

Rachael Hunt
KNH 413
Diet Instruction
Weight Reduction

Patient:

Patient: G.M
Age: 36
Sex: female
Weight: 183
Ht: 5'3'
Occupation: receptionist

Medical Concerns:

Obesity, SOB, sleep apnea, HTN, BMI 36

Diagnosis:

Obesity Stage 2 as evidence by B=36

	BMI (kg/m ²)	Risk
Underweight	<18.5	Increased
Normal	18.5 - 24.9	Normal
Overweight	25.0 - 29.9	Increased
Obesity Class I	30.0 - 34.9	High
Obesity Class II	35.0 - 39.9	Very high
Obesity Class III	≥ 40.0	Extremely high

*Data from the National Institutes of Health (NIH); National Heart, Lung and Blood Institute. www.nhlbi.nih.gov/guidelines/obesity
Obesity Class III = morbid obesity*

Chart 1 - Obesity categories

24-hour recall:

Breakfast- 3 pieces of French toast with butter 2 tablespoons maple syrup
3 sausage patties
½ cup hash browns
1 cup coffee with ½ cup 2% milk

1 cup orange juice

Lunch- 2 grilled cheese sandwiches made with 4 slices of white bread and ½ cup shredded cheddar

12-ounce coca-cola

½ cup chocolate ice cream

Snack- 2 peanut butter sandwiches

1-cup water

Dinner- Fried chicken (2 thighs an 1 leg)

½ cup Mac and cheese

1 baked potato with 1-tablespoon butter

2 sweet rolls with butter

1-cup water

Snack- 1/3-cup popcorn and 5 Oreo cookies

1 cup 2% milk

Calories: 3,000kcal

Fat: 120g

Protein: 115g

Etiology:

Although there are genetic and hormonal influences on body weight, obesity occurs when you take in more calories than you burn through exercise and normal daily activities. Your body stores these excess calories as fat. Obesity usually results from a combination of causes and contributing factors, including:

- **Inactivity.** If you're not very active, you don't burn as many calories. With a sedentary lifestyle, you can easily take in more calories every day than you use through exercise and normal daily activities.
- **Unhealthy diet and eating habits.** Having a diet that's high in calories, eating fast food, skipping breakfast, eating most of your calories at night, drinking high-calorie beverages and eating oversized portions all contribute to weight gain.
- **Pregnancy.** During pregnancy, a woman's weight necessarily increases. Some women find this weight difficult to lose after the baby is born. This weight gain may contribute to the development of obesity in women.
- **Lack of sleep.** Getting less than seven hours of sleep a night can cause changes in hormones that increase your appetite. You may also crave foods high in calories and carbohydrates, which can contribute to weight gain.
- **Certain medications.** Some medications can lead to weight gain if you don't compensate through diet or activity. These medications include some antidepressants, anti-seizure medications, diabetes medications, antipsychotic medications, steroids and beta-blockers.

- **Medical problems.** Obesity can sometimes be traced to a medical cause, such as Prader-Willi syndrome, Cushing's syndrome, polycystic ovary syndrome, and other diseases and conditions. Some medical problems, such as arthritis, can lead to decreased activity, which may result in weight gain. A low metabolism is unlikely to cause obesity, as is having low thyroid function.

Risk Factors:

Obesity occurs when you eat and drink more calories than you burn through exercise and normal daily activities. Your body stores these extra calories as fat. Obesity usually results from a combination of causes and contributing factors, including:

- **Genetics.** Your genes may affect the amount of body fat you store and where that fat is distributed. Genetics may also play a role in how efficiently your body converts food into energy and how your body burns calories during exercise. Even when someone has a genetic predisposition, environmental factors ultimately make you gain more weight.
- **Inactivity.** If you're not very active, you don't burn as many calories. With a sedentary lifestyle, you can easily take in more calories every day than you burn off through exercise and normal daily activities.
- **Unhealthy diet and eating habits.** Having a diet that's high in calories, eating fast food, skipping breakfast, consuming high-calorie drinks and eating oversized portions all contribute to weight gain.
- **Family lifestyle.** Obesity tends to run in families. That's not just because of genetics. Family members tend to have similar eating, lifestyle and activity habits. If one or both of your parents are obese, your risk of being obese is increased.
- **Quitting smoking.** Quitting smoking is often associated with weight gain. And for some, it can lead to a weight gain of as much as several pounds a week for several months, which can result in obesity. In the long run, however, quitting smoking is still a greater benefit to your health than continuing to smoke.
- **Pregnancy.** During pregnancy a woman's weight necessarily increases. Some women find this weight difficult to lose after the baby is born. This weight gain may contribute to the development of obesity in women.
- **Lack of sleep.** Not getting enough sleep at night can cause changes in hormones that increase your appetite. You may also crave foods high in calories and carbohydrates, which can contribute to weight gain.
- **Certain medications.** Some medications can lead to weight gain if you don't compensate through diet or activity. These medications include some antidepressants, anti-seizure medications, diabetes medications, antipsychotic medications, steroids and beta-blockers.
- **Age.** Obesity can occur at any age, even in young children. But as you age, hormonal changes and a less active lifestyle increase your risk of obesity. In addition, the amount of muscle in your body tends to decrease with age. This

lower muscle mass leads to a decrease in metabolism. These changes also reduce calorie needs and can make it harder to keep off excess weight. If you don't control what you eat as you age, you'll likely gain weight.

- **Social and economic issues.** Certain social and economic issues may be linked to obesity. You may not have safe areas to exercise, you may not have been taught healthy ways of cooking, or you may not have money to buy healthier foods. In addition, the people you spend time with may influence your weight — you're more likely to become obese if you have obese friends or relatives.
- **Medical problems.** Obesity can rarely be traced to a medical cause, such as Prader-Willi syndrome, Cushing's syndrome, polycystic ovary syndrome, and other diseases and conditions. Some medical problems, such as arthritis, can lead to decreased activity, which may result in weight gain. A low metabolism is unlikely to cause obesity, as is having low thyroid function.

Even if you have one or more of these risk factors, it doesn't mean that you're destined to become obese. You can counteract most risk factors through diet, physical activity and exercise, and behavior changes.

Complications:

With obesity, you're more likely to develop a number of potentially serious health problems, including:

- High cholesterol and triglycerides
- Type 2 diabetes
- High blood pressure
- Metabolic syndrome — a combination of high blood sugar, high blood pressure, high triglycerides and high cholesterol
- Heart disease
- Stroke
- Cancer, including cancer of the uterus, cervix, ovaries, breast, colon, rectum and prostate
- Sleep apnea, a potentially serious sleep disorder in which breathing repeatedly stops and starts
- Depression
- Gallbladder disease
- Gynecologic problems, such as infertility and irregular periods
- Erectile dysfunction and sexual health issues, due to deposits of fat blocking or narrowing the arteries to the genitals
- Nonalcoholic fatty liver disease, a condition in which fat builds up in the liver and can cause inflammation or scarring
- Osteoarthritis
- Skin problems, such as poor wound healing
- Depression
- Disability

- Physical discomfort
- Sexual problems
- Shame
- Social isolation

Diagnostic Measures:

These exams and tests generally include:

- **Taking your health history.** Your doctor may review your weight history, weight-loss efforts, exercise habits, eating patterns, what other conditions you've had, medications, stress levels and other issues about your health. Your doctor may also review your family's health history to see if you may be predisposed to certain conditions.
- **Checking for other health problems.** If you have known health problems, your doctor will evaluate them. Your doctor will also check for other possible health problems in the examination and laboratory tests, such as high blood pressure and diabetes.
- **Calculating your BMI.** Your doctor will check your body mass index (BMI) to determine your level of obesity. Your BMI also helps determine your overall health risk and what treatment may be appropriate.
- **Measuring your waist circumference.** Fat stored around your waist, sometimes called visceral fat or abdominal fat, may further increase your risk of diseases such as diabetes and heart disease. Women with a waist measurement (circumference) of more than 35 inches and men with a waist measurement of more than 40 inches may have more health risks than do people with smaller waist measurements.
- **A general physical exam.** This includes measuring your height, checking vital signs, such as heart rate, blood pressure and temperature, listening to your heart and lungs, and examining your abdomen.
- **Blood tests.** What tests you have depend on your health and risk factors. They may include a cholesterol test, liver function tests, fasting glucose, a thyroid test and others, depending on your health situation. Your doctor may also recommend certain heart tests, such as an electrocardiogram.

Gathering all this information helps you and your doctor determine how much weight you need to lose and what health conditions or risks you have. And this will shape what treatment options are right for you.

Treatments:

You can start feeling better and seeing improvements in your health by just introducing better eating and activity habits. The initial goal is a modest weight loss — 5 to 10 percent of your total weight. That means that if you weigh 200 pounds (91 kg) and are obese by BMI standards, you would need to lose only about 10 to 20 pounds (4.5 to 9.1 kg) to start seeing benefits.

All weight-loss programs require changes in your eating habits and increased physical activity. The treatment methods those are right for you depend on your level of obesity, your overall health and your willingness to participate in your weight-loss plan. Other treatment tools include:

- Dietary changes
- Exercise and activity
- Behavior change
- Prescription weight-loss medications
- Weight-loss surgery

Dietary changes

Reducing calories and eating healthier are vital to overcoming obesity. Although you may lose weight quickly at first, slow and steady weight loss of 1 or 2 pounds (1/2 to 1 kilogram) a week over the long term is considered the safest way to lose weight and the best way to keep it off permanently. Avoid drastic and unrealistic diet changes, such as crash diets, because they're unlikely to help you keep excess weight off for the long term.

Dietary ways to overcome obesity include:

- **A low-calorie diet.** The key to weight loss is reducing how many calories you take in. You and your health care providers can review your typical eating and drinking habits to see how many calories you normally consume and where you can cut back. You and your doctor can decide how many calories you need to take in each day to lose weight, but a typical amount is 1,000 to 1,600 calories.
- **Feeling full on less.** The concept of energy density can help you satisfy your hunger with fewer calories. All foods have a certain number of calories within a given amount (volume). Some foods, such as desserts, candies, fats and processed foods, are high in energy density. This means that a small volume of that food has a large number of calories. In contrast, other foods, such as fruits and vegetables, have low energy density. These foods provide a larger portion size with a fewer number of calories. By eating larger portions of foods less packed with calories, you reduce hunger pangs, take in fewer calories and feel better about your meal, which contributes to how satisfied you feel overall.
- **Adopting a healthy-eating plan.** To make your overall diet healthier, eat more plant-based foods, such as fruits, vegetables and whole-grain carbohydrates. Also emphasize lean sources of protein, such as beans, lentils and soy, and lean meats. Try to include fish twice a week. Limit salt and added sugar. Stick with low-fat dairy products. Eat small amounts of fats, and make sure they come from heart-healthy sources, such as nuts and olive, canola and nut oils.
- **Meal replacements.** These plans suggest that you replace one or two meals with their products — such as low-calorie shakes or meal bars — and eat healthy snacks and a healthy, balanced third meal that's low in fat and calories. In the short term, this type of diet can help you lose weight. Keep in mind that these diets likely won't teach you how to change your overall

lifestyle, though, so you may have to keep this up if you want to keep your weight off.

- **Be wary of quick fixes.** You may be tempted by fad diets that promise fast and easy weight loss. The reality, however, is that there are no magic foods or quick fixes. Fad diets may help in the short term, but the long-term results don't appear to be any better than other diets. Similarly, you may lose weight on a crash diet, but you're likely to regain it when you stop the diet. To lose weight — and keep it off — you have to adopt healthy-eating habits that you can maintain over time.

Exercise and activity:

Increased physical activity or exercise also is an essential part of obesity treatment. Most people who are able to maintain their weight loss for more than a year get regular exercise, even simply walking.

To boost your activity level:

- **Exercise.** The American College of Sports Medicine recommends that people who are overweight or obese get at least 150 minutes a week of moderate-intensity physical activity to prevent further weight gain or to lose a modest amount of weight. But to achieve significant weight loss, you may need to get as much as 250 to 300 minutes of exercise a week. You probably will need to gradually increase the amount you exercise as your endurance and fitness improve. To make your own exercise goal more doable, break it up into several sessions throughout the day, doing just five or six minutes at a time.
- **Increase your daily activity.** Even though regular aerobic exercise is the most efficient way to burn calories and shed excess weight, any extra movement helps burn calories. Making simple changes throughout your day can add up to big benefits. Park farther from store entrances, rev up your household chores, garden, get up and move around periodically, and wear a pedometer to track how many steps you actually take over the course of a day.

Behavior changes:

A behavior modification program can help you make lifestyle changes, lose weight and keep it off. Steps to take include examining your current habits to find out what factors, stresses or situations may have contributed to your obesity.

Behavior modification, sometimes called behavior therapy, can include:

- **Counseling.** Therapy or interventions with trained mental health or other professionals can help you address emotional and behavioral issues related to eating. Therapy can help you understand why you overeat and learn healthy ways to cope with anxiety. You can also learn how to monitor your diet and activity, understand eating triggers, and cope with food cravings. Counseling may be available by telephone, email or Internet-based programs if travel is difficult. Therapy can take place on both an individual and group basis.
- **Support groups.** You can find camaraderie and understanding in support groups where others share similar challenges with obesity. Check with your

doctor, local hospitals or commercial weight-loss programs for support groups in your area, such as Weight Watchers.

Prescription weight-loss medication:

Losing weight requires a healthy diet and regular exercise. But in certain situations, prescription weight-loss medication may help. Keep in mind, though, that weight-loss medication is meant to be used along with diet, exercise and behavior changes, not instead of them. If you don't make these other changes in your life, medication is unlikely to work.

Your doctor may recommend weight-loss medication if other methods of weight loss haven't worked for you and you meet one of the following criteria:

- Other methods of weight loss haven't worked for you
- Your body mass index (BMI) is 30 or greater
- Your body mass index (BMI) is greater than 27 and you also have medical complications of obesity, such as diabetes, high blood pressure or sleep apnea

Examples of Prescription weight-loss medications your doctor may prescribe include:

- **Orlistat (Xenical).** Orlistat is a weight-loss medication that has been approved by the Food and Drug Administration (FDA) for long-term use in adults and children 12 and older. This medication blocks the digestion and absorption of fat in your stomach and intestines. Unabsorbed fat is eliminated in the stool. Average weight loss with orlistat is about 5 to 7 pounds (2.3 to 3.2 kilograms) more than you can get from diet and exercise after one or two years of taking the medication.

Side effects associated with orlistat include oily and frequent bowel movements, bowel urgency, and gas. These side effects can be minimized as you reduce fat in your diet. Because orlistat blocks absorption of some nutrients, take a multivitamin while taking orlistat to prevent nutritional deficiencies.

The FDA has also approved a reduced-strength version of orlistat (Alli) that's sold over-the-counter, without a prescription. Alli is not approved for children. This medication works the same as prescription-strength orlistat and is meant only to supplement — not replace — a healthy diet and regular exercise.

- **Lorcaserin (Belviq).** Lorcaserin is a long-term weight-loss drug approved by the FDA for adults in 2012. It works by affecting chemicals in your brain that help decrease your appetite and make you feel full, so you eat less. Your doctor will carefully monitor your weight loss while taking lorcaserin. If you don't lose about 5 percent of your total body weight within 12 weeks of taking lorcaserin, it's unlikely the drug will work for you and the medication should be stopped.

Side effects of lorcaserin include headaches, dizziness, fatigue, nausea, dry mouth and constipation. Rare but serious side effects include a chemical imbalance (serotonin syndrome), suicidal thoughts, psychiatric problems,

and problems with memory or comprehension. Pregnant women shouldn't take lorcaserin.

- **Phentermine-topiramate (Qsymia).** This weight-loss medication is a combination drug approved by the FDA for long-term use in adults. Qsymia combines phentermine, a weight-loss drug prescribed for short-term use, with topiramate, a medication that's used to control seizures. Your doctor will monitor your weight loss while taking the drug. If you don't lose at least 3 percent of your body weight within 12 weeks of starting treatment, your doctor may suggest either stopping use of Qsymia or increasing your dose, depending on your condition.

Side effects include increased heart rate, tingling of hands and feet, insomnia, dizziness, dry mouth and constipation. Serious but rare side effects include suicidal thoughts, problems with memory or comprehension, sleep disorders and changes to your vision. Pregnant women shouldn't take Qsymia. Qsymia increases the risk of birth defects.

- **Phentermine (Adipex-P, Suprenza).** Phentermine is a weight-loss medication for short-term use (three months) in adults. Using weight-loss medications short-term doesn't usually lead to long-term weight loss. While some health care providers prescribe phentermine for long-term use, few studies have evaluated its safety and weight-loss results long term.

Weight-loss surgery

In some cases, weight-loss surgery, also called bariatric surgery, is an option. Weight-loss surgery offers the best chance of losing the most weight, but it can pose serious risks. Weight-loss surgery limits the amount of food you're able to comfortably eat or decreases the absorption of food and calories, or both.

Weight-loss surgery for obesity may be considered if:

- You have extreme obesity, with a body mass index (BMI) of 40 or higher
- Your BMI is 35 to 39.9, and you also have a serious weight-related health problem, such as diabetes or high blood pressure
- You're committed to making the lifestyle changes that are necessary for surgery to work

Weight-loss surgery can often help you lose as much as 50 percent or more of your excess body weight. But weight-loss surgery isn't a miracle obesity cure. It doesn't guarantee that you'll lose all of your excess weight or that you'll keep it off long term. Weight-loss success after surgery depends on your commitment to making lifelong changes in your eating and exercise habits.

Common weight-loss surgeries include:

- **Gastric bypass surgery.** This is the favored weight-loss surgery in the United States because it has shown relatively good long-term results. In gastric bypass (Roux-en-Y gastric bypass), the surgeon creates a small pouch at the top of your stomach. The small intestine is then cut a short distance below the main stomach and connected to the new pouch. Food and liquid flow directly from the pouch into this part of the intestine, bypassing most of your stomach.

- **Laparoscopic adjustable gastric banding (LAGB).** In this procedure, your stomach is separated into two pouches with an inflatable band. Pulling the band tight, like a belt, the surgeon creates a tiny channel between the two pouches. The band keeps the opening from expanding and is generally designed to stay in place permanently. LAGB is popular because it is less invasive, generally causes slow, steady weight loss and the band can be adjusted if needed. However, as with other procedures, this won't work without changes in your behavior. Results are usually not as good as with other procedures. The LAP-BAND gastric banding device has also been approved for use in people who have a BMI of 30 to 34 and have an additional health condition related to their obesity.
- **Gastric sleeve.** In this procedure, part of the stomach is removed, creating a smaller reservoir for food. There are ongoing studies evaluating this procedure.
- **Biliopancreatic diversion with duodenal switch.** In this procedure, most of your stomach is surgically removed. This weight-loss surgery offers sustained weight loss, but it poses a greater risk of malnutrition and vitamin deficiencies, and you require close monitoring for health problems. It's generally used for people who have a body mass index of 50 or more.

Medical Nutrition Therapy:

Pt ideal weight: 115lbs

Pt. TER: 1,400-1,500kcal/day

Start pt. at 2,000kcal/day once pt. is adjusted to new diet begin final goal of 1,500kcal/day diet.

50-60g Protein a day

Recommend 30 min a day of low impact activity like walking.

Pt. nutrition education resources provided

Sample USDA Food Guide and DASH Eating Plan at the 2,000-Calorie Level			
Food groups and subgroups*	USDA food guide amount	DASH eating plan amount	Equivalent amounts
Fruit group	2 cups (4 servings)	2 to 2.5 cups (4 to 5 servings)	1/2 cup equivalent is: <ul style="list-style-type: none"> • 1/2 cup fresh, frozen, or canned fruit • 1 medium fruit • 1/4 cup dried fruit • USDA: 1/2 cup fruit juice • DASH: 3/4 cup fruit juice
Vegetable group <ul style="list-style-type: none"> • Dark green vegetables • Orange vegetables • Legumes (dry beans) • Starchy vegetables • Other vegetables 	2.5 cups (5 servings) <ul style="list-style-type: none"> 3 cups/week 2 cups/week 3 cups/week 3 cups/week 6.5 cups/week 	2 to 2.5 cups (4 to 5 servings)	1/2 cup equivalent is: <ul style="list-style-type: none"> • 1/2 cup of cut-up raw or cooked vegetable • 1 cup raw leafy vegetable • USDA: 1/2 cup vegetable juice • DASH: 3/4 cup vegetable juice
Grain group <ul style="list-style-type: none"> • Whole grains • Other grains 	6 oz.-equivalents <ul style="list-style-type: none"> 3 oz.-equivalents 3 oz.-equivalents 	7 to 8 oz.-equivalents (7 to 8 servings)	1 oz.-equivalent is: <ul style="list-style-type: none"> • 1 slice bread • 1 cup dry cereal • 1/2 cup cooked rice, pasta, cereal • DASH: 1 oz. dry cereal (1/2 to 1 1/4 cup depending on cereal type; check label)
Meat and beans group	5.5 oz.-equivalents	6 oz. or less of meat, poultry, fish 4 to 5 servings per week of nuts, seeds, and dry beans	1 oz.-equivalent is: <ul style="list-style-type: none"> • 1 oz. of cooked lean meats, poultry, or fish • 1 egg • USDA: 1/4 cup cooked dry beans or tofu, 1 tbsp peanut butter, 1/2 oz. nuts or seeds • DASH: 1 1/2 oz. nuts, 1/2 oz seeds, 1/2 cup cooked dry beans
Milk group	3 cups	2 to 3 cups	1 cup equivalent is: <ul style="list-style-type: none"> • 1 cup low-fat/fat-free milk, yogurt • 1 1/2 oz. of low-fat or fat-free natural cheese • 2 oz. of low-fat or fat-free processed cheese
Oils	27 grams (6 tsp.)	8 to 12 grams (2 to 3 tsp.)	1 tsp equivalent is: <ul style="list-style-type: none"> • DASH: 1 tsp. soft margarine • 1 tbsp. low-fat mayo • 2 tbsp. light salad dressing • 1 tsp. vegetable oil
Discretionary calorie allowance Example of distribution: Solid fat Added sugars	267 calories 18 grams 8 tsp	~2 tsp. of added sugar (5 tbsp./wk)	1 tbsp. of added sugar equivalent is: <ul style="list-style-type: none"> • DASH: 1 tbsp. jelly or jam • 1/2 oz jelly beans • 8 oz. lemonade

* USDA Food Guide food groups are: grains; vegetables; fruits; milk, yogurt, and cheese; meat, poultry, fish, dry beans, eggs, and nuts. DASH food groups are: grains and grain products; vegetables; fruits; low-fat or fat-free dairy; meat, poultry, and fish; nuts, seeds, and dry beans.

USDA: United States Department of Agriculture; DASH: Dietary Approaches to Stop Hypertension. Source: Reference 32.

Menu Adjustments:

2,000- meal plan provided

1,500-meal plan provided

Patient Resources:

United States Department of Agriculture

<http://www.usda.gov/wps/portal/usda/usdahome>

Center For Disease Control

<http://www.cdc.gov/obesity/>

Obesity Action Coalition

<http://www.obesityaction.org>

Ohio Obesity and/or Health and Nutrition Programs

Ohio Department of Health

Bureau of Healthy Ohio

246 North High Street, 8th Floor

Columbus, OH 43215

Phone: 614-466-2144

Fax: 614-564-2409

healthyohioprogram.org/

Ohio Vocational Rehabilitation Program

The Ohio Rehabilitation Services Commission

400 E. Campus View Blvd

Columbus, OH 43235-4604

Phone: 1-800-282-4536

www.rsc.ohio.gov