gain. Include a discussion of set point theory and assessment of its role in weight management. Include at least 3 references.

##### Assignment #2 – Practice developing a meal plan following a 500 calorie deficit diet

###### Worksheet

Calculate your BMI in kg/m<sup>2</sup> (do not report this) \_\_\_\_\_

Calculate your basal metabolic rate using the Mifflin-St. Jeor equation \_\_\_\_\_

Calculating Daily Energy Expenditure Calories

Exercise Level	Details	Calorie Calculation (Daily Needs)
Light exercise	1-3 days per week	BMR x 0.375
Moderate exercise	3-5 days per week	BMR x 0.55
Heavy exercise	6-7 days per week	BMR x 0.725
Very heavy exercise	2x per day, extra heavy workouts	BMR x 0.9

Determine Thermal Effect of Food = 10% of (BMR kcal + PA kcal)

Total energy expenditure

Basal Metabolic Rate	_____
Physical Activity	_____
Thermal Effect of Food	_____
Total Calorie Expenditure	_____

### Task

Using your calculated total energy expenditure, develop a 7-day meal plan with and without a daily 500 kcal deficit utilizing standard nutrient composition (approximately 50% carbohydrates, 25% protein, 25% fat)

Follow a 7-day meal plan.

If you BMI is 20 or greater, follow the 500 daily calorie restricted plan.

If you BMI is <20 or you have a history of an eating disorder, use the full amount of the Total Calorie Expenditure. Do not calorie restrict.

Be sure to track all calories including meals, snacks, and drinks.

You can use [www.eatthismuch.com](http://www.eatthismuch.com) for meal planning. There are also some apps that allow you to take a phot of food and it estimated your calories.

At the end of seven days, write on 300+ word summary of your experience. Comment on the following:

Total energy expenditure

Resources used to develop your diet plan

Resources used to track your calories

Any difficulty with tracking calories

Discuss what you learn about the calorie content of food

If you calorie restricted:

How difficult was it?

Did you feel hungry?

Did cravings for certain foods increase?

When you were tracking calories, did you think about food more?

Would you recommend calorie counting to a patient? Why or why not?

**Assignment #3 – Recognize the relationship between the pathophysiology of obesity and adiposity-related diseases**

Create a [concept map](#) connecting the pathophysiology of obesity and its relationship with the health consequences associated with obesity.

Rate your agreement with the following statement: Obesity is a Disease

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Justify your statement with a 300+ word essay. Provide at least 3 references to support your position.

**Module # 2 Nutrition**

**Assignment #1 – Compare and contrast common nutritional therapies**

Create a [concept map](#) of different dietary programs explaining the strengths and weakness of each of the following plans:

- Calorie restricted diet
- Low-fat diet
- Low-carbohydrate diet
- Nutrient focused diet (Mediterranean, vegetarian, etc)
- Intermittent fasting

Write a 7-day meal plan using one of above nutritional intervention for a 42-year-old woman weighing 105 kg and is 66 inches tall and engages in light exercise activity. A useful resource is: [www.eatthismuch.com/](http://www.eatthismuch.com/)

Write a 300+ word summary describing the dietary plan selected a particular dietary plan, the expected weight loss, the short-term and long-term benefits healthy benefits of the plan, and recommendations for transitioning off the program if appropriate.

**Assignment #2 – Describe the metabolic and satiety effects of different macronutrients**

Describe the metabolic pathway of each macronutrient (carbohydrates, proteins, fats and alcohol). In 300-500 words, discuss calorie content, absorption, utilization and storage of each

nutrient. Discuss impact of each of the different nutrients on satiety. Discuss how emphasis of each macronutrient might affect metabolic pathways and, in turn, impact weight.

### **Assignment #3 – Explore the benefits and limitations of the Mediterranean Diet**

In a 300-500 word essay, describe the Mediterranean Diet.

- Identify its strengths and weaknesses.
- Discuss the evidence for the health benefits of a Mediterranean Diet
- Discuss which medical conditions may benefit from this approach and why
- Discuss the challenges individuals might face following this dietary intervention

Include at least 3 references used to develop your argument

## **Module #3 - Physical Activity & Behavior**

### **Assignment #1 – Physical Activity – Build and follow an exercise plan then describe the benefits and challenges experienced in the process**

Develop an exercise prescription for yourself and for someone you know using the FITTE model. Set a SMART goal for yourself to follow the prescription for 1 week including creating a specific one-week schedule with dates and times. Estimate calories burned with exercise activity.

Write a 300+ word summary of the prescription you developed for yourself and for the additional individual. Describe the benefits and challenges encountered with following the prescription and how writing an exercise prescription might enhance patient care.

### **Assignment #2 – Motivational Interviewing – Practice motivational interviewing and work with an individual to develop specific goals.**

Discuss food triggers with someone you know. Have the individual identify what their food triggers are, how aware they are of the reasons why they eat, how interested they are in changing some of their triggers and have them develop some alternative strategies to their food triggers. Write a 300+ word summary of the discussion. Utilizing motivational interviewing techniques describe how you would guide the individual based the goals they set. What cognitive behavioral techniques would you suggest helping the individual improve their outcomes.

### **Assignment #3 – Sleep – Monitor sleep habits, how sleeps impact appetite and develop a set of recommendations that can be applied to patient care**

Track and chart your sleep habits for 7 days. Note bedtime, sleep quality, and total hours of sleep. Note any association with sleep habits and eating habits. Write a 300+ word discussion of the

impact of sleep on weight. Include comments on how you would advise future patients on strategies to improve sleep habits and provide at least 3 references.

#### **Module #4 - Pharmacotherapy & Bariatric Surgery**

##### **Assignment #1 – Describe how anti-obesity medications impact appetite regulation and apply usage of AOM's in a patient with diabetes.**

Develop a [concept map](#) outlining how each of the anti-obesity medications impact appetite as well as the pathophysiology of obesity.

Develop a range of treatment options for a patient with diabetes that would focus on glucose control, metabolic health, and weight management. Write a 300+ word summary that details your treatment strategy and how it would benefit each of those components of health.

##### **Assignment #2 – Recognize medications that promote weight gain and their alternatives**

List medications commonly used to treat the following list of conditions.

Type 2 diabetes

Depression

Bipolar disorder

Asthma

Hypertension

Insomnia

Chronic pain

Contraception

For each condition, identify medications by class along with individual medications that are commonly used. Note which medications are associated with weight gain and list alternative choices that are either weight neutral or promote weight loss. Provide at least 3 references for your work.

##### **Assignment #3 – Apply bariatric surgery recommendations and management principles to a specific case in a patient with obesity and diabetes**

A 41-year-old man with type 2 diabetes, hypertension and a BMI of 41 kg/m<sup>2</sup> on 30 units insulin glargine SQ daily, glyburide 5mg PO daily, metformin PO 500mg bid, and lisinopril PO 40mg daily. Describe the different options for bariatric surgery. Discuss indications, contraindications, expected outcomes and management concerns for this individual including addressing the management of diabetes medications. Also discuss the metabolic benefits of different bariatric procedures including effects on hormonal regulators of glucose and the gut microbiome.



## **Final Assessment Options**

**Option #1 – Develop and educational lecture on obesity suitable for a didactic presentation**

**Develop a power point presentation on an obesity related topic.** (The presentation should contain approximately 20 slides and should be able to be covered in approx. 20 minutes)

Topics include, but are not limited to:

Pathophysiologic regulators of appetite

Adaptive thermogenesis

Set point theory

Role of genetics and epigenetics in obesity

Dietary factors contributing to obesity

Utilization of any of the following nutritional interventions:

- Calorie restricted diet

- Low-carbohydrate diet

- Low-fat diet

- Mediterranean diet

- Plant-based diet

- Fasting

Role of physical activity in weight loss

Physical activity recommendations for people with disabilities

Behavioral influences on eating behaviors

Eating disorders

Sleep and weight control

Medications causing weight gain

Use of anti-obesity medicines

Advantages and disadvantages of the different bariatric surgeries

Metabolic benefits of bariatric surgery

Endoscopic treatments of obesity

Role of obesity in any of the following conditions:

- Type 1 diabetes

- Type 2 diabetes

- Cardiovascular disease

- Obstructive sleep apnea

- Osteoarthritis

- Asthma



Metabolic syndrome  
Lipid disorders  
Lipedema  
Nonalcoholic Fatty Liver Disease  
Cancer  
PCOS  
Infertility  
Pregnancy complications

**Option #2 – Review a specific and recent journal article on an obesity medicine topic**

Search Pubmed for a peer-reviewed article on obesity that has stirred your interest. The article should be published in the last 5 years. Write a 400-600 word summary of the article using the following format:

**For Research Articles:**

Year Study Began:

Year Study Published:

Study Location:

Who Was Studied:

Who Was Excluded:

How Many Patients:

Study Overview:

Study Intervention:

Follow-Up:

Endpoints:

Primary outcome:

Secondary outcome:

RESULTS

Criticisms and Limitations:

Other Relevant Studies and Information:

Summary and Implications:



**For Review Articles:**

Topic:

Importance:

Objective:

Evidence Review:

Findings:

Criticisms and Limitations:

Conclusions and Relevance:

## Sample Grading Rubric:

### Obesity Medicine Elective Rotation Grading Rubric

Factor	Unacceptable...Below Average	Average...Good	Very Good...Excellent	Score
<b>Week 1 Assignment</b> <b>Assignment chosen</b> <hr/> <hr/>	<b>(0-9 points)</b> Student appears to have made little effort into the assignment demonstrating limited research or insight into the topic.	<b>(10-15 points)</b> Student satisfactorily completed the tasks demonstrating basic understanding of the topic chosen.	<b>(16-20 points)</b> Student exceeded expectations producing a thoroughly researched discussion and demonstrates advanced understanding of the topic.	
<b>Week 2 Assignment</b> <b>Assignment chosen</b> <hr/> <hr/>	<b>(0-9 points)</b> Student appears to have made little effort into the assignment demonstrating limited research or insight into the topic.	<b>(10-15 points)</b> Student satisfactorily completed the tasks demonstrating basic understanding of the topic chosen.	<b>(16-20 points)</b> Student exceeded expectations producing a thoroughly researched discussion and demonstrates advanced understanding of the topic.	
<b>Week 3 Assignment</b> <b>Assignment chosen</b> <hr/> <hr/>	<b>(0-9 points)</b> Student appears to have made little effort into the assignment demonstrating limited research or insight into the topic.	<b>(10-15 points)</b> Student satisfactorily completed the tasks demonstrating basic understanding of the topic chosen.	<b>(16-20 points)</b> Student exceeded expectations producing a thoroughly researched discussion and demonstrates advanced understanding of the topic.	
<b>Week 4 Assignment</b> <b>Assignment chosen</b> <hr/> <hr/>	<b>(0-9 points)</b> Student appears to have made little effort into the assignment demonstrating limited research or insight into the topic.	<b>(10-15 points)</b> Student satisfactorily completed the tasks demonstrating basic understanding of the topic chosen.	<b>(16-20 points)</b> Student exceeded expectations producing a thoroughly researched discussion and demonstrates advanced understanding of the topic.	

Factor	Unacceptable...Below Average	Average...Good	Very Good...Excellent	Score
<b>Additional Assignment</b> <b>Assignment chosen</b> <hr/> <hr/>	<b>(0-9 points)</b> Student appears to have made little effort into the assignment demonstrating limited research or insight into the topic.	<b>(10-15 points)</b> Student satisfactorily completed the tasks demonstrating basic understanding of the topic chosen.	<b>(16-20 points)</b> Student exceeded expectations producing a thoroughly researched discussion and demonstrates advanced understanding of the topic.	

**Total Points Available: 100 points**

**Total Score** \_\_\_\_\_

**Grading scale:**

- 93-100: Honors
- 80-92 High pass
- 70-79: Pass
- <70: Fail