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NUTRITION

(2 HOUR)



PEGCO INC
2395 PALM DR
PORT ORANGE, FL 32128
(386) 756-4266
WWW.VOLUSIACPR.COM

AGENDA

- I. DEFINE NUTRITION
- II. CULTURAL INFLUENCE
- III. IDENTIFY NUTRIENTS
- IV. DISCUSS NUTRIENT COMPONENTS
- V. IDENTIFY HEALTH PROBLEMS RELATED TO POOR NUTRITION

OBJECTIVES

6. Learn how to identify healthy carbohydrate foods and use them to get fit and stay healthy.
7. Discuss the risk posed by consuming too much saturated fat, trans fat, and cholesterol.
8. Explain why eating fewer animal foods and more plant foods protects our health.
9. Explain why eating fewer animal foods and more plant foods protects our health.
10. Describe the role of carbohydrates, fats, and protein in the daily diet.

WHAT IS NUTRITION?

Nutrition refers to all the processes involved in the intake and use of nutrients. Nutrients are the organic and inorganic chemicals in food that give the body energy and the material for cellular growth and activity. Nutrients include carbohydrates, fats, proteins, vitamins, minerals, and water. The metabolism of the nutrients at the cellular level produces growth and energy production as well as excretion of waste. The term nutrition is also used to indicate nutritional status or condition of the body resulting from the use of nutrients. Public awareness and concern about nutrition is very high owing to recent studies regarding the state of obesity with in the American population.

WE ARE WHAT WE EAT.

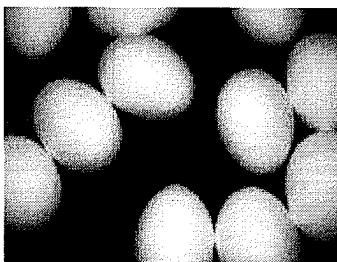
There are many reasons why people eat the way they do. Good health is a state of emotional and physical well-being that is determined, to a large extent, by diet and lifestyle factors. Health promotion and disease prevention practices focus on sound nutrition, regular exercise, avoidance of smoking and tobacco, limited alcohol intake, management of stress, and avoidance of environmental contaminants. We are what we eat,

because the food we consume is used to build and repair every part of our bodies. A well-nourished person is also better able than a poorly nourished individual to ward off infections. Consequently, a poor diet and risky lifestyle behaviors are directly related to multiple health problems.

The choices an individual makes about nutrition and diet is greatly influenced by their background and culture as well as their individual lifestyles. Convenience plays a big role in the choices we make regarding our diets. Picking up fast-food on the way home from a busy day at work is often easier than taking the time to cook a well-balanced meal. We have a tendency to reach for the “feel good” foods that supply us with emotional comfort in an effort to fill in the psychological gap. Foods that we grew up on become a part of our culture and heritage and therefore are carried over into adult life. These same foods and traditions, having been introduced to our children, become part of their own lives once they become adults. Sometimes foods are associated with positive memories, or are chosen because of the influence that marketing has on our psychic.



Culture plays a big part in our choices of foods we eat. Individuals who come from an Asian background emphasize whole grains as well as fruits, vegetables, legumes, and nuts. The fats in their diets are derived largely from vegetable oils, such as peanut or sesame oils. Dairy products are traditionally not eaten. The protein sources are typically from broiled stir-fried fish and seafood, egg whites, tofu, and nuts. Individuals from Latin America emphasize foods more from plant sources like corn and potatoes. In this culture, poultry, fish, and dairy products are typically consumed on a daily basis and meats and eggs more on a weekly basis rather than daily. Every culture, religion, and ethnic group has its own beliefs and practices about food. Being aware of all the different components that influence our food choices will not only help us as we seek to care for clients, but will also help us as individuals to monitor and control our own food choices.



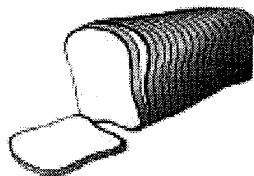
NUTRIENT COMPONENTS

Carbohydrates

The main function of carbohydrates is to supply fuel for energy as well as all basic cellular activities. When digested, the carbohydrate is converted into glucose, which is carried by the bloodstream to cells that need energy. Excess amounts of carbohydrates are converted into fat and stored in the body adipose tissues.

Carbohydrates are chemical compounds that are composed of carbon, hydrogen, and oxygen and are primarily plant products in origin. They are divided into three groups based on their complexity.

1. Simple sugars – table molasses, syrup, table sugar, honey, candy, baked goods and milk.
2. Starch (complex carbohydrates)– whole-grain products, cereal, pasta, rice, potatoes, legumes, fruits, vegetables, and seeds.
3. Dietary fiber – bran, oatmeal, whole-grain breads, beans, fruits, vegetables, seeds, and dried fruits.



Each component has its own functions. For example: simple sugars are quickly absorbed into the body, whereas complex carbohydrates must be processed before they can be absorbed. Dietary fiber is not digestible and therefore passes through the gastrointestinal tract unchanged.

DIETARY TIPS:

1. The amount of carbohydrates allowed on a daily basis should range from 55% to 57% of the total calories consumed. This is based on a 2000 calorie diet.
2. It is important to choose foods that are high in fiber such as fruits, vegetables, and whole grains.
3. Consume 15g of fiber for every 1000 calories eaten.
4. Reduce the amount of simple sugars.
5. Consume a variety of dark green, orange, and starchy vegetables and legumes.
6. Eat whole grain and refined grain foods on a daily basis.
7. Limit milk products



What are good carbohydrates?

Good carbohydrates are those that are unprocessed. In other words they are in their natural state or close to their natural state when they are consumed. For example, green vegetables. As a matter of fact, pretty much all “leafy” vegetables and fruits fit into this category as do beans, legumes, nuts and seeds. Whole-grain cereal foods like whole-grain breads and pastas also fit into this category. When looking for the good carbohydrates look for these characteristics:

- a. High in fiber – high fiber carbohydrates help you stay full longer which will help avoid overeating. High fiber provides sustained energy, lowers cholesterol levels, and helps to remove toxins from the body.
- b. Low glycemic index – this helps stabilize blood sugar levels and insulin production.
- c. High in nutrients – look for foods that have natural vitamins, minerals and phytonutrients that promote health and help to prevent chronic disease.

How to Incorporate Good Carbohydrates Into Your Diet

1. Cut out as much “junk food” as possible
2. Avoid or limit your intake of refined flour baked goods
3. Buy a variety of fresh fruits and vegetables
4. Try to eat a serving of leafy green vegetables at least twice a day
5. Use nuts and seeds as healthy snacks
6. Eat a serving of beans or legumes at least 1-2 times a day
7. Choose whole-grain products for breads, pasta, etc.

FATS

Fats are the storage form of fuel used to back up carbohydrates as an available energy source. It is more concentrated and produces 9 kcal of energy per gram when it is metabolized. Dietary fats provide essential fatty acids and are necessary for absorption of the fat-soluble vitamins such as A, D, E, and K. Fat gives food flavor and creates a feeling of satisfaction after it has been eaten. Fat that is stored in tissue supports and protects vital organs, insulates the body to help in the regulation of body temperature, and protect nerve fibers. Fats are also crucial to the development of cell membrane.

Fats, when digested, are broken down into fatty acids and glycerol. The main building blocks of fat are the fatty acids. Fatty acids are either saturated or unsaturated



- SATURATED:**
- a. found in dairy products, eggs, lard, meat, margarine
 - b. come mainly from animal sources but some come from plant origin like coconut and palm oils
 - c. high intake is associated with high blood cholesterol levels
 - d. chemical structure is denser, heavier, and solid at room temperature

Triglycerides are created when three fatty acids attach to a molecule of glycerol. This structure is the main storage form of fats. The total amount of triglycerides in the bloodstream is used as a diagnostic tool for determining a patient at risk for hypertension and heart disease.

Cholesterol is a nonessential nutrient that plays an important role in metabolic activities. It is a substance produced by the liver and found in plant and animal fats that can produce fatty deposits or atherosclerotic plaques in the blood vessels. Cholesterol is found primarily in egg yolks and organ meats, although all animal sources of

food contain cholesterol. Because our bodies produce cholesterol, and we also get it from foods we eat, it causes confusion about the ‘good’ and ‘bad’ fats.

The ‘good’ in our diet are mono-unsaturated and polyunsaturated fats. These are high-density lipoproteins (HDL). They carry cholesterol from body tissues or the bloodstream to the liver for metabolism and excretion.

The ‘bad’ fats are the low-density (LDL) fats, and they carry cholesterol to the cells. The LDL is instrumental in forming atherosclerotic plaques on the arterial walls. As a result it may lead to heart disease, hypertension, and strokes. The good news about LDL is that it can be influenced by diet and nutrition.

DIETARY TIPS:

1. Keep the total fat intake between 20% and 35% of the daily diet.
2. No more than 10% of daily calories should come from saturated or trans fat. (Trans-fatty acids are byproducts that are created when polyunsaturated oils are solidified by the addition of hydrogen).
3. Limit cholesterol to less than 300mg per day.
4. Use only lean cuts and smaller portions of meat.
5. Substitute poultry and fish for red meat.
6. Avoid adding fat to the cooking process
7. Limit intake of organ meats and egg yolks.

PROTEINS

Proteins are very large, complex molecules. They are composed of amino acids which are the materials that our bodies use to build and repair tissues. Function of proteins are to build and repair the body tissue; aid in the body's defense against disease by creating antibodies; regulate fluid and electrolyte balance; and provide energy when carbohydrates and fat stores are depleted. There are two types: complete and incomplete proteins.

Complete proteins come from meat, fish, poultry, eggs, and dairy products. This means that the proteins from this group contain all of the essential amino acids needed for normal growth and maintenance of tissues.

Incomplete proteins do not supply the body with all the essential amino acids needed to grow and maintain tissue like complete proteins do. These proteins come from vegetables and must be used in combinations in order to make them complete proteins. When nutritional intake provides an inadequate amount of complete proteins, it will use energy to create the needed essential amino acids. Dietary protein must be adequate to prevent the wasting of protein or energy.

DIETARY TIPS:

1. No more than 18% of daily calories should come from protein.
2. The U.S. Department of Agriculture Food Guide recommends 5 ½ to 6 oz. of cooked lean meat, poultry, or fish each day.
3. One ounce of meat equals one egg, 1/4 cup of dry beans, 1 tablespoon of peanut butter, ½ cup of cooked beans, or ½ cup of tofu.

DIETARY TIPS FOR VEGETARIANS:

1. Build meals around protein sources
2. Try calcium-fortified soy-based beverages in place of milk.
3. Add meat substitutes, such as tempeh, tofu, or wheat gluten to soups and stews to boost protein without adding saturated fat or cholesterol.

VITAMINS

Vitamins help or allow metabolic reactions to proceed. They regulate the synthesis of bones, skin, glands, nerves, brain, and blood. They aid in the metabolism of protein, carbohydrates and fats. They prevent nutritional deficiency diseases and they provide for good health at all ages. They are divided into two groups:

Fat-soluble: A, D, E, and K

Water-soluble: B complex and C

Nutritionist have agreed that the greatest benefit from vitamins comes from their natural ingestion as part of the diet rather than in supplemental form.

MINERALS

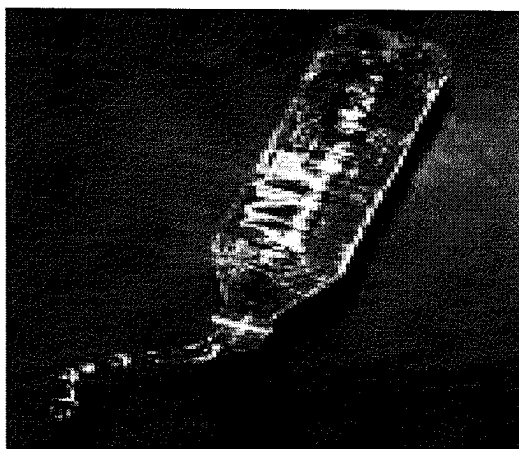
Minerals are essential for sustaining life even though the body requires them in relatively small amounts. These minerals must be supplied by diet or from supplements. Minerals contribute to the body's water-electrolyte balance and acid-base balance and are essential components of enzymes. Minerals also help regulate muscular and nervous activities, blood clotting, and normal heart rhythm.

Mineral that are present in the largest amounts include sodium, potassium, calcium, chlorine, phosphorus, and magnesium. Minerals in smaller amounts are called trace elements. They include iron, zinc, copper, selenium, chromium, manganese, iodine, and fluorine. Trace elements appear to work with hormones. For example iodine is part of the thyroid hormone thyroxine.

It has been determined that calcium, iodine, and iron are the nutrients most frequently missing from the American diet.

WATER

Water is often overlooked when nutritional status is evaluated. The body is approximately 80% water and can survive longer without food than it can without water. Water plays a key role in the maintenance of body temperature. It acts as a solvent and the medium for most biochemical reactions. Water acts as the vehicle for transport of substances such as nutrients, hormones, antibodies, and metabolic waste. It also acts as a lubricant for joints and mucous membranes. The body loses water in a number of ways thereby requiring replenishing. It loses water from urine, feces, sweat, and expiration. Extensive loss of water can lead to electrolyte losses that can be life-threatening.



HEALTH PROBLEMS R/T POOR NUTRITION

1. *Anemia*: result of low iron or folate intake
2. *Cancers*: influenced by high-fat, low-fiber, low-complex-carbohydrate diet; high alcohol and sodium intake; sedentary lifestyle, tobacco use
3. *Constipation*: low fiber, inadequate fluid intake; high-fat diet; sedentary lifestyle
4. *Type 2 diabetes*: high-calorie, high-fat, low-complex-carbohydrate diet; obesity; sedentary lifestyle
5. *Hypercholesterolemia and atherosclerosis*: high-fat, low-fiber diet; high sugar and alcohol intake; tobacco use; sedentary lifestyle
6. *Hypertension*: high-calorie, high-fat diet; high alcohol and sodium intake; tobacco use, sedentary lifestyle; obesity; stress
7. *Osteoporosis*: low calcium intake; inadequate vitamin D or lack of sun exposure; high alcohol intake; sedentary lifestyle; tobacco use
8. *Stroke*: high-fat, low-fiber, low-complex-carbohydrate diet; high alcohol intake; tobacco use; stress

TIPS AND TECHNIQUES FOR BALANCING FOOD AND PHYSICAL ACTIVITY

IT'S ALL ABOUT YOU.....

Make healthy choices that fit your lifestyle so you can do the things you want to do. The key is to “Be Flexible”! When you balance what you eat and the physical activity you do over several days, you reap the benefits of being active and you’re able to enjoy your favorite foods, too.

1. Have dinner reservations at your favorite steakhouse? Balance your favorite steak, a baked potato and sour cream with lower fat foods throughout the day and cap off the evening with 30 minutes of dancing.
2. Going to a party? Eat a light breakfast and lunch, and spend a half-hour in-line skating or biking before you get ready for your night out.
3. In the mood for something sweet and refreshing? Forgo your usual cookies and milk before bed and fit in an extra 10 minutes of moderate physical activity.
4. Do you like whole or 2% milk and don’t want to switch? Choose lower fat foods to balance it out or increase your physical activity throughout the day or week.

Food and Activity: Balance is key!

Consider that a 5'5" woman needs about 1800 calories to maintain her weight of 135 lbs. How can she enjoy 2000 calories each day and still maintain her weight? Physical activity!

Below is a typical day's menu and activity schedule.

Breakfast:

Cereal with 1% mil, toast with margarine, orange juice, coffee with cream

10 mins. on a stair climber machine

Lunch:

Turkey sandwich on wheat bread with mustard, apple, diet soft drink

10 minute brisk walk during lunch hr.

Mid-afternoon break:

Lowfat fruit yogurt or pretzels

Dinner:

Steak, baked potato with lowfat sour cream, steamed vegetables, roll and margarine, 1% milk

10 minutes of gardening

Look and feel better with physical activity!

Health experts agree that 30 minutes or more of moderate physical activity each day offers important health benefits. And it's okay to accumulate the 30 minutes in shorter bouts of 8 to 10 minutes each. What's considered moderate?

1. brisk walking, hiking
2. bicycling for pleasure or transportation (10mph)
3. gardening and yard work (mowing the lawn, raking grass or leaves, trimming shrubs and trees, weeding while standing or bending)
4. low impact aerobics, weight training, shooting baskets
5. washing and waxing car
6. grocery shopping with a grocery cart; putting away groceries
7. roller skating or in-line skating at leisurely pace
8. golf, pulling cart or carrying clubs
9. home repair and cleaning (washing windows and floors, refinishing furniture, painting, wallpapering)



A HEALTHY WEIGHT

It's all about balance

Way to achieve a healthy weight doesn't come in a "one size fits all" package. Everyone's health and lifestyle patterns are different. However, at the core of maintaining a healthy weight is a simple solution that can help anyone achieve their goals – BALANCE what YOU EAT with what YOU DO. Proper nutrition and regular physical activity work hand in hand when it comes to good health. The following are some simple, everyday solutions to fuel the mind, body, and spirit.

NUTRITION

Be realistic! Be Sensible! Be Flexible! Be Adventurous!

1. Power up with power foods– green vegetables, red fruits, whole grains, low-fat dairy and lean meats provide a power pack of nutrients in relatively small caloric packages.
2. Order once, enjoy twice. Big portion sizes don't have to be eaten in one sitting. Eat half your steak in the restaurant and take the rest home for a steak salad or beef and broccoli stir-fry.
3. Savor your foods– if you eat slower you'll eat less, enjoy it more and avoid feeling stuffed. It takes about 20 minutes for your brain to get the signal that your stomach's had enough.
4. Snack from a plate, not from the bag, to stay aware of how much you are eating

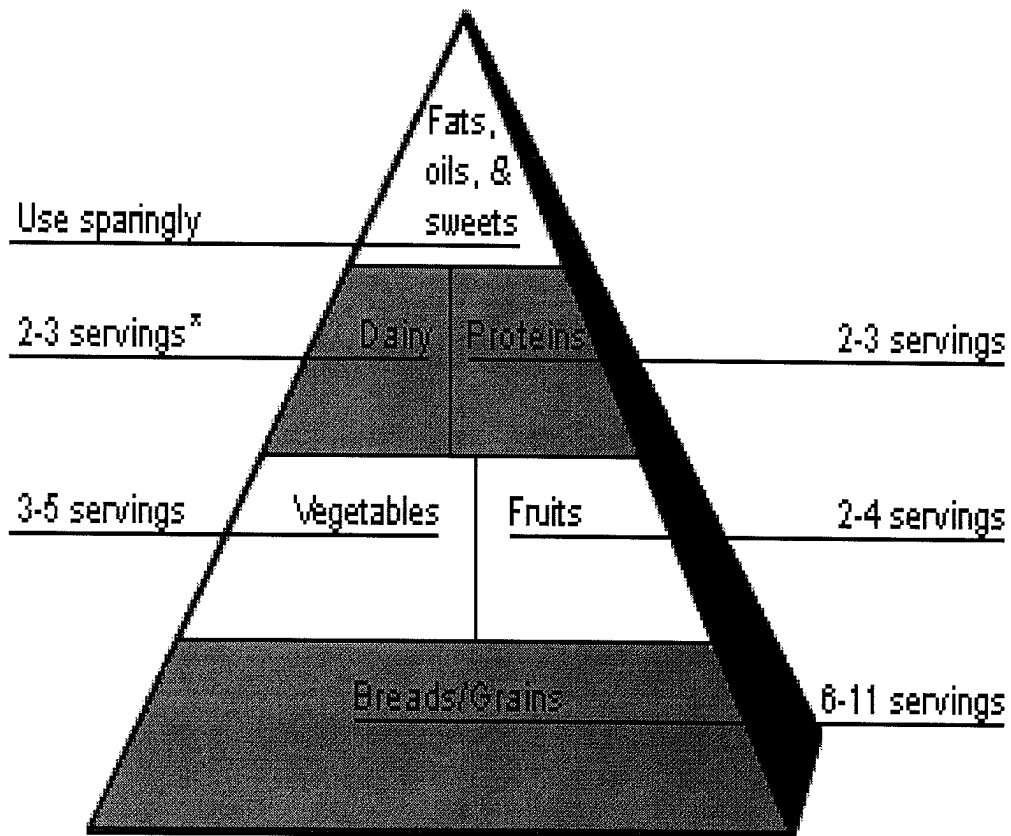
PHYSICAL ACTIVITY

Start your engine! Get moving one step at a time.

1. Aim for the empty parking spot further from the door. Driving around for the close spots takes time that can be better spent walking.
2. Why should kids have all the fun? While they play soccer or softball, walk around the field instead of watching from the stands.
3. Plant a vegetable garden. All that digging, hoeing and weeding helps you get fit. Bonus: You'll reap the best-tasting veggies ever!
4. Buy a city street map or a bike path guide. Refer to it frequently for new or scenic ways to walk home, bike to work or walk the dog.



Food Pyramid



*3 servings for women who are pregnant or breastfeeding, teenagers, and adults under 24.

The advised number of servings from each group varies depending on how many calories you take in each day. This in turn, depends on your activity level, body size, gender, age, and stage of life.

U.S. Department of Agriculture

NUTRITION EXAM

NAME: _____ DATE: _____

1. Identify two components that influence our eating habits. _____

2. Describe the dietary imbalances that contribute to each of the following:

- a. Anemia _____
- b. Cancer _____
- c. Diabetes _____
- d. Osteoporosis _____

3. How does culture influence our dietary choices?

4. Name the six dietary components necessary for our bodies. 1. _____

- 2. _____
- 3. _____
- 4. _____
- 5. _____
- 6. _____

5. _____ is produced by the liver and is found in animal foods; can produce atherosclerotic plaque deposits in arteries.

PEGCO, INC.
2395 PALM DR
PORT ORANGE FL 32128
386/756-4266
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PROGRAM EVALUATION

COURSE TITLE: _____ NUTRITION (2HR) _____
DATE: _____ LOCATION: _____

*Please evaluate by circling the appropriate rating:
5-Excellent 4-Above average 3-Average 2-Fair 1-Poor*

- | | |
|---|----------------------|
| 1. Overall quality of the program | 5 4 3 2 1 |
| 2. Overall content of the program | |
| a. content can improve my ability to perform my job | 5 4 3 2 1 |
| b. content reflected knowledge level and needs of learner | 5 4 3 2 1 |
| c. the material was current | 5 4 3 2 1 |
| 3. Achieved stated objectives | |
| a. total number of objectives in program _____ | |
| b. circle the number of met objectives | 1 2 3 4 5 6 7 8 9 10 |
| c. the test material reflected the objectives listed | 5 4 3 2 1 |
| 4. Overall organization of the program | |
| a. material was organized to facilitate learning | 5 4 3 2 1 |
| b. material covered was adequate and accurate | 5 4 3 2 1 |

What did you like best about the program?

Your suggestions for improving this program.

Any topic ideas for future in-service programs

THANK YOU FOR USING PEGCO INC. WE APPRECIATE YOU.

