NUTRITION 102

SMG BARIATRIC SURGERY

LEARNING OBJECTIVES

- Be familiar with food behaviors and habits necessary for post bariatric surgery success.
- Understand post op calorie and protein goals.
- Define and explain what macronutrients are, why the body needs them, and how the body benefits from them.
- Define micronutrients and explain the role they play in overall health.
- List steps for meal planning and understand how to navigate a grocery store.
- Improve meal choices in specific environments.
- Identify eating triggers and recognize hunger cues.

QUICK REFRESH

Up until this point, you have been working on the following:

- Journal in MyFitnessPal daily.
- Eat 5-6 times per day.
- Consume a minimum of 70 grams of protein per day.
- Drink a minimum of 64 oz. of water per day- your goal is to be at 80 oz. by surgery.
- Meal planning; whether it is daily, weekly, etc.
- No caffeine, carbonated beverages or alcohol.
- Taking a daily multivitamin (Celebrate Bariatric Multivitamin is preferred; no gummies, Flinstones, or vitamin patches).

NEW HABITS

Now, let's add some new habits to make a part of your routine:

- Eat slowly; take at least 20 minutes to eat.
- No liquids 15 minutes prior to your meal or snack, during, or for 30 minutes following.
- Chew foods to applesauce consistency.
- Eat without any distractions; not in front of your television, at your desk, or while multitasking.
- Avoid foods with added sugars such as cake, candy and ice cream.
- Limit foods high in saturated fats such as fattier cuts of meat, full fat dairy, or greasy foods.
- Consider investing in a food scale.

POST OP CALORIE AND PROTEIN GOALS

Pouch capacity following surgery:

- **After surgery:** 4 oz. of semi-solid to solid food, 6 oz. of liquids
- **Close to one** year post-op: 8 oz.

Daily calorie goals following surgery:

- **Discharged from hospital - 2 weeks:** 500-600 calories, 50-60 grams protein
- **2 weeks - 4 weeks:** 800 calories, 70 grams protein
- **4 weeks - 3 months:** 800-1,000 calories, 70 grams protein

DIVING INTO NUTRITION: MACRONUTRIENTS

Carbohydrates

Fat

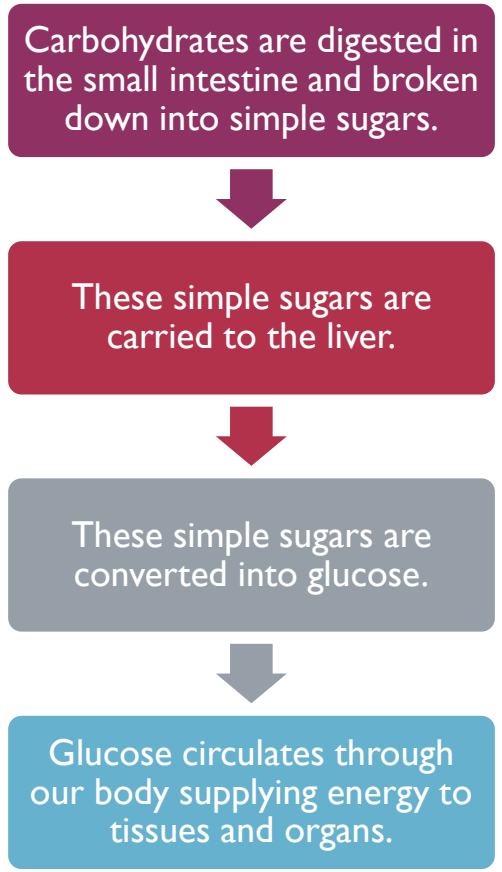
Protein

ALL ABOUT CARBOHYDRATES

- Carbohydrates are the body's main source of fuel and are needed for physical activity, brain function, and organ operation.
- Types of carbohydrates include simple and complex carbohydrates.
- Although they are grouped into different classes, all carbohydrates share one important trait: they consist of the same basic unit – sugar.
- The key is choosing the TYPE of carbohydrate and the QUANTITY to help you achieve your weight loss goals.
- Carbohydrates are found in four of the six basic food groups: vegetables, grains, fruits, and dairy.

HOW DO CARBOHYDRATES FUEL US?

- All simple and complex carbohydrates (with the exception of fiber) supply energy at four calories per gram.
- Keep in mind that complex carbohydrates (starches and fiber) provide more sustained energy, while simple sugars provide short term energy that will peak and drop quickly.



SIMPLE CARBOHYDRATES

- Because of their chemical arrangement, simple carbohydrates (also called simple sugars) taste sweet and perk up flavor.
- Examples include sucrose (table sugar), fructose (fruit sugar), and lactose (milk sugar).
  - Soda, cake, cereals, table sugar, white breads and pasta, fruit juice, candy, honey and corn syrup, pastries

COMPLEX CARBOHYDRATES

- These have a different, more complex chemical sequence which makes them taste "starchy" instead of sweet.
- Foods high in complex carbohydrates are usually bursting with vitamins, minerals, fiber, and sometimes protein.
  - Oats, brown rice, sweet potatoes, whole wheat bread, quinoa, kidney beans, whole wheat pasta, couscous, green peas

WHAT IS FIBER?

- Unlike sugar and starches, fiber cannot be broken down and digested by our digestive juices.
- Fiber provides bulk (to help fill you up and help with digestion), but passes through your digestive tract without leaving calories behind.
- Studies show a high fiber diet lowers risk of heart disease and some forms of cancer.
- Recommended intake is 25 grams a day for women and 38 grams a day for men – key is to gradually increase with plenty of fluids.

FIBER AND YOUR WEIGHT

- The bulk from fiber helps you feel full and satisfied and delays stomach emptying so you feel fuller longer.
- Fibrous foods also take longer to chew, slowing the rate at which you eat.
- These foods are also low in fat and sugar, yet good sources of vitamins and minerals.

TWO TYPES OF FIBER: SOLUBLE FIBER

- Gummy like and dissolves in water.
- Helps lower blood cholesterol by binding dietary cholesterol in digestive system and eliminating it as waste.
- Slows the time it takes for food to empty the stomach and slows glucose absorption – which helps control blood sugars!

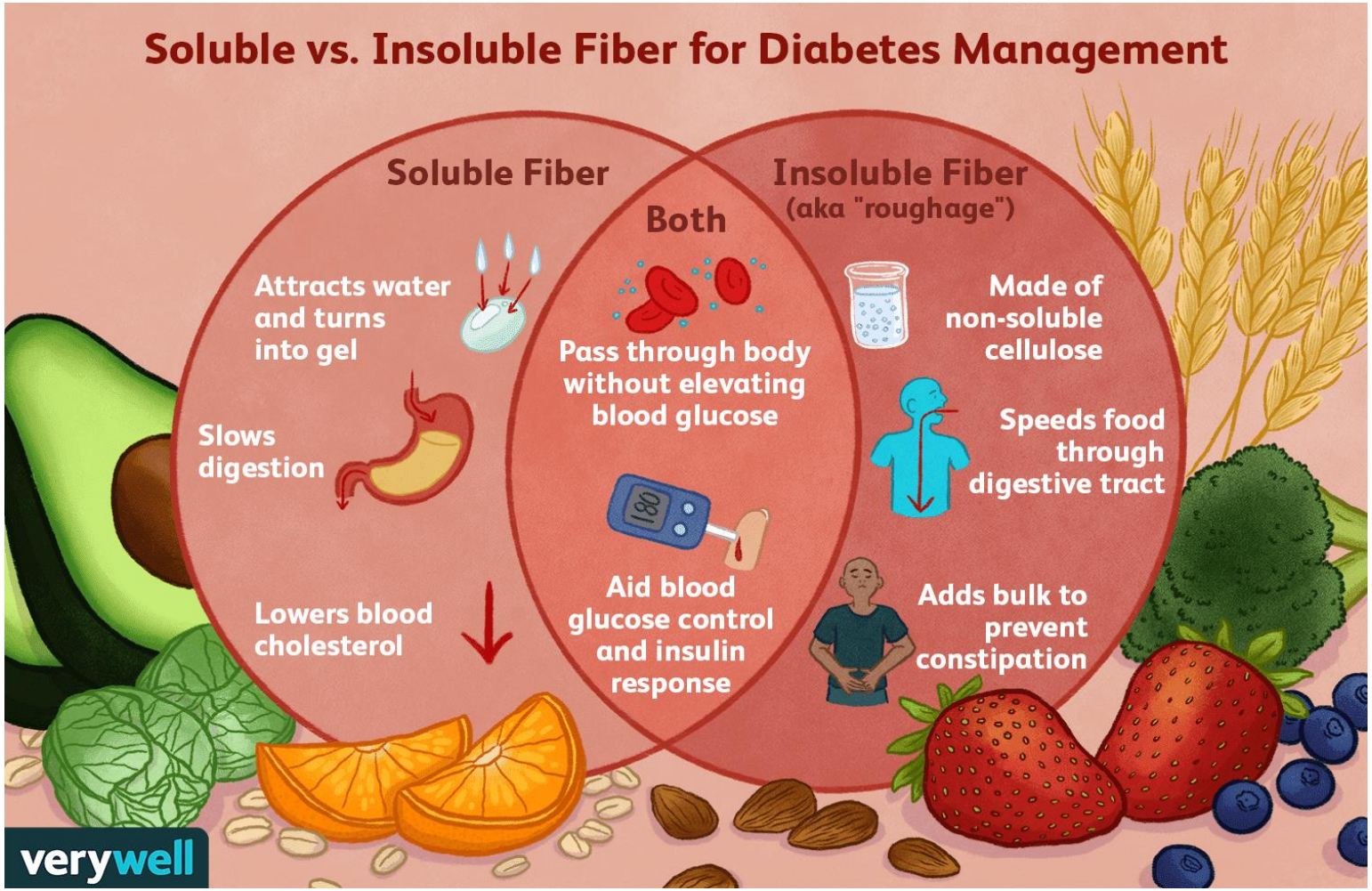
Oats	Peas
Beans	Apples
Pears	Carrots

TWO TYPES OF FIBER: INSOLUBLE FIBER

- Insoluble fiber gives structure to plant cell walls and changes very little as it passes through the body.
- Acts like a sponge absorbing water on the way which adds bulk to stool. This promotes regularity and helps prevent constipation – KEY is drinking enough water!
- By speeding waste through the colon and out of the body, it allows less time for potentially harmful substances to come in contact with the intestine. This may be one reason why high fiber diets have been shown to reduce risk of colon cancer.

Whole wheat flour	Wheat bran
Cauliflower	Green beans
Sweet potato	Nuts

TWO TYPES OF FIBER



https://www.verywellhealth.com/soluble-and-insoluble-fiber-1087462

TIPS TO INCORPORATE MORE FIBER INTO YOUR DIET

1. If you are not used to eating high fiber foods, gradually include them in your diet. Eating too much fiber to fast can cause gas, cramps, and constipation or loose stools
2. As you increase fiber in your diet, drink more fluids to prevent constipation and promote digestive motility.
3. Choose bran and other high fiber cereals and whole wheat breads. When meal planning, use a variety of who grains such as barley, brown rice, buckwheat, bulgur, whole wheat pasta, cornmeal, and wheat germ.
4. Choose fruits and vegetables with edible skins and seeds. Have whole fruits and vegetables more often than juice.

WHAT IS THE ROLE OF PROTEIN?

- Protein provides us with amino acids, which are the basic building blocks of our whole body.
- Protein plays a vital role in building and maintaining our body structures (muscles, tendons, ligaments), circulatory system, brain, immune system, skin, and many other cells!
- These structures and organs slough off old cells – just like our skin cells! We always need a fresh supply of protein to build new cells EVERY DAY!

WHERE CAN I FIND PROTEIN?

Food Item	Protein (Grams)
Lean meat, fish, skinless poultry (3oz)	21
Low Fat/Fat free Greek Yogurt (6oz)	14-18
Low Fat/Fat free Cottage Cheese	14
Soybeans (1/2 cup)	11
Fairlife Milk (1 cup)	11-13g
Low Fat/Fat Free Milk, Soy Milk (8oz)	8
Low fat/Fat free yogurt (6oz)	8
Peanut Butter (2T)	8
Egg/Egg White	7
Low Fat/Fat Free Cheese	7
Beans (1/2 cup)	7
Nuts/Seeds (1oz)	7-9
Tofu (3oz)	6

CAN I CONSUME TOO MUCH PROTEIN?

- Like other food sources, too much of a good thing is possible.
- The type of protein matters. Consumption of large amounts of red meat could impact your heart versus higher amounts healthier protein sources, such as salmon, low fat Greek yogurt or beans.
- A very high protein intake could lead to excess calories intake which promotes weight gain.
- Having too much protein can cause waste to build up in your blood, and your kidneys may not be able to remove all the extra waste, which can also lead to dehydration and kidney stones.

WHY DO I NEED PROTEIN AT EACH MEAL?

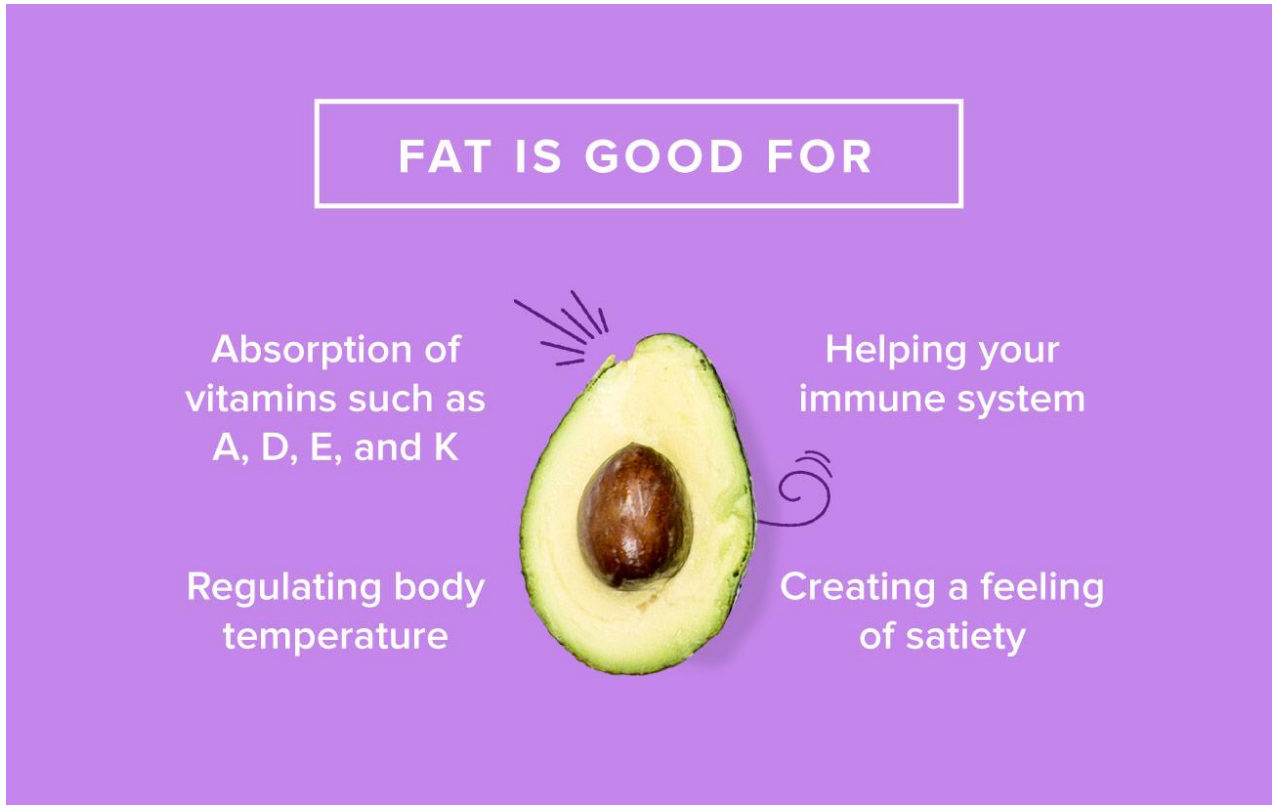
1. **Satiety -** dietary protein generates key satiety hormones that signal to our brain that we are full.
2. **Blood sugar stabilization -** protein helps slow digestion and prevents post-meal blood sugar spikes.
3. **Hormone Regulation –** protein is a part of everything in the body from the hemoglobin that transports oxygen to hormones that control metabolic functions like thyroid hormones, melatonin, dopamine, and serotonin.

PROTEIN SUPPLEMENTS

- Having trouble reaching your protein goals? Or struggle to eat breakfast? Protein shakes may be a good option, however we typically feel more satiety with solid foods. If you choose a protein shake or bar, **limit to one per day.**
- Examples include Unjury (available in our office), Core Power/Premier Protein/Ensure Max (ready to drink options), Muscle Milk, Naked Whey, Vital Proteins, Evolve, Garden of Life, Plant Fusion, Beneprotein, Quest.
- Bar options: Quest bars, RX bars, One protein bars, GoMacro Organic Protein Bars.

FUN FACTS ABOUT FAT

- While we are generally advised to eat a fairly low-fat diet, the emphasis on choosing the *right* type of fat is key.
- Although fat often gets a bad rap, it does play an important role in the body and is necessary in our diet.
- When you reduce your calories, your fat cells will release body fat as fuel since our body stores all of our extra calories we eat as fat (like fat, carbohydrate, protein, or alcohol).
- During any type of calorie reduction, the goal is to tap into fat stores and preserve our protein for growth and repair of muscles and other tissues.
- Fat provides 9 calories/gram versus 4 calories/gram from carbohydrates or protein.



THREE TYPES OF FAT

Saturated and Trans Fat

Polyunsaturated

Monounsaturated

SATURATED AND TRANS FAT

- Saturated and Trans Fats raise blood cholesterol levels, encourage the formation of plaque, and promote heart disease.
- Solid at Room Temperature.
- <10% of your calories should come from saturated fat, all sources of trans fat should be avoided.

Saturated Fat	Trans-fat
High Fat cuts of Meat (Beef, Lamb, Pork)	Packaged Snack Foods
Chicken with the skin	Fried Foods
Whole Fat Dairy Products (Milk, Cheese, Ice Cream)	Baked Goods (vegetable shortening)
Butter and Lard	Margarine
Palm and coconut oil – like in snack foods, non-dairy creamers, baked goods)	Premixed products (cake and pancake mix, pizza dough, pie crust)

POLYUNSATURATED FATS

- Lowers Triglycerides and increases HDL (The "Happy" cholesterol).
- These include Omega-3 and Omega-6.

Sources of Polyunsaturated Fats
Fatty fish (Tuna, Salmon, Mackerel, Herring, Trout)
Walnuts and Flaxseed
Corn, soybean, and safflower oil
Soymilk
Tofu

OMEGA-3 FATTY ACIDS

- Keep our heart, brain, and eyes healthy!
- These are considered *essential fatty acids*.
  - Three Types: EPA, DHA, ALA
- Benefits include lowering triglycerides, raising HDL, preventing blood clots, and decreasing inflammation.
- Other newer research is showing it lowers blood pressure, improves rheumatoid arthritis, improve lupus, reduce cancer risk, improve diabetes control, improve depression, and reduce risk of Alzheimer's.

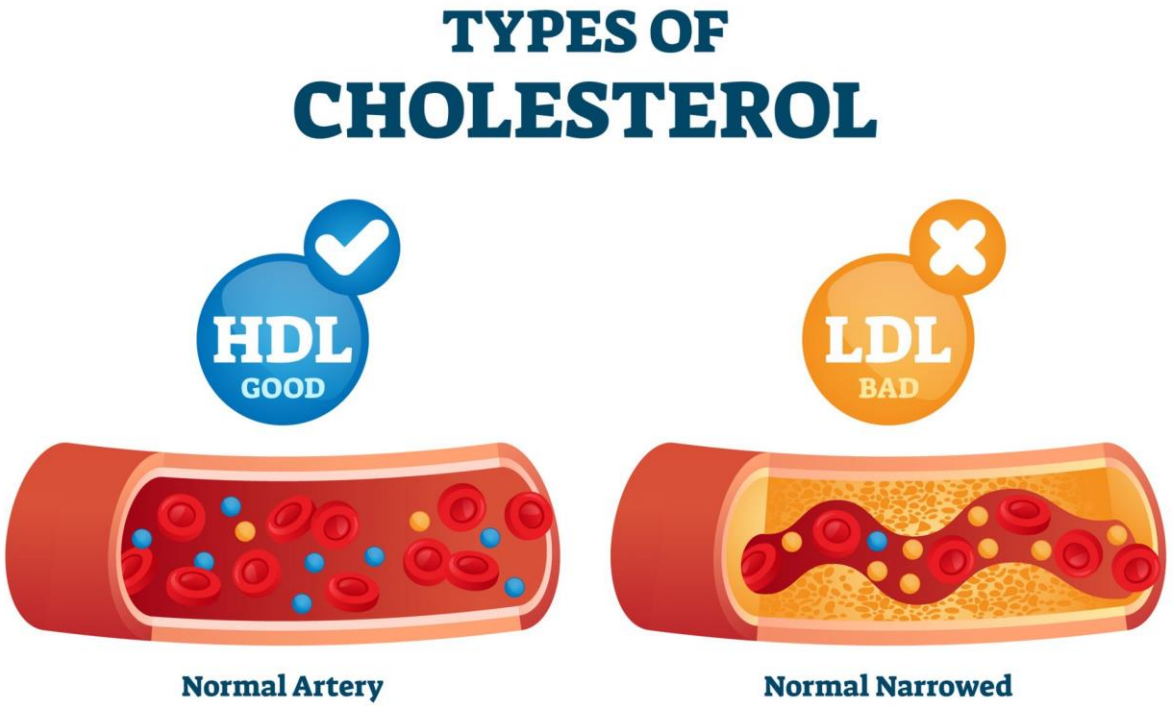
MONOUNSATURATED FATS

- Helps lower LDL (bad/sad cholesterol) without lowering HDL (good/happy cholesterol).

Monounsaturated Fat Sources
Olives and olive oil
Canola, Sunflower, and Peanut Oil
Avocados
Nuts and Seeds (like Peanut or Almond Butter)

THE CHOLESTEROL CONNECTION

- Our bodies actually NEED cholesterol! Cholesterol serves as one of the building components of body cells and certain hormones.
- Cholesterol helps produce bile acids which help digest fat. Our bodies make most of our cholesterol from dietary fats, but it also obtains cholesterol directly from the food you eat.
- Just like fat, too much dietary cholesterol can be unhealthy. If blood cholesterol is to high, the body can deposit cholesterol on artery walls and form plaque.



MICRONUTRIENTS: VITAMINS AND MINERALS

- Unlike carbohydrates, protein, and fat – vitamins and minerals don't contribute calories to your diet. However they are still vital for life.
- Just like spark plugs ignite the gasoline in your car's engine giving it energy to run, vitamins and minerals ignite chemical reactions in your body helping it run.
- Vitamins and minerals trigger the building of body cells and conversion of food energy to body energy and promote maintenance of skin, nerves, eyes, and more!
- Minerals help regulate the body's chemical reactions, such as muscle contraction, nerve impulses, and fluid balance. They also help give structure to bones and teeth, blood cells, muscles, and other body tissues.
- Some minerals are harmful if taken in excess.

MICRONUTRIENTS: VITAMINS AND MINERALS

- Water soluble vitamins
  - Include B vitamins and Vitamin C.
  - Dissolve in water and circulate freely through the body – excess is excreted in urine.
  - Our body does not store water soluble, so consistent intake is key!
- Fat soluble vitamins
  - Vitamins A, D, E, and K are absorbed with dietary fat.
  - Your body stores excesses of these vitamins in body fat instead of excreting them.
  - Accumulating too many fat-soluble vitamins, especially Vitamins A and D could be dangerous.
- Major minerals – needed in greater amounts – calcium, phosphorus, magnesium, and electrolytes (sodium, chloride, and potassium).
- Trace minerals – needed in smaller amounts – iron, zinc, iodine, selenium.

VITAMINS AND MINERALS

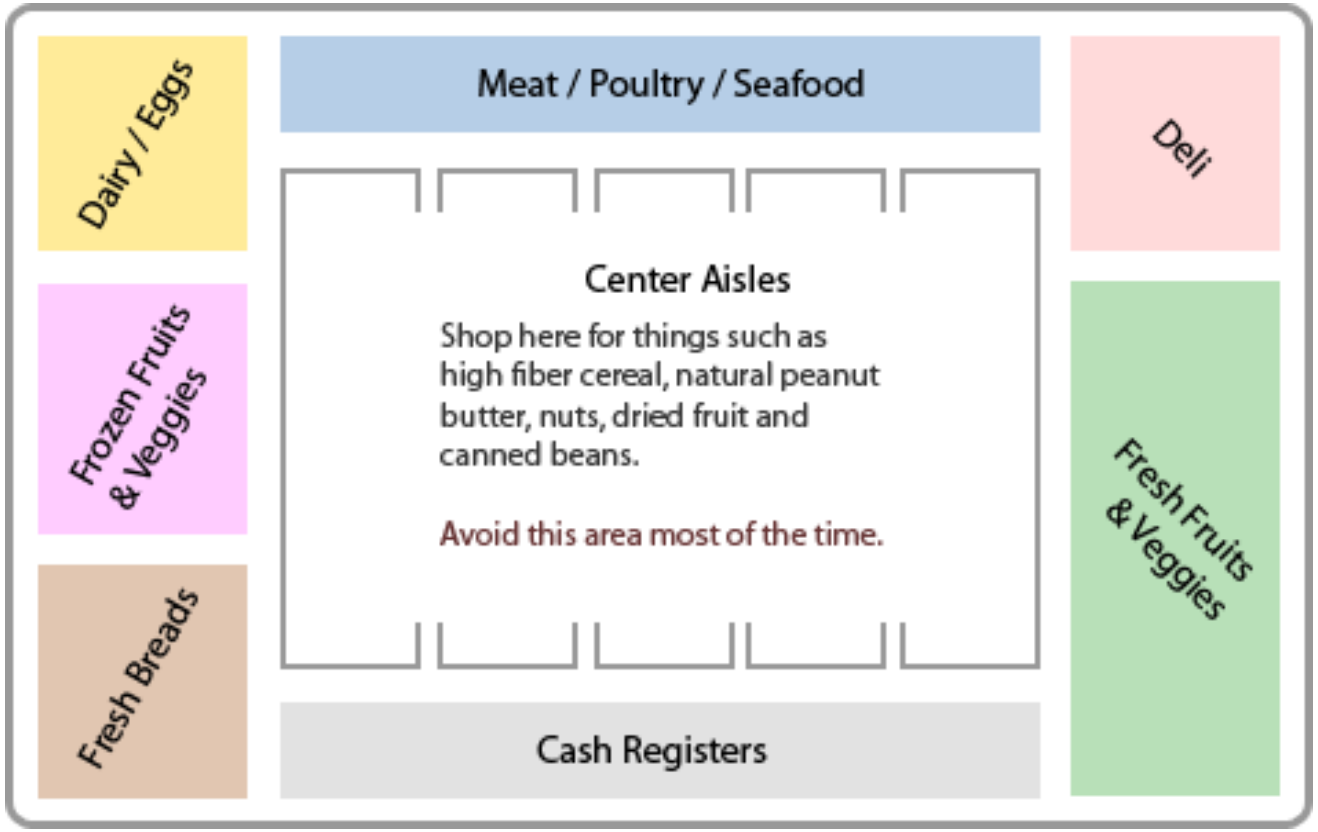
MEAL PLANNING

1. Write it down. Use your food journaling app.
2. Plan around protein.
3. Make a grocery list.
4. Monitor your success.

SMART SHOPPING

1. Plan ahead.
2. Keep a running shopping list of foods you need to replace.
3. Take your list to the supermarket.
4. Plan your proteins.
5. Check the list before you start shopping.
6. Read food labels.
7. Clip coupons only for items you need.

MAP IT OUT


Dairy / Eggs
Meat / Poultry / Seafood
Deli
Frozen Fruits & Veggies
Center Aisles
Shop here for things such as high fiber cereal, natural peanut butter, nuts, dried fruit and canned beans.
Avoid this area most of the time.
Fresh Fruits & Veggies
Fresh Breads
Cash Registers

BUSTING BARRIERS

- Shopping for healthy food is too expensive.
  - Use coupons and buy foods on sale like seasonal produce, buy in bulk, buy frozen or canned fruits and vegetables.
- Shopping for and cooking healthy food takes up too much time.
  - Ask friends or family to help you get things done, shop on the weekends, use a list to make sure you get everything you need for the week, buy healthy convenience items like prewashed salad.

DINING OUT: DECODE THE MENU

- Choose options with keywords in the box.
- If you aren't sure how the items are made, ask!
- Many times you can also substitute options that are deep fried or breaded for a grilled version.
- **Watching fat intake?** Watch out for foods saying au gratin, in cheese sauce, pastry crust, mayo, alfredo, béarnaise, hollandaise, crispy, breaded, buttered, scalloped, rich.
- **Watching salt intake?** Look out for the words like broth, cocktail sauce, creole sauce, soy sauce, barbecued, cured, marinated, pickled, smoked, and teriyaki.

Baked	**Steamed**
Broiled	**Boiled**
Grilled	**Roast**
Poached	**Stir-Fried**

SPLIT YOUR DISH

- Share a meal with someone!
- Ask for the waiter to dish up ½ your meal in a to-go box.

PLAN AHEAD AND COMPARE CHOICES

- Look at the menu before visiting the restaurant to help you decipher foods that are lower in calories, sodium, and saturated fat.
- Any restaurant with more than 20 locations must provide a calorie count on their food items whether online or in restaurant.

AT A FAST FOOD RESTAURANT?

- Stay away from the value promotions like supersized or deluxe burgers, fries, sandwiches, and shakes and choose regular, small, or kids sized versions.
- Look for grilled or broiled chicken sandwiches.
- At a pizza shop? Choose thin crust versus pan pizza. Ask them to cut the cheese in half and add extra vegetables on top.
- Choose water, seltzer, or diet beverage.
- Plan ahead!

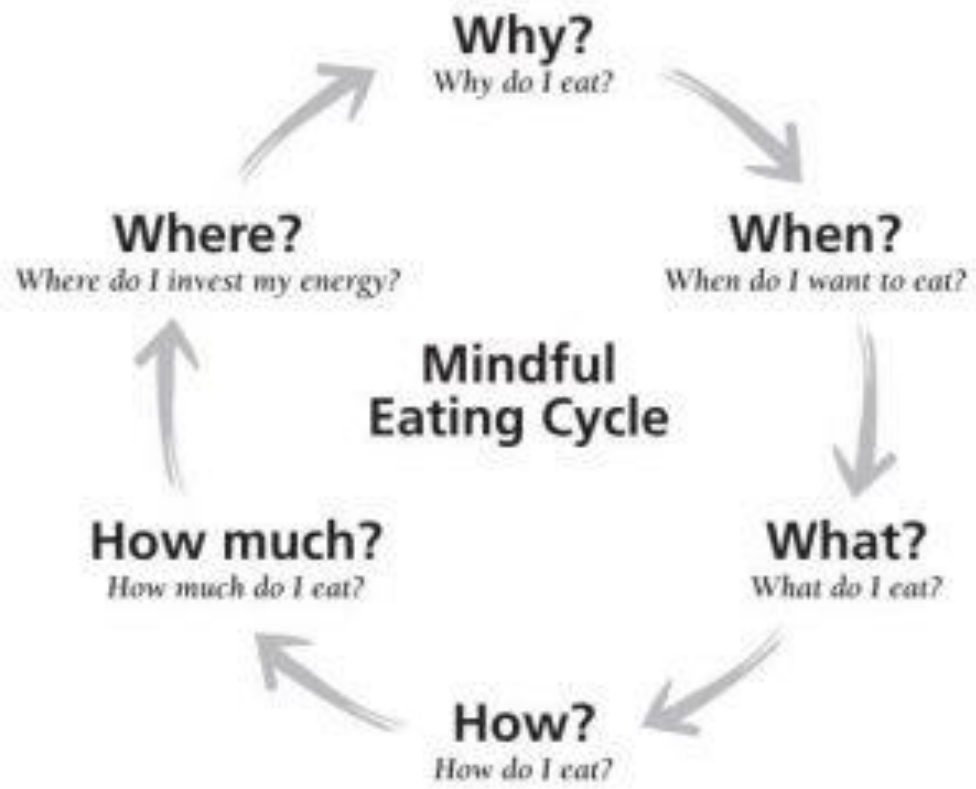
AT A PARTY?

- Survey the options before filling your plate.
- Use smaller plates if possible.
- Make a quick stop at the food, then move away to the other side of the room.
- Go alcohol free.
- If you are bringing food, bring something you know fits into your plan like vegetables with yogurt dip, fruit salad, or shrimp with cocktail sauce.

OTHER STRATEGIES

- Fill up on protein and veggies first. Remember, protein and fiber = increased satiety and reduced cravings.
- Take one slice of bread without butter and move the basket away from you.
- Focus on your company - take a break from eating and enjoy the conversation.
- Remember, moderation is key!

EATING TRIGGERS



IS IT HUNGER OR IS IT SOMETHING ELSE?

RECOGNIZING HUNGER CUES

Signs of Hunger	Signs of Fullness
Stomach pangs	Hiccup
Inability to focus	Burp
Fatigue	Sneeze
Hangry feeling	Runny nose
Weak or shaky	Sigh
Low energy level	Physical feeling

PRACTICING SELF COMPASSION

- Learning how to treat ourselves with care and kindness at times we face distress and disappointment.
- We are often harder on ourselves then we are on others!
- Practicing self-compassion is key when making lifestyle changes.
- The way in which we handle setbacks has an impact on long-term success.

BARIATRIC FOREVER GUIDELINES

- Use **MyFitnessPal** daily- review your calorie, protein, carbohydrate and fat intake versus your goals that were set at the beginning of the program. Stay within these limits.
- Eat **5-6** times per day.
- Limit the amount of food eaten to **8** oz. (4 oz. right after surgery).
- Protein first! Consume at least **70** grams of protein daily, eating the protein food first every time.
- Brain cells need carbohydrates, but moderation is KEY. Remember that carbs are a way to help you get protein in- they can never crowd out protein.
- Avoid foods with added sugars.
- Avoid foods high in saturated fats.
- Chew foods to **applesauce** consistency.
- Take at least **20** minutes to eat. If you think you are eating slowly, eat slower.
- Eat without distraction- not in front of the television, at your desk, or while multitasking.
- Avoid grazing and high calorie.
- Don't drink liquids with solid foods. Wait **30** minutes after eating solids before drinking liquids again. Never "wash it down."
- Maintain hydration with at least **64oz** daily.
- Avoid all carbonated and caffeine containing beverages.
- Do not replace foods with liquids on a regular basis.
- Take your supplements as prescribed.

REVIEW

Answer the following questions and send your responses to your Bariatric Dietitian as a message in your MySparrow app.

1. What types of food should you avoid after surgery?
2. What food should you pick up first at the grocery store?
3. Which types of fats are healthy fats?
4. What mineral needs to be take 2 hours apart from calcium?
5. What is one example of something to work on as listed in your "Forever Guidelines?"