**Unit 4 Chapter 10 Nutrition for Health**

**Nutrition-** the process by which your body takes in and uses food.

**Nutrients-** substances in food that your body needs to grow, to repairitself, and to supply you with energy.

**Calorie-** is a unit of heat used to measure the energy your body uses and the energy it receives from food.

\*\* During teen years, choosing the right foods in the right amounts will give your body the nutrients it needs for healthy growth and development\*\*

Nutrition also affects your life long health:

* Eating a variety of healthful foods can help you avoid unhealthful weight gain and diseases such as type 2 diabetes.
* Can help to avoid other threatening conditions including:
* Cardiovascular disease -Certain Cancers
* Stroke -osteoporosis.

**What Influences Your Food Choices?**

People eat for two reasons : Hunger and Appetite

**Hunger-** is the natural physical drive to eat, prompted by the body’s need for food. If hungry you may feel tired or light headed.

**Appetite-** is the psychological desire for food. (Think about a cake cooking)

**Food and Emotions**

* Sometimes people eat fill an emotional need like being stressed, frustrated, lonely, or sad.
* Sometimes people snack out of boredom or use food as a reward.
* Some mindlessly eat, which is snacking when absorbed in another activity.

**All of these can lead to weight gain, because you’re eating when your body doesn’t need food.**

\*the opposite would be losing your appetite due to being upset so your body doesn’t get enough nutrients\*

**Food and Your Environment**

**Family and Culture-**

**Friends-**

**Time and money-**

**Advertising-**

**Nutrients**

Everything you eat contains nutrients. These perform specific roles in maintaining your body functions.

**Your Body uses Nutrients in many ways:**

* As an energy source -To heal, build, and repair tissue
* To sustain Growth -To help transport oxygen to cells
* To regulate body functions

**Carbohydrates-** starches and sugars found in foods which provide your body’s main source of energy. Most experts recommend you get 45-65 percent of your daily calories from carbohydrates.

Three Types of Carbohydrates: Simple, Complex, and Fiber

**-Simple Carbohydrates**- sugars, like fructose (found in fruits) and lactose (found in milk) Sugars occur naturally in fruits, dairy products, honey and maple syrup. Can be added to processed foods like cereal, bread, and bakery goods.

**Complex Carbohydrates-** or starches are long chains of sugars linked together. Common sources include grains, grain products like bread, pasta, beans, and root vegetables like potatos.

**Fiber-** a tough complex carbohydrate that the body cannot digest.

* Fiber moves waste through your digestive system. Eating foods high in fiber can help you to feel full
* may reduce the risk of cancer, heart disease and type 2 diabetes.
* Experts recommend eating 20-35 grams of fiber per day. Sources of fiber include fruits, vegetables, whole grains, and products made from whole grains, nuts and seeds.

**Role of Carbohydrates-** body uses Carbs by breaking them down into their simplest foms. Most carbsconsumed are turned into a simple sugar called glucose. This is the bodys main source of fuel for body tissues. Can be stored in tissue to use during intense activity later.

**Benefits of Fiber-** It can’t be digested but it plays an important role by aiding digestion and reducing the risk of disease.

**Proteins-** are nutrients the body uses to build and maintain its cells and tissues. They are made up of chemicals called amino acids.

**Types of Protein-** your body uses about 20 amino acids that are found in foods. We produce all but nine. These nine are called essential amino acids because the body needs to get them from food. The rest are non- essential amino acids.

* Other proteins come from animal sources like meat, eggs, dairy products and soy.
* They can be called complete proteins because they contain all nine essential amino acids
* Proteins from plant sources are usually missing one or more of the essential amino acids, but you can get all essential amino acids by eating a variety of plant based foods like grains, nuts, seeds.

**Role of Protein-** Protein is the basic building material of all your body cells. Muscles, bones, skin, and internal organs are all constructed of protein.

-Protein helps your body grow during childhood and adolescence.

-Throughout your life, protein will maintain muscles, ligaments, tendons, and all body cells.

-Proteins also do a variety of other jobs in the body, for example the protein hemoglobin in red blood cells carries oxygen to all your body cells.

- Proteins may also function as hormones; these are chemicals that regulate the activities of your various body systems.

-Protein does not supply energy to your body as quickly or as easily as carbs but can be used as an energy source.

-Between 10 and 15% of your total daily calories should come from protein

**Fats**

**Types of Fats-** Dietary fats are composed of fatty acids, which are classified as either unsaturated or saturated.

-Fatty acids that the body needs but cannot produce on its own are called essential fatty acids.

**Unsaturated fats-** Vegetable oils, nuts, and seeds usually contain larger amounts of unsaturated fats. Eating unsaturated fats in moderate amounts may lower risk of heart disease.

**Saturated fats-** found mostly in animal based foods such as meat and many dairy products; a few plant oils (palm, coconut, and palm kernel) also contain a lot of saturated fats. Consuming too many may increase risk of heart disease.

**Trans fats-** These fats are formed by a process called hydrogenation, which causes vegetable oil to harden.

-As it hardens the fats become more saturated.

- Trans fats can be found in stick margarine, many snack foods, packaged baked goods like cookies and crackers

-Trans fats can raise your total blood cholesterol level, which will increase your risk for heart disease.

-Because of the risk of trans fats the USDA now requires that the amount be listed on the nutrition label.

**Health issues of fats-** your body needs a certain amount of fat to carry out its basic functions, but too much can be harmful. They are usually high in calories, so too much can lead to unhealthful weight gain and obesity.

**Role of Fats-** fats provide a concentrated form of energy.

-Essential fatty acids are also important to brain development, blood clotting, and controlling inflammation.

-They also maintain healthy skin and hair.

-Also absorb and transport fat-soluble vitamins like A,D,E and K through the bloodstream.

-Calories from fat not used by the body are stored as body fat, this is called adipose tissue which provides warmth for the body.

-Carrying too much fat on the body increases risk of health problems.

**Cholesterol-** a waxy fatlike substance in your blood.

-Cholesterol is needed to create cell walls, certain hormones, and vitamin D, but excess cholesterol in your blood can build up on the insides of the arteries. This raises your risk of heart disease. Trans fats behave like saturated fats and promote cholesterol build up in arties.

**Other Types of Nutrients**

**Vitamins-** compounds found in food that help regulate many body processes. Vitamin C, folic acid, and the B vitamins are water soluble meaning they dissolve in water and pass easily in the bloodstream during digestion.

-Body does not store these vitamins and if unused they are removed by the kidneys.

-Fat soluble vitamins (A,D,E, and K) are stored in body fat for later use. Too many can be harmful

**Minerals-** are elements found in food that are used by the body. MUST GET FROM FOOD.

-Body needs calcium this promotes bone health. Eating calcium-rich foods helps reduce your risk of developing **Osteoperosis**- a condition where bones become fragile and break easily. (most common in women over 50)

**Water-** essential for most body functions all body cells contain water. Water functions include:

-Moving food through digestive system

-Digesting carbs, proteins, and aiding other chemical reactions in body

-Transporting nutrients and moving wastes

-storing and releasing heat/ cooling the body during perspiration

-Cushioning eyes, brain, and spinal cord/ lubricating joints

**Healthy Food Guidelines**

**Dietary Guidelines for Americans-** are a set of recommendations about smart eating and physical activity for all Americans. The guidelines published by the U.S. Department of Agriculture (USDA) and the Department of Health and Human Services (HHS) provide science based advice for healthful eating.

The advice can be summed up in three key guidelines:

* Make smart choices from every food group
* Find your balance between food and activity
* Get the most nutrition out of your calories

**Making smart choices**

There are five major food groups:

**My pyramid-** an interactive guide to healthful eating and active living to choose foods from all five of the food groups.

**Your Best choices**

**Focus on Fruits-** Eat a variety of Fruits, fresh whole fruits that provide fiber are better than juices.**Vary your Veggies-** Try to eat a good mix of vegetables each day, from dark greens to orange colorful veggies

**Get Calcium rich foods-** Low fat and fat-free dairy products are good choices. Teens should aim to drink three cups a day of low fat or fat free milk.

**Make half your grains whole-** get at least three ounces of brown rice or whole grain cereals, breads, crackers, and pasta each day. When choosing processed foods, such as breads and cereals check the ingredients label to make sure the grains are described as “whole”.

**Go Lean with Protein-** Choose lean meats and poultry. Prepare them by grilling, baking, or broiling. Frying causes extra fat. Get protein from fish, beans, peas, nuts, and seeds.

**Limit certain foods-** avoid foods that are high in fat, especially saturated fats and trans fats. Limit foods with salt and added sugars.

**Balance food and physical activity.**

Teens should be physically active for 60 minutes every day to avoid unhealthy weight gain.

**Getting the most nutrition out of your calories**

-Every day your body needs a certain number of claories, depending on your age, your gender, and activity level.

-**Nutrient-dense foods-** these foods have a high ratio of nutrients to calories. Ex a large carrot may have the same amount of calories as a bag of potato chips but the carrot is more rich in nutrients.

**Sensible Snacks**

* Fresh Fruit
* Cut up vegetables, such as celery or carrot sticks
* String cheese
* Unsalted nuts
* Air popped popcorn
* Fat free yogurt

**Eating Right When Eating Out**

**Watch Portion sizes-** Try splitting the meal/ only eat half

**Pay attention to how foods are prepared-** anything fried is likely to be high in fat. Grilled, baked and broiled are better choices

**Go easy on toppings-** high fat sauces, mayonnaise, butter, sour cream add fat and calories to a dish. Ask on the side.

**Don’t drink your calories-** choose water instead of soft drinks to satisfy your thirst without adding extra calories to your meal.

**Nutrition Labels and Food Safety**

When buying food they will all have a nutritional label to tell you what ingredients are included:

These list

* The name of the food product
* The amount of food in the package
* The name and address of the company that makes, packages, or distributes the product
* The ingredients in the food
* The nutrition facts panel, which provides information about the nutrients found in the food.

**Ingredient list**

* food that appears first makes up the largest share of the weight, and so on and so forth
* Food labels that list several similar ingredients can be misleading Ex. A product that contains three kinds of sweetners would list each one separately high- fructose, corn syrup, corn syrup sugar

**Food additives**- substances added to food to produce a desired effect

-Used to keep food safe for long periods of time, to boost nutrient content, improve taste, texture or appearance.

Two additives that concern some experts are aspartame, a sugar substitute and olestra a fat substitute

**Nutritional Claims**

**Free-**

**Low-**

**Light-**

**Reduced-**

**High**

**Good Source of-**

**Healthy-**

**Organic Food Labels**

* Foods labeled “Organic” are produced without the use of certain agricultural chemicals, such as synthetic fertilizers or pesticides. These foods cannot contain genetically modified ingredients or be subjected to certain types of radiation.

**Open Dating**

**Sell by dates-**

**Us by or Expiration dates-**

**Freshness dates-**

**Pack Dates-**

**Food Safety**

**Food Born Illness-** or food poisoning. Foods can contain pathogens or disease-causing organisms. Sometimes the pathogens produce diseases.

**How Foodborne Illness Occurs**

**-**Bacteria and viruses cause most cases of foodborne illness.

**-**Most common sources are the bacteria Campylobacter, salmonella, E. Coli.

**-**Some pathogens are naturally present in healthy animals, salmonella can infect hens and enter their eggs

**-**Shellfish may pick up bacteria that are naturally present in seawater.

**-**Fresh fruits and vegetables may become contaminated if they are washed in water with human or animal wastes.

**-**Humans who handle food can spread pathogens from their own skin to the food or from one food to another.

**Symptoms**

* Cramps, diarrhea, nausea, vomiting, and fever
* Fever higher than 101.5 degrees F
* Prolonged vomiting or diarrhea
* Blood in the stool
* Signs of dehydration, including a decrease in urination, dry mouth and throat, feeling dizzy

**Keeping Food Safe to Eat**

**Pasteurization-** treating a substance with heat to kill or slow the growth of pathogens like E coli.

**Clean-** wash and dry your hands frequently to keep pathogens on skin from getting in food

**The Cross Contamination-** the spreading of pathogens from one food to another; clean surfaces and utensils carefully to prevent this

**Separate-** separate raw foods from other foods. This includes meet, poultry, seafood, and eggs

**Cook-** Heating food to a high enough temperature will kill the pathogens that cause food borne illness.

**Chill-** Refrigeration slows the growth of harmful bacteria. Freeze or refrigerate meat, poultry and other perishable foods as soon as you get home from the store.

**Food Sensitivities**

**-Food Allergy-** a condition in which the body’s immune system reacts to substances in some foods. Most common allergens are found in milk, eggs, peanuts, tree nuts, soybeans, wheat, fish, and shellfish.

**-**Symptoms include skin irritation; like rashes and hives, or itching others include nausea, vomiting, diarrhea. The throat can swell and the heart has trouble (life threatening)

**Food Intolerance-** a negative reaction to food that doesn’t involve the immune system. EX Lactose intolerance; this happens when a persons body does not produce enough of the enzyme needed to digest lactose, a sugar found in milk.