



Chefs of the Future

**National
US Coast Guard Auxiliary
Special Projects**

Introduction

Welcome to the "Chefs of the Future" program! This program is designed to prepare you to assist in food preparation in Coast Guard stations, MSOs, cutters and anywhere else that the Coast Guard has personnel. You will be able to work in the galley, cooking for the crew. You'll provide a service to your local unit in a way that not many people can – with a hot, nutritious meal!

Did you wonder where the name of the program "Chefs of the Future" came from? The title of the program comes from an episode of the *Honeymooners*, starring Jackie Gleason. The episode "Better Living Through TV" aired on November 12, 1955 and feature Ralph Kramden and Ed Norton in a classic zany scheme.

Ralph's latest get-rich-quick scheme involves raising \$200 to purchase 2,000 "Handy Housewife Helpers," thereby cornering the Brooklyn franchise for this not exactly in demand gadget. Alice refuses to bankroll Ralph's scheme, citing his various other "surefire" business enterprises, including no-calorie pizza and wallpaper that glows in the dark. Thus, Ralph enlists Ed in his newest venture, whereupon the two buddies purchase air time on a local TV station to advertise the Handy Housewife Helper to the eager public. Playing respectively "The Chef of the Past" and "The Chef of the Future," Ed and Ralph go through the rehearsal of their commercial with the greatest of ease -- but when airtime actually comes, Ralph panics at the notion of being seen by millions of "Late Late Show" aficionados. Though the script by Marvin Marx and Walter Stone contains some hilarious verbal bits ("Can it core -- a -- apple?"), some of the episode's funniest moments were completely ad-libbed, notably Ralph's reaction to a malfunctioning prop ("Maybe we oughta say somethin' about spear-fishing") and the collapsing set at fadeout time ("Now back to Charlie Chan!"). ~ Hal Erickson, All Movie Guide



**"Tell me, O' Chef of
the Future, can it core
an apple?"**

*- Ed Norton,
The Honeymooners*

We're confident that, when you have completed this training program, you will be ready to be the "Chef of the Future" for your local Coast Guard unit!

What Will I Be Learning?

This training program will focus on four modules:

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1. The Fundamentals of Nutrition	3
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Module 1

The Fundamentals of Nutrition

It is important that the food we prepare is nutritionally sound. Our Coast Guard team members need fuel to expend the energy they do to carry out their mission. Putting first things first, what makes the food we prepare both good and good for you?

Learning Objectives

At the conclusion of this section, you will be able to:

- ✓ Identify nutrients.
- ✓ Identify dietary guidelines for good health.
- ✓ Accurately read and interpret food labels.
- ✓ Develop a balanced nutrition plan.
- ✓ Explain the benefits of antioxidants?

Lifestyle Quiz



How healthy are you? Are you taking care of yourself? Taking this lifestyle quiz will give you an idea of those factors in your life contributing to a healthy or unhealthy lifestyle.

Item	Yes	No
Are you too tired to cook at the end of the day?		
Would you rather hit the snooze alarm than eat breakfast?		
Do you often eat fast food and take out?		
Are your cupboards and refrigerator often bare?		
Do you ever skip meals or go longer than 5 hours without eating?		
Do you travel frequently?		
Do you hate cooking?		
Do you rely on coffee to jumpstart your morning?		
Do you eat just one large meal?		
Do you work 45 or more hours per week? Or combine 2 or more of the following: job, school, child care, charitable/social organization.		
TOTAL Yes and No		

And Do the Results Are...

How did you make out? Check your scores using the following scale.

- ✓ **7-10 "YES"** - Eating gets in the way of your day. You are probably too busy. You need to maximize your limited eating times.
- ✓ **3-6 "YES"** - You lead a busy life and could be developing poor eating habits; now is the time to make changes.
- ✓ **1-2 "YES"** - Not bad! Concentrate on keeping your meals nutritionally balanced.

Why is a healthy diet important?

- ✓ Improves your life *NOW*
 - How you look
 - How you feel
- ✓ Improves your health through out your lifespan
 - Reduces incidence of chronic disease
 - Improved quality of life

Eating a healthy diet can also reduce your risk of developing some serious diseases, including...

- | | |
|-----------------|-------------------|
| ✓ Cancer | ✓ Heart disease |
| ✓ Diabetes | ✓ Stroke |
| ✓ Osteoporosis | ✓ Cataracts |
| ✓ Birth defects | ✓ Premature death |

If your body could write you a letter about how you have been treating it lately, what would it say? Would it be complaining because you have not been eating food with enough nutrients or drinking enough water? Or would it be applauding you for eating the right food and getting plenty of water?

Nutrition is vital to your health. A poor diet is linked to numerous health problems, including increased risk for chronic diseases such as heart disease, cancer, stroke, and diabetes.

A good diet and fitness can prevent and even reverse some of these conditions. Nutrients are released in the body through digestion; they provide energy, build and maintain body tissues, and regulate body functions.

Lifelong eating patterns determine health/disease outcomes for most of us. Some nutrition deficits such as a vitamin C deficiency don't take too long to show up, others such as heart disease or osteoporosis may require decades. The good news is that even if you have nutritionally neglected your body for years, in most cases, you can reverse much of the damage when appropriate nutrition corrections are made.

Physiological Function of Nutrients

You've heard about them on TV and read about them in the newspapers. But, what do they really do? In the table below you will find some key definitions.

Nutrient	Purpose
<i>Protein</i>	Builds and repairs the body and fights infection
<i>Carbohydrates</i>	Provides energy for the body
<i>Fat</i>	Protects internal organs and carries fat-soluble vitamins
<i>Vitamins & Minerals</i>	Regulate body processes
<i>Water</i>	Important for the many chemical reactions in the body



Each of these nutrients provides us with energy, measured in the form of calories. Here's a quick quiz for you. Can you guess how many calories are in these nutrients?

- 1 gram of FAT _____ calories
- 1 gram of CARBO _____ calories
- 1 gram of PROTEIN _____ calories
- 1 gram of ALCOHOL _____ calories

You can find the correct answers at the bottom of the next page. Were you surprised to see how many calories you are consuming?

Proteins

Proteins are made up of chains of smaller chemical structures called amino acids; they are complex substances that form the structural frame work of the body. The substances that control all the chemical reactions in the body (enzymes) are also made of proteins.

Physical growth, the repair of damaged tissue, and the regulation of daily body functions could not take place if proteins were not consumed in the diet.

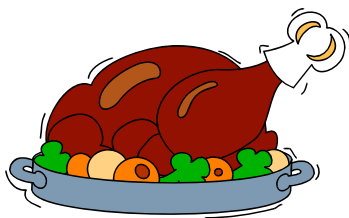
There are two types of amino acids.

- ✓ **Essential:** Can't be synthesized, must be provided by the diet, to build tissue all 8 amino acids must be present in proper proportion.
- ✓ **Non-essential:** Body is capable of manufacturing these 12 are non-essential because the liver can use carbohydrates, fats, and the nitrogen from essential amino acids to make them. The one exception to this is the amino acid called histamine. For children, it is the 9th essential amino acid because the liver can not make it fast enough to accommodate children's growth needs.

Some things to keep in mind about proteins...

- ✓ Composed of 8 essential and 11 non -essential amino acids
- ✓ Produce enzymes and hormones
- ✓ With carbohydrate deficiency, protein is converted to glucose
- ✓ Excess converted to fat for storage
- ✓ Needs of average person .8grams/kg wt
- ✓ 15% of total calories

There are two types of proteins.



- ✓ **Complete Proteins**
 - ✓ contain all eight essential amino acids
 - ✓ meats, cheese, eggs, fish, soy protein
- ✓ **Incomplete Proteins**
 - ✓ lack one or more essential amino acids
 - ✓ can not support growth
 - ✓ plant products

Protein - the "Building blocks of life"

Quiz Answers

1 gram FAT = 9 calories
1 gram CARBO = 4 calories
1 gram PROTEIN = 4 calories
1 gram ALCOHOL = 7 calories

The daily value of protein is 50 grams. For example, 4 oz. of meat, fish, or poultry provides about 28 grams of protein. Listed below are some commonly ingested foods and their protein value.

Amount	Item	Grams of Protein
1 cup	Milk/yogurt	8
1 oz.	Cheese	8
2 Tb.	Peanut butter	8
2	Large eggs	12
4 oz.	Chicken/beef	30
1	Can of tuna	40

Most Americans consume 100 grams of protein per day, however, too much protein in the diet may, over time, lead to many health problems. Some examples include:



- ✓ Gout
- ✓ Liver and kidney damage
- ✓ Elevated blood cholesterol levels
- ✓ Osteoporosis
- ✓ Dehydration
- ✓ Mild health problems

Carbohydrates

All starches converted to glucose for use as fuel. Some free glucose circulating in blood all the time. Glucose is converted to glycogen for storage in the liver and muscles; however it is also converted to fat for additional storage. Adults consume 55-65% of their total calories per day in carbohydrates.

Of all the simple sugars, only glucose can be directly used by the cells. So, when the blood passes through the liver, the liver converts the other simple sugar to glucose.

It is dangerous to have low glucose levels: Low glucose levels can result in hypoglycemia. The symptoms of low glucose levels include decreased nervous system functions, decreased concentration, irritability and lethargy.

Having high glucose levels is not good for the body either! Excessive or high glucose levels over time can lead to diabetes and heart disease.

Typically, your body contains about 375 – 474 grams of glycogen that can be found in the various “storage compartments” of the body.

The glycogen is distributed in the following manner:

- ✓ About 275 grams in muscle glycogen
- ✓ About 100-120 grams in liver glycogen
- ✓ About 15-20 grams in blood glucose
- ✓ Total is about 1600 Kcals.

There are two types of carbohydrates, simple and complex. The basic difference between the two types is illustrated below.

- ✓ **Simple Carbohydrates (simple sugars)**
 - Monosaccharides: glucose, fructose, galactose
 - Disaccharides: sucrose, lactose, maltose
- ✓ **Complex Carbohydrates**
 - Polysaccharides (long-chain single-ring sugars) glycogen, starch, non- starch polysacchardies-fiber)



Simple sugars - the smallest carbohydrates (monosaccharides).

- Disaccharides: when 2 monosaccharides link: examples would be granulated sugar, or sucrose

Sucrose = Fructose + glucose
 Monosaccharides: glucose, fructose, galactose
 Disaccharides: sucrose, lactose, maltose

Strings of several monosaccharides are called a polysaccharide. The number of simple sugar groups in a starch molecule may range from 300 to 1000+.

We can understand the difference between simple and complex carbohydrates by digging even deeper!

Simple Carbohydrates	Complex Carbohydrates
<ul style="list-style-type: none"> ✓ Quick source of energy - can be broken down very easily ✓ Sugar enters the blood faster than it can be absorbed by the muscle ✓ Possibly resulting hypoglycemia and fatigue ✓ Many sources of simple carbohydrates not nutrient dense 	<ul style="list-style-type: none"> ✓ Takes longer for the body to break down ✓ 4/5 of all carbohydrates in diet are complex ✓ Ideal fuel source for long endurance activities ✓ Prevents hypoglycemia



Can you name two foods from each type of carbohydrate?

Simple Carbohydrates

1. _____

2. _____

Complex Carbohydrates

1. _____

2. _____

Hint! Grains, whole grain products, vegetables and legumes (beans) are good sources of complex carbohydrates

The muscles of a trained athlete are capable of holding nearly twice as much glycogen as those of an untrained individual. One extremely important aspect of muscle glycogen is that this fuel is stored "on-site" directly in the muscle cells. In other words, muscle glycogen is stored very near to where it will be used.

Liver cells are the major exception to the rule that glycogen can not be shared with other muscles or nerve cells. The liver has the unique ability to convert glycogen back to glucose that can be released into the blood.

Nerve cells, particularly those in the brain depend on blood glucose for their fuel supply. They do not store glucose and do not readily use fat as fuel. Thus, it is critical that glucose levels be maintained.

When the blood glucose level drops (a condition known as hypoglycemia), the nervous system is unable to function optimally. When your nerve cells are deprived of their optimal fuel supply, you are less able to concentrate, and you become irritable and lethargic.

There have been some interesting trends in the American diet. Did you know that ...

- ✓ Complex carbohydrate intake decreased 30% since the turn of century
- ✓ Simple sugar increased from 30% to 50% of total carbohydrate intake
- ✓ Fiber intake one of few deficiencies in the American diet

Fiber

Fiber is not digested or absorbed by the body. Fiber has no energy or tissue building value, but it helps move food through the digestive tract. Fiber can be found in a variety of foods, including beans, whole grain products, fruits and vegetables. The average recommended intake 25-30 grams per day.

Consider this ...

White bread - .5 grams versus whole wheat bread - 1.6 grams
 Apple juice - .4 grams versus an apple - 3 grams

A fiber deficiency can lead to colon cancer, and is possibly related to high blood cholesterol. Too much fiber can bind to necessary minerals and prevent their absorption.

There are two kinds of fiber: soluble and insoluble. Some of the foods that contain soluble and insoluble fiber are listed below.

Insoluble		Soluble	
✓ Apples	✓ Bananas	✓ Apples	✓ Bananas
✓ Cabbage	✓ Brown rice	✓ Barley	✓ Broccoli
✓ Corn bran	✓ Cauliflower	✓ Carrots	✓ Citrus
✓ Peas	✓ Green beans	✓ Peas	✓ Corn
✓ Legumes	✓ Strawberries	✓ Legumes	✓ Potatoes
✓ Seeds	✓ Cereals	✓ Seeds	✓ Zucchini
✓ Whole wheat bread		✓ Sweet potatoes	

Fats

Fats are a storage form of energy in the body which requires oxygen to convert to energy. Fats are slow to breakdown and aids in digestion and serves as a transfer vehicle for some vitamins (A, D, E, and K). Fat carries and stores fat soluble vitamins. Fat also provides structure to cells and helps maintain hair, skin and joints.



The American Heart Association recommends 30% or less of fat intake per day. It is generally not recommended to go less than 20% fat intake per day. Excess fat intake has been linked with many chronic diseases.

There are three types of fat.

Saturated Fats Hydrogenated	Monounsaturated	Polyunsaturated
✓ Solid ✓ Found in animal sources, tropical oils	✓ Liquid ✓ Found in olives, canola, nuts, avocados	✓ Liquid ✓ Found in safflower, corn, soybean

What does watching your fat intake result in? Let's compare!

The Fat Budget

25% Total Fat	7% Saturated Fat
✓ 2000 kcal x .25 / 9 = 56	✓ 2000 kcal x .07 / 9 = 16
✓ 2500 kcal x .25 / 9 = 70	✓ 2500 kcal x .07 / 9 = 19
✓ 2800 kcal x .25 / 9 = 78	✓ 2800 kcal x .07 / 9 = 22



Which diet do you think would make you feel and look better? Circle your answer.

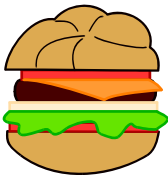
25% Total Fat

7% Saturated Fat

Do you think your dietary intake of fat is too high? Here are some tips for reducing fat in your diet.

- ✓ Use non-fat or low-fat dairy products and other products
- ✓ Use low-fat cooking methods
 - Bake, roast, steam, broil, stir fry, microwave
- ✓ Seldom have fried foods
- ✓ Choose lean cuts of meat and trim fat
- ✓ Remove skin from poultry
- ✓ Take smaller portions of meat, feature grains and vegetables
- ✓ Rinse or drain fat off of ground beef

Some times it is difficult if you are eating out in a restaurant to determine how much fat you are eating. But, watch out! You may be eating more fat than you think! Let's look at a comparison of a Planet Hollywood Mushroom Cheeseburger to McDonald's Quarter Pounder.



	Planet Hollywood Mushroom Cheeseburger	McDonald's Quarter Pounder
Burger alone	<ul style="list-style-type: none"> ✓ 900 calories ✓ 57 grams of fat ✓ 28 of them artery cloggers 	<ul style="list-style-type: none"> ✓ 430 calories ✓ 21 grams fat ✓ 9 of them artery cloggers
Burger with large fries	<ul style="list-style-type: none"> ✓ 1240 calories ✓ 88 grams fat ✓ 40 of them artery cloggers 	<ul style="list-style-type: none"> ✓ 880 calories ✓ 43 grams fat ✓ 17 of them artery cloggers

Cholesterol

Cholesterol is a waxy substance made by the liver that is necessary for normal functioning of the body. It is required for the manufacturing of some hormones, bile acid and Vitamin D. It insulates nerve tissue, and is an integral part of cell walls. Cholesterol is carried in the blood to all parts of the body.

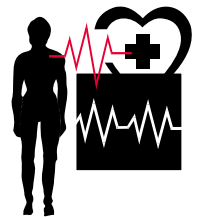
Cholesterol levels related to both saturated fat intake and dietary cholesterol intake. It is ONLY in foods of ANIMAL origin and can carry the toxins of the animal. Saturated fat intake increases blood cholesterol more than dietary cholesterol intake.

The desirable total cholesterol level is <200 mg/dl. High blood cholesterol increases the risk of Coronary Artery Disease.

What are triglycerides? They are fat molecules in blood and are the predominant storage form of body fat. The optimal level of triglycerides is between 80-100 mg/dl. Your triglyceride level may be increased by excess intake of refined sugars, starches and alcohol. They contribute to atherosclerosis by increasing blood clumping.

What can you do to lower your cholesterol levels? Here are some suggestions:

- ✓ Eat more soluble fiber: beans, oats, fruit, and vegetables
- ✓ Use more monounsaturated fat to lower LDLs and raise HDLs
- ✓ Get more aerobic exercise to increase HDL
- ✓ Increase your intake of antioxidants to lower LDL



What are the factors that can raise your cholesterol levels?

- ✓ Excess Weight: each 2 pounds of excessive weight adds, on an average, 1 mg/dl to your blood cholesterol.
- ✓ Foods High in Saturated Fat: causes the liver to produce more cholesterol.
- ✓ Smoking: Increases LDL and decreases HDL.

Vitamins

Vitamins release the energy stored in carbohydrates, proteins, and fats. Some vitamins are antioxidants, helping preserve healthy cells by rendering free radicals-destructive products of metabolizing oxygen and fat-harmless. Most vitamins cannot be made in the body and must be obtained from foods.

Thirteen vitamins are essential. Four-vitamins A, D, E, and K- are fat-soluble; they can be absorbed only in the presence of fat. Water-soluble vitamins are vitamin C and B-complex".

- ✓ Fat soluble vitamins (A, D, E, K)
 - Accumulate in tissue:
 - Possible toxicity
- ✓ Water soluble (B complex & C)
 - Mega doses act as drugs
 - Possibly toxic?



100% of the Required Daily Amount (RDA) of nutrients considered safe. Mega doses (10 times the RDA) should be avoided. Deficiency can cause specific ailments, such as blindness (lack of vitamin A) or anemia (lack of vitamin B-12). Alcoholics are especially at risk for deficiencies.

Anti-oxidants protect us from damage caused by oxidative stress or free radical damage. Free radical is an atom with an unpaired electron or unstable atom. Diseases and conditions possibly associated with free radical damage include:

- | | |
|-----------------------------|-----------------------|
| ✓ Cancer | ✓ Alzheimer's Disease |
| ✓ Diabetes | ✓ Arthritis |
| ✓ Loss of memory | ✓ Cataracts |
| ✓ Coronary Vascular Disease | ✓ Aging process |

Finally, we come to the question of vitamin supplements. Should we take them or not? Here are some points to consider.

- ✓ It may be a good idea if your meals are lacking balance and variety
- ✓ You should be taking in less than 1200 kcal
- ✓ A Multi-vitamin is the BEST!
- ✓ Women may need to supplement their diet with iron
- ✓ Increase your intake of Antioxidants
 - Vitamin C
 - Vitamin E
 - Beta-carotene
 - Phytochemicals (5 a day)

Minerals

Minerals are inorganic (non-carbon-containing) compounds needed in small amounts to help regulate body functions, aid in growth and tissue maintenance, and trigger the release of energy. There are at least 17 essential minerals.

Too little or too much of a mineral results in specific symptoms, such as anemia (lack of iron) and osteoporosis (partially due to lack of calcium). A high protein diet can result in a loss of Ca^{+} .

Water

Our body is made up of about 60-70% water. We can only live for a few days without it, and it is essential to every biological process. The average person of normal weight can survive for some 30 days, a full month without eating. If the same person is deprived of water for about 72 hours, just 3 days he or she will die.

Water is a medium compatible with many compounds, it serves as an excellent means of transporting substances. For example, various nutrients, hormones, and even antibodies are transported in the water of the blood plasma to the intercellular fluid. The water that surrounds the individual cells. Like wise, the waste products released by the cells are carried away by water. Without such a highly efficient transport mechanism nourishment of the cells would be impossible. Water also helps to lubricate your joints.

Your body contains 40 or more quarts of water and just a small loss of 1% or 2% of that (not unusual in an hour of exercise) can seriously affect you. Thirst lags far behind the body's need for water. This situation can lead to dehydration. What are the dangers of dehydration?



- ✓ Decreased cardiovascular efficiency
- ✓ Decreased heat-regulating ability
- ✓ Decreased cell efficiency
- ✓ Kidney Damage

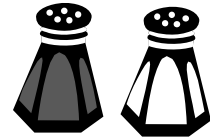
And now for some water trivia!

- ✓ Men=60-70% water
- ✓ Women=50-60% water
- ✓ The brain is 3/4 water
- ✓ Water weighs about 1 pound / pint

Sodium

The recommended intake of sodium (salt) is no more than 2400mg. per day; however, the typical American diet gets 5000-6000 mg. per day! Sodium is naturally occurring in foods and is a required mineral to maintain blood volume.

Sodium has been linked to development of high blood pressure (hypertension). So, how do you reduce the amount of sodium in your diet? Here are a few tips!



- ✓ Use fewer processed foods
- ✓ Use fresh or frozen vegetables; be cautious of canned foods
- ✓ Cook with herbs instead of salt or decrease the amount of salt added
- ✓ Add little or no salt at the table
- ✓ Substitute salt with herbs, spices, and lemon juice
- ✓ Buy reduced sodium products
- ✓ Reduce the use of high salt foods

Caffeine



Caffeine is a stimulant. (Isn't that why we love it?) Caffeine can improve endurance performance because it increases the use of fat glycogen and spares muscle glycogen. However, caffeine has been linked to increased blood pressure, increased heart rate, and increased urine production leading to dehydration.

Alcohol

"Reminds me of my safari in Africa. Somebody forgot the corkscrew and for several days we had to live on nothing but food and water."

- *W. C. Fields*

Alcohol is high in empty calories and has no nutrient value. It is a poor source of carbohydrates, vitamins, minerals and electrolytes. Alcohol ingestion can also lead to dehydration. Alcohol is a depressant and contains seven calories/gram.



Live Happy, Live Healthy!

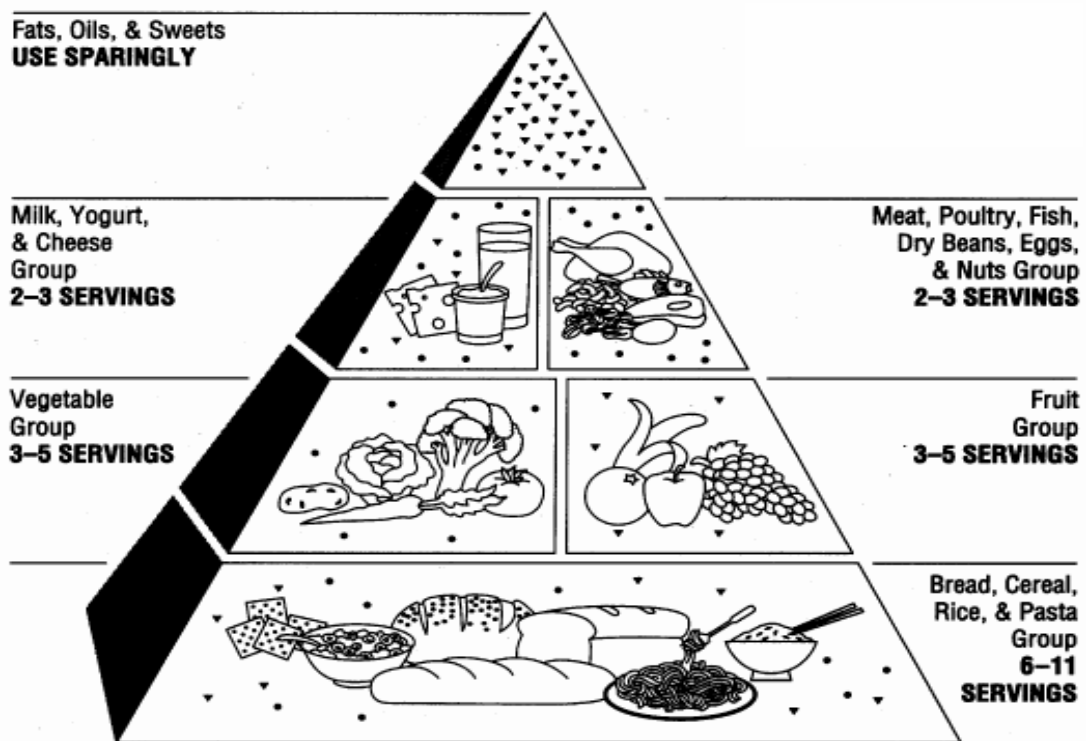
Living healthy isn't hard, but does require some awareness and development of good habits. Here are five guidelines you can follow to help you eat a healthy diet!

Five Guidelines

- ✓ Eat a variety of foods!
- ✓ Eat more complex carbohydrates and fiber
- ✓ Eat less fat, cholesterol, sodium, and simple sugars
- ✓ Maintain ideal body weight
- ✓ Moderate alcohol and caffeine use

Makes sense, right?

The Food Guide Pyramid



This pyramid will help you plan balanced meals for optimum nutritional value!

Food Labels

One hundred years ago, food labels barely identified a container's content. Not only were buyers uncertain what ingredients were used to make a product, but quality was also often under suspicion. That is not the case today!

Reading a food label will give you the information you need to make informed choices! Food labels provide nutritional answers. In addition, labels allow you to comparison shop and make informed food choices. By reading labels, you can feed your family a variety of foods that meets their various nutritional needs.

Nutrition Facts		
Serving Size ½ cup (114g)		
Servings Per Container 4		
Amount Per Serving		
Calories 90	Calories from Fat 30	
% Daily Value*		
Total Fat 3g	5%	
Saturated Fat 0g	0%	
Cholesterol 0mg	0%	
Sodium 300mg	13%	
Total Carbohydrate 13g	4%	
Dietary Fiber 3g	12%	
Sugars 3g		
Protein 3g		
Vitamin A 80%	Vitamin C 60%	
Calcium 4%	Iron 4%	
* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:		
	Calories: 2,000	2,500
Total Fat	Less than 65g	80g
Sat Fat	Less than 20g	25g
Cholesterol	Less than 300mg	300mg
Sodium	Less than 2,400mg	2,400mg
Total Carbohydrate	300g	375g
Dietary Fiber	25g	30g
Calories per gram:		
Fat 9 • Carbohydrate 4 • Protein 4		

A food claim is often made by the manufacturer on the front of the package - for example, "fat free" or "no cholesterol." Many people wonder if these claims are trustworthy. In fact, the FDA only allows claims on labels that are supported by scientific evidence. But even though claims that indicate lower cholesterol, lower sodium, or lower fat content are regulated, you still need to be cautious when reading them.

- ✓ **Reduced fat** has 25% less fat than the same regular brand.
- ✓ **Light** means the product has 50% less fat than the same regular product.
- ✓ **Low fat** means a product has less than 3 grams of fat per serving.

Food companies may also make claims such as no cholesterol (meaning there is no animal fat used in making the product), but that does not necessarily mean the product is really low in fat.

The servings per container or package tell you how many servings are in the whole package. So if one serving is 1 cup, and the entire package has 5 cups, there are five servings per package. These quantities are based on the

amount people generally eat, and they are determined by the manufacturer. Serving sizes are not necessarily recommended amounts, but common ones.

Other nutritional information on the package is based on the listed serving size. So if there are two servings in the package, and you eat the entire package, then you must double all of the nutritional amounts listed.

Learning Checkpoint



Take this Learning Checkpoint and see if you can apply what you have learned!

Statement	T	F	If false, what is the correct statement?
Diets can provide permanent weight loss			
It is important for consumers to educate themselves on food and nutrition.			
A label that says "less fat" means fewer calories.			
It is important to eat and drink in moderation.			
Processed foods are as nutritious as fresh foods.			
The Food Pyramid applies only to children.			
The food label can provide you with the amount of fiber in the product.			

How well do you think you did? The answers are at the bottom of the next page.

Workplace Hazards

How many times have you arrived at work only to be tempted by the abundance of things to eat? And, we tend to eat these goodies without even thinking about it due to stress, workload or time constraints. Here are some typical workplace hazards to watch for!



- ✓ Meetings
- ✓ Vending Machines
- ✓ Unpredictable schedule
- ✓ Travel
- ✓ Long Hours
- ✓ Desktop Goodie Jars
- ✓ Happy hour

One strategy you can use to "combat" workplace temptation is to "brown bag" your lunch. You can then ensure that you have a balanced, nutritional lunch. Here are some tips!

- ✓ Prepare your lunch the night before (plan)
- ✓ Use food guide pyramid to ensure a balanced lunch
- ✓ Be sure to pack the Fabulous Four Food
 - Sandwich (turkey meats, roast beef, tuna, peanut butter and jelly)
 - Fruit or/and veggies
 - Drink (milk, water, real fruit juice)
 - Dessert

Eating Out Strategies

It is a real treat to go out and dine in your favorite restaurant! But, we all have a tendency to overeat, and eat rich foods. Here are some tips for eating out sensibly!

- ✓ Salad, with dressing "on the side"
- ✓ Lean meat, fish, poultry prepared without breaded or batter coatings and served with sauces "on the side."
- ✓ Send it Back!
- ✓ Take a Doggie Bag
- ✓ Steamed fresh vegetables
- ✓ Fresh fruit for dessert
- ✓ Ice tea, decaffeinated coffee, water, diet soda, skim milk
- ✓ Split an entree
- ✓ Eat a baked potato rather than French fries
- ✓ Don't fall into the "Get Your Money's Worth" trap
- ✓ Cover your food with your napkin when you are full



Answers to the Life Style Quiz

Statement	T	F	If false, what is the correct statement?
Diets can provide permanent weight loss		X	Diets are temporary! Sustained weight loss comes from changing your nutritional intake and exercise.
It is important for consumers to educate themselves on food and nutrition.	X		
A label that says "less fat" means fewer calories.		X	Not necessarily! The product may have more sugar in it and increase you caloric intake.
It is important to eat and drink in moderation.	X		
Processed foods are as nutritious as fresh foods.		X	Fresh is best! Processed food can loose nutrients during processing.
The Food Pyramid applies only to children.		X	The food Pyramid is for adults and children.
The food label can provide you with the amount of fiber in the product.	X		

Maintaining Your Ideal Weight



Good nutrition and exercise go hand-in-hand to maintain your ideal weight. Sustained weight loss requires lifetime changes, gradual weight loss and exercise. What doesn't work? Crash diets are too severe and complicated tracking methods can distract you from your goal!

Buyer beware! What are some weight loss myths?

- ✓ Special Clothing or body wraps
- ✓ Cellulite
- ✓ Surgery
- ✓ Fad Diets
- ✓ Spot reducing
- ✓ Diet pills
- ✓ Vibrating belts

Review



We have certainly covered a lot of material in a short period of time! Let's look back at our learning objectives and see if we have achieved our objectives.

Objective	Yes	No
Can you identify the nutrients needed for good nutrition?		
Can you identify the dietary guidelines needed for good health?		
Can you accurately read and interpret food labels?		
Can you develop a balanced nutrition plan?		
Can you explain the benefits of antioxidants?		

If you answered "NO" to any of the questions above, please see your instructor.

End of Module 1

Module 2

Recipe Conversion

Under Construction

Module 3

EQUIPMENT SAFETY

TRAINING AND SAFETY PRACTICES

Injuries and health impairments can be kept to a minimum through the use of proper training and safety precautions. Most accidents that occur in food service establishments can be prevented if the full cooperation of food service personnel is gained and vigilance is exercised to eliminate unsafe conditions and unsafe acts. Remember, the correct way to do a job is the safe way. Safety should be a part of everyday food service operation. All food service establishments are required to conduct effective and continuous training and prevention programs. Additional training for food service and safety programs will be the protocol of the commanding officer and FS1 of the galley.

Proper handling of knives and other sharp utensils

Sharp utensils such as knives and cleavers shall be used only for the purpose intended. Do not use a knife as a screwdriver, or a cleaver to open cans, crates or boxes. Do not open cans with anything except a can opener. Remove cover completely as a jagged edge may cause a serious cut. Keep the can opener clean and sanitized. Do not carry knives unnecessarily. If a knife must be carried, hold it by the handle with its points toward the deck and the cutting edge away from you. Hold the knife close and walk carefully. Do not grab for a falling knife. Step to one side and let it fall. Do not soak or put knives in soapy or discolored water, as they cannot be seen and you may grasp the blade. Place knives in drawers, cabinets, or racks with handle facing outward.

Equipment safety

Report all defective galley equipment such as stove lids, oven doors, pilot lights, thermostats, electrical appliances, pan handles, etc., to the FS1 immediately. The ventilation system MUST be turned on whenever the stove, grill or ovens are in use.

Module 4

GOOD SANITATION PRACTICES

Equipment and Utensils Cleaning and Sanitation

Galley equipment and utensils requires frequent cleaning. Tableware shall be cleaned and sanitized after each use. Kitchenware and food contact surfaces of equipment shall be cleaned and sanitized after each use and following any interruption of operations when contamination may have occurred. Where equipment and utensils are used for the preparation of potentially hazardous foods on a continuous or production line basis, utensils and the food contact surfaces of equipment shall be cleaned and sanitized at various intervals throughout the day as deemed necessary by the food service supervisor. This cleaning shall be based on food temperature, type, and amount of particle accumulation. The food contact surfaces of grills, griddles, and similar cooking devices and the cavities of microwave ovens shall be cleaned after each use and shall be kept free of encrusted grease deposits and other accumulated soil. Tables and tableware shall be cleaned after each meal and thoroughly scrubbed after the evening meal to remove all residues of food. All galley equipment shall be cleaned and sanitized thoroughly after each meal. This includes slicing machines, mixers, can openers, milk machines, toasters, etc. The exterior of all condiment dispensers (sugar spices, salt, and pepper) shall be cleaned after each meal.

Personal hygiene and sanitation

Food service personnel shall be thoroughly indoctrinated in personal hygiene, as well as in the methods and importance of preventing food-borne illnesses. Temporary food service personnel shall also be indoctrinated as they are assigned to food service duties. Written instructions for equipment operation and standing sanitary rules shall be posted in conspicuous places. Handwashing posters (Forms CG-3525, CG-3526, and CG-3527) shall be posted in heads and other appropriate places. Food service personnel shall thoroughly wash their hands and the exposed portion of their arms with soap and warm water:

- (1) Before starting work,
- (2) During work as often as necessary to keep them clean
- (3) After smoking,
- (4) After eating,
- (5) After drinking, and
- (6) After using toilet facilities.

Facial hair and hair

It is required that food service personnel keep their hands and fingernails clean and neatly trimmed. All male food service personnel working in food preparation, storage, and utensil cleaning spaces shall conform with the following grooming standards: If an individual chooses to wear sideburns, a beard or a moustache, they will be neatly trimmed. Additionally, all food service personnel working in food preparation storage, and utensil cleaning spaces shall conform with the following grooming standards:

- (1) Hair will be clean and neatly arranged. In no case shall the bulk of the hair interfere with the proper wearing of sanitary headgear.
- (2) Hair ornaments such as ribbons will not be worn. Pins, combs, or barrettes similar in color to the individual's hair color may be worn but must not interfere with wearing of headgear.
- (3) Hairpieces or wigs, if worn, shall not interfere with the proper performance of food service duties and shall not present a safety hazard.
- (4) Food service personnel shall use effective hair restraints as properly worn hats and hairnets to prevent contamination of food and food contact surfaces.

Clothing

All clothing worn by food service personnel shall be neat and clean. The C.O. or FS1 will establish the protocol for the uniform worn in the galley. Civilian clothing shall not be kept in food preparation areas, serving areas, and utensil washing areas. Also food service personnel shall not use these same areas for changing their clothes.

Health practices

Food service personnel shall consume food only in designated dining areas. An area shall not be designated as a dining area if consuming food or beverages there might result in contamination of other food, equipment, utensils, or other items needing protection. Personnel shall not use tobacco in any form while engaged in food preparation or service, nor while in equipment or utensil washing areas. Food service personnel may use tobacco and tobacco products only in designated areas. Refer to Commandant Instruction 6280.1(series), Smoking in Coast Guard Facilities, for further information.

Food service personnel shall handle soiled tableware in a way that will reduce contamination of their hands. Food service personnel shall maintain a high degree of personal cleanliness and shall conform to proper hygienic practices. Food service personnel shall not store personal items such as books, medications, magazines, combs, clothing etc., in any food service preparation or serving areas, storage, or utensil cleaning spaces. Food service personnel shall not handle money and prepare or serve food as one delegated function. Food and/or beverages shall not be consumed in food preparation or scullery areas.

