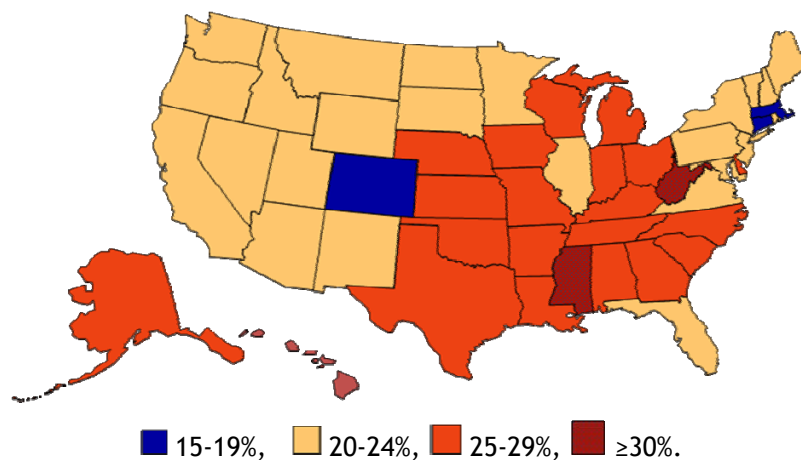


Module 3: Weight Management

The Ob/Gyn Alliance *Ask the Experts* series is supported by an unrestricted educational grant from Xanodyne Pharmaceuticals.

BACKGROUND

The graph below is from the Center for Disease Control and represents 2006 Obesity Trend for US Adults. The colors indicate the proportion of those adults within the United States with a BMI ≥ 30 (definition of obesity) and the number of adults who are obese continues to increase. Both physicians and patients must recognize this trend and work towards change.



If you include those individuals who are overweight (BMI ≥ 25) and those who are obese (BMI ≥ 30), then approximately *two-thirds of Americans are affected*. As reviewed by Eckel in the May, 2008, NEJM article (*Nonsurgical Management of Obesity in Adults*), the impact of obesity on the health of an individual is considerable, including a number of coexisting conditions: hypertension, glucose intolerance, dyslipidemia, and obstructive sleep apnea. Furthermore, there is an increased risk of death from cardiovascular disease, diabetes, kidney disease, and obesity-related cancers. (1)

As reviewed above, the fact that two-thirds of Americans are either overweight or obese represents a real emerging clinical problem for physicians. If the trend of obesity continues, then more than 86% of adults will be overweight or obese and the rates in children will double by the year 2030.

The goals established by Healthy People 2010, an initiative from the Office of Disease Prevention and Health Promotion U.S. Department of Health and Human Services, aim to reduce the prevalence of obesity to 15% in adults and 5% in children. This goal, set for two years from now, is likely unattainable. As physicians, however, we must address the issues of obesity and try to improve this problem.

WHAT PHYSICIANS NEED TO KNOW

The willingness of the patient to lose weight is paramount to overall success. However, whether or not a patient is willing should *not* preclude communication with patients regarding how important it is to lose weight.

When assessing an obese woman, a physician should include the following:

“History of weight gain, the maximum body weight, consideration of medications that may contribute to weight gain (e.g. corticosteroids, thiazolidinediones, and antipsychotic agents), previous approaches to weight reduction, patterns of food intake (including binge eating), and physical activity.”(1)

The clinical evaluation of obese adults should begin with a calculation of the body mass index which is based on height and weight. The CDC provides a useful calculator which can be accessed via their website at: <http://www.cdc.gov/nccdphp/dnpa/healthyweight/assessing/bmi/index.htm>. Next, physicians should assess for existing co-morbid conditions. A summary of these co-morbid conditions as set forth by Eckel is provided below:

- Cancer risk - from breast, colon, endometrial, esophagus, kidney, liver, and prostate
- Blood pressure - large cuff is often required
- Glycemia - use fasting glucose levels with consideration of oral glucose tolerance tests
- Cholesterol
- Liver function
- Obstructive sleep apnea
- Heart - evaluate for dyspnea, chest pain, palpitations, etc.

Even with small reductions in weight (5 to 10%), a favorable modification of waist circumference, blood pressure, circulating cytokines, and variably, fasting levels of glucose, triglycerides, and HDL cholesterol can be seen. This is an important point for physicians to realize - and one he/she should emphasize with patients. Even small amounts of weight loss can positively impact health.

To impact obesity, there are a number of lifestyle approaches - diet, physical activity, and behavioral modification. In addition, pharmacologic therapy is available. There are four drugs that have been approved by the FDA for weight reduction (see reprinted attached table).

In terms of diet, it is important to understand the current diet of the average American and its contributions to weight gain. The type of diet one should follow is controversial, although certain basic facts are outlined within the next section on ‘What patients need to know.’

In order for a woman to lose weight, calories consumed must be less than calories expended. In fact, to lose one pound, a woman must have a deficit of 3500 calories, e.g. a deficit of 500 calories each day for one week equals 3500 calories. Furthermore, calories expended are also *not fixed* and are determined by a Basal Energy Requirements plus Activities of Daily Living and exercise patterns which vary greatly among populations and individuals.

Physicians can estimate an individual’s basal energy requirements with a simple rule of thumb: (current body wt) x 10. This number can be multiplied by an “average” activity factor of .3 to calculate maintenance calories. The limitation of this method is that it does not take into account genetics, age or body composition. More accurate methods of determining calorie requirements are available but are more time consuming (calculations such as the Mifflin St. Jeor equation) or costly (metabolic measurements of CO₂ production). Doing such calculations helps your patients in many ways, including helping her realize you are taking time to address an important medical condition.

Realize that the average woman consumes approximately 300 extra calories per day in the form of sweetened beverages, excessive portions and nutrient dense refined foods. Over the course of a year that is an extra 30 pounds of weight gained if there is not a concomitant increase in energy expenditure. Careful attention to portion sizes, distribution, and types of nutrients in terms of nutrition are essential to weight management. There are numerous websites that are free of charge and help people to keep track of daily food and exercise intakes (www.Calorieking.com ; www.sparkspeople.com ; www.nutrihand.com ; www.mypyramid.com and www.thedailyplate.com, etc.). Physicians should encourage women to track calories as part of weight management.

In terms of medication, it is important to understand that there are choices. There are four FDA approved medications: 1) Diethylpropion, 2) Orlistat, 3) Phentermine, 4) and Sibutramine. Each has different mechanisms, doses, and side effects. These drugs are reviewed in the table below (reprinted from Eckel R. N Engl J Med 2008; 358:1941-1950).

Table 1. Drugs Prescribed for Weight Loss.*

Drug	FDA-Approved for Weight Loss	Schedule IV Controlled Substance	Mechanism	Dose	Approximate Weight Loss beyond That with Placebo %	Side Effects	Comments
Diethylpropion (Tenuate, Sanofi-Aventis)	Yes	Yes	Sympathomimetic mechanism	25 mg 3 times a day or 75 mg controlled-release daily	3	Dry mouth, insomnia, dizziness, mild increase in blood pressure and heart rate	Has minimal effect, excreted by kidneys, pregnancy category B, requires monitoring of blood pressure
Orlistat (Xenical, Roche; Alli, GlaxoSmithKline)	Yes	No	Lipase inhibition in gastrointestinal tract	120 mg 3 times a day (Xenical) or 60 mg 3 times a day, available over the counter (Alli)	3	Oily spotting, flatus with discharge, fecal urgency	Side effects decrease with time; may work better when fat remains in diet, but this results in increased side effects; decreases LDL cholesterol, pregnancy category B
Phentermine (e.g., Adipex-P, Gate; Fastin, Hi-Tech; Ionamin, Celltech)	Yes	Yes	Sympathomimetic mechanism	15, 30, or 37.5 mg daily	4	Dry mouth, insomnia, dizziness, mild increase in blood pressure (rarely more severe) and heart rate	Insufficient data from RCTs, increased risk of pulmonary hypertension probably not a concern, pregnancy category C, available as generic, requires monitoring of blood pressure
Sibutramine (Meridia, Abbott)	Yes	No	Inhibition of norepinephrine and serotonin reuptake	5, 10, or 15 mg daily	5	Mild increase in blood pressure and heart rate (rarely more severe), palpitations	Pregnancy category C, requires monitoring of blood pressure
Rimonabant (Acomplia, Sanofi-Aventis)	No	NA	Inhibition of cannabinoid receptor CB1	5 or 20 mg daily	5	Nausea, diarrhea, anxiety, depression	Prototype in a new class of prescription drugs

* LDL cholesterol denotes low-density lipoprotein cholesterol, NA not applicable, and RCTs randomized controlled trials.

Finally, be aware of the surgical options for your patients. The most common surgical procedures for weight loss include laparoscopic surgical approaches such as gastric banding and vertical gastrectomy. The gold standard surgery for weight loss is a Roux-en-Y gastric bypass surgery. There are criteria for such surgical procedures, including a BMI of 40 or higher or a BMI of 35 or higher if there is a high-risk co-morbidity, such as severe sleep apnea, obesity-related cardiomyopathy, or severe diabetes mellitus.

WHAT PATIENTS NEED TO KNOW

The terms obese and obesity have strict medical definitions based on body mass index (BMI) which uses height and weight. Your physician should calculate this for you, but you can determine this using a calculator provided by the CDC website at:

<http://www.cdc.gov/nccdphp/dnpa/healthyweight/assessing/bmi/index.htm>. The term overweight refers to a BMI ≥ 25 but less than 30, obesity refers to a BMI of ≥ 30 .

If you need to lose weight, consult your physician -- but also learn some basic information that can help you succeed:

- In order to *lose* one pound in a week - you must have a deficit of 3500 calories in that week (500 calories per day for 7 days)
- Do not consume less than 1200 calories per day to avoid slowing down your metabolism. The fewer calories you eat below your baseline energy needs, as calculated by your physician, the more your body will work to conserve its energy stores (body fat).
- Eat less but more often to boost metabolism. Try to consume 5-6 small meals during the day beginning with breakfast within 45 minutes of waking.
- In terms of a diet - *moderation is important*:
 - Eat a diet that is plant-based achieving 9-12 servings at day's end. Make good use of snacks between meals to increase fruits and vegetables. Rely on whole foods and minimize intake of refined and processed foods made with refined wheat flours and sugars.
 - Combine carbohydrates, lean proteins and healthy fats such as nuts, nut butter, flaxseed, avocado, extra virgin olive oil, at each mini meal to help you body use more of the calories it consumes to process the foods and to stabilize blood sugar and energy levels. Examples include apples and peanut butter, trail mix or hummus and vegetables.
- Keep a food journal - preferably an online version that will keep a calorie count for you. Be sure to track hidden calories in condiments and added sauces and fats. This will increase your success both in losing and maintaining weight loss. For example, try www.thedailyplate.com ; www.Calorieking.com ; www.sparkspeople.com ; www.nutrihand.com ; or www.mypyramid.com. Keeping a journal can help you realize what is making it difficult to lose weight. A small change can help reduce calories. You must be aware of your own eating patterns.
- Exercise most days of the week for 40 - 60 minutes and try to move more throughout the day. Exercise should be a combination of cardio and strength training. This is an important element - do something on a regular basis!
- Be mindful of the foods you are eating both in terms of quality and quantity. *Do not multitask when you are eating and chew your foods well.* An extra three bites of food could be as much as an extra 100 calories per day or 10 pounds a year. In the beginning, consider weighing and measuring foods until you have a good sense as to what a normal portion looks like. It is also possible to eat too much of a good thing.
- Give yourself a Pantry & Refrigerator/Freezer Makeover. Get rid of any foods that contain wheat flour, high fructose corn syrup or any hydrogenated or partially fats. Instead of relying on willpower, get rid of the foods that tempt you.
- Do not eat late at night!

To ask a question related to program module, please email our experts by clicking [here](#).

References:

- (1) Flegal KM, Graubard, BI, Williamson DF, Gail MH. Cause-specific excess deaths associated with underweight, overweight, and obesity. JAMA 2007; 298:2028-37.
- (2) Poirier P, Giles TD, Bray GA, et al. Obesity and cardiovascular disease: pathophysiology, evaluation, and effect of weight loss: an update of the 1997 American Heart Association scientific statement on obesity and heart disease from the Obesity Committee of the Council on Nutrition, Physical Activity, and metabolism. Circulation 2006; 113:898-918.

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