



MODULE

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Module 2: Building A Performance Diet

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In this module you will learn how to meet the nutritional challenges that military training presents.

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Introduction

In physically-demanding military training, you may work as hard as an athlete does. You have the best chance of performing at your top level when you eat the kind of diet recommended for athletes. This material will show you how to plan a performance diet for your energy needs and personal tastes. You will see how the food pyramid can help you choose the right balance of different kinds of food.

KEY CONCEPT

A balance of nutrients is needed for optimum health and performance.

OBJECTIVES

After completing this module you will be able to:

- ▲ Estimate caloric needs based on activity level, weight and body composition.
- ▲ Explain how to get a balanced diet to meet energy needs using the food pyramid.
- ▲ Name three general tips to optimize your performance diet.
- ▲ Identify what foods you need to eat:
 - 1) more of,
 - 2) less of, and
 - 3) the same amount of
 to help maximize your performance.

The Elements of Military Performance



What and when and how much you eat affect all of these elements.

How Do You Rate On Food Variety?

Check the box that best describes your eating habits.

How often do you eat:

	seldom or never	1 or 2 times a week	3 to 4 times a week	almost daily
1. At least 16 servings of bread, cereals, rice, crackers, pasta or other foods made from grains (a serving is one slice of bread or a half cup of cereal, rice, etc.) per day?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Foods made from whole grains?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Three different kinds of vegetables per day?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Cooked dry beans or peas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. A dark-green leafy vegetable, such as spinach or broccoli?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Two kinds of fruit or fruit juice per day?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Two servings of milk, cheese, or yogurt per day?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. No more than two servings of lean meat, poultry, fish, or alternates, such as eggs, dry beans, or nuts per day?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Now turn to page 2-7 to see how you are doing.

You Burn More Energy When You Train In Extreme Environments

Heat: In temperatures over 86° Fahrenheit you burn about 10% more energy than you do when doing the same work in a temperate environment.

Cold: In extreme cold, you burn from 20-50% more energy than in temperate climates.

High Altitude: In mountain training you burn from 15-50% more energy than you do at sea level.

When training in any of these extreme environments, increase your calorie intake to keep up your strength and endurance.

Building Your Own Performance Diet

There is no one right way to eat for performance. Your performance diet will be unique to you, depending on how many calories you need, your personal taste in food, and your schedule.

But there are two basic guidelines everyone can use to decide how to eat for top performance.

- 1) Balance food intake and physical activity. — *Get the right amount and kind of calories to fuel your activity.*
- 2) Get an optimal balance of nutrients by eating a variety of foods every day.

How Much To Eat?

Just as a car needs gasoline to run, your body requires fuel to keep going. Your energy source is food.

To have enough energy for all of your training and recreational activities, you need to eat the same number of calories you are burning. If you eat less, you may run out of energy, especially later in the day. If you eat more than you're burning, you could add unwanted pounds, which can slow you down.

You can estimate the number of calories you burn in a day, whatever your activity level. The following factors influence how many calories you burn.

Weight

A heavier person needs more calories to maintain body weight than a lighter person doing the same activity at the same level of intensity.

Body Composition

This is the proportion of body fat to muscle mass. The higher the percentage of muscle mass you have, the more calories you burn.

Because women have a naturally lower proportion of muscle, they burn about 10 percent fewer calories than a man of the same weight doing the same activity.

Physical Activity

The more active you are, the more energy you burn.

The greater the amount of muscular work, the heavier the weight being moved, and the longer the time spent doing the activity, the more calories you burn.

You will undergo varying levels of physical activity throughout your military career. Any time you increase or decrease your activity level, you will need to increase or decrease your food intake to avoid unwanted weight loss or gain.

*What you eat
before a short event
probably won't affect
your performance,
but what you eat
before a long event
will probably make
a big difference
and certainly,
what you eat
day in & day out
makes all the difference
in the world!*

For More On Weight Management And Energy Needs

- ▲ Contact the Registered Dietitian at your local installation medical facility, your Unit Master Fitness Trainer, or your installation Fit To Win Coordinator.
- ▲ Check your local library or bookstore. There are many good books on weight loss. Some recommended titles are:

The New Fit or Fat by Covert Bailey

Living Without Diets by John Foreyt and G. Ken Goodrick

Outsmarting the Female Fat Cell by Debra Waterhouse

Habits Not Diets by James Ferguson.

“Overweight” Or “Overfat”?

Most people should eat enough to maintain their body weight. But if you want to lose or gain weight, you need to figure that into your calorie intake estimates.

One way of determining if your weight is appropriate for your height is called the body mass index. A simple way to determine your body mass index is to use the nomogram below.

Your percentage of body fat can be as important as your actual weight. You can be “overweight” according to some standards but have a low percentage of body fat. For example, if your “heavy” weight is primarily from muscle, you are probably not overweight. If too much of this weight is from fat, you are overweight and “overfat.”

On the other hand, you can be thin and have a high percentage of body fat, especially if you eat a lot of high-fat foods and are sedentary. In this case you may not be “overweight” on the scale, but you may be “overfat.” You should try to lower your amount of body fat, for both performance and health.

PINCH TEST

Another way to get a rough idea of how much fat you are carrying is to do the pinch test. On various sites on your body, such as the back of your upper arm and your abdomen, grasp the loose flesh between your thumb and forefinger. If you can pinch more than an inch, you probably have too much body fat.

Nomogram To Determine Body Mass Index

Determine your height without shoes and your weight without clothes. Place a ruler on the nomogram connecting weight on the left with height on the right. The place where it crosses the scale in the center is your body mass index. Source: George A. Bray, © 1978.

Guidelines for interpretation:

RISK RANGE	WOMEN	MEN
UNDERWEIGHT	≤19	≤20
ACCEPTABLE WEIGHT	>19 ≤25	>20 ≤26
MARGINAL	>25 ≤27	>26 ≤28
OVERWEIGHT	>27 ≤32	>28 ≤31
SEVERE OBESITY	>32 ≤45	>31 ≤45
MORBID OBESITY	>45	>45

Recommended Daily Energy and Energy Nutrient Intake for Athletes and Servicemembers in Physical Training.

Calorie Intake	Carbohydrate Grams	Protein Grams	Fat Grams
2500	344-438	75-94	56-69
3000	413-525	90-113	67-83
3500	481-613	105-131	78-97
4000	550-700	120-150	89-111
5000	688-875	150-188	111-139
	55-70%	12-15%	20-25%

Sizing Up A Serving

Your idea of a serving may not be the same as the serving size referred to in the food pyramid. A "serving" is not always the same as a "helping." These comparisons show you some equivalents of a serving of several kinds of foods. In many cases you might be eating more than "1 serving" in a "helping."

Food	Size Comparison
1 med. fruit	tennis ball
1 oz Swiss cheese	4 stacked dice
3 oz cooked meat	a deck of cards
1/2 cup cooked broccoli	a light bulb
1 large scoop (1 cup) ice cream	a baseball
1 tablespoon peanut butter	ping pong ball

The Performance Food Pyramid

Use the Performance Food Pyramid to help you select foods to achieve a balanced diet. The food pyramid shows you how much of which types of foods you should eat every day for top performance during physical training.

It's important that you eat a variety of foods to make sure you get all of the carbohydrate, protein, fat, vitamins, minerals and fiber you need for health and performance. No one food gives you all of the important nutrients in the amounts you need.

The lower number of servings shown on the Performance Food Pyramid would be what a person needing 2500-3000 calories a day should eat during training. The higher number would be for someone needing 3500-4000 or more calories a day.

Keep in mind that food choices in the other food groups can also be high in fat or added sugars.

Fats, Oils, Sweets
Use sparingly



Protein
Eat Moderately

Milk, yogurt, cheese: **2-4 servings**



Meat, poultry, fish, dry beans, eggs, nuts: **5-8 oz daily**



Carbohydrate
Eat the Most

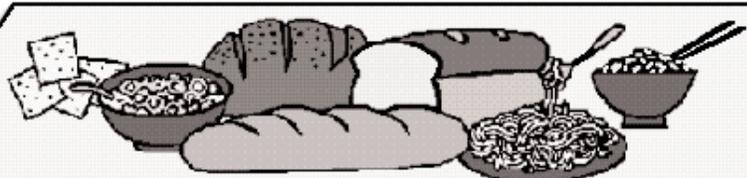
Vegetables: **3-8 servings daily**



Fruit: **7-14 servings daily**



Bread, cereal, rice pasta: **16-27 servings daily**



You Won't Always Be In Training But ...

... the food pyramid can still be your guide to healthful eating.

If your activity level changes, adjust the number of servings accordingly, but continue to eat foods in the same proportions as the food groups on the pyramid.

Carbohydrates: The Foundation Of The Pyramid

Carbohydrate is your energy nutrient. It is converted to glycogen and stored in your muscles and liver. Glycogen provides the energy you need for quick starts and for endurance. To get the energy you need for intense physical training, 55 to 70% of your calories should be from carbohydrate. If less than 50% of your calories come from carbohydrate, you could feel fatigued during intense training.

COMPLEX CARBOHYDRATES

... especially whole grain products, are your best sources of carbohydrates to refuel your glycogen stores. Whole grain products, fruits and vegetables are naturally high in vitamins, minerals and fiber. Most complex-carbohydrate foods are low in fat.

COMPLEX CARBOHYDRATES

Bread	Pasta	Whole grain foods
Rice	Cereal	Vegetables
Beans, peas		Nuts, seeds

SIMPLE CARBOHYDRATES

... are found in sugars and also can be used to refuel glycogen stores. Simple carbohydrates give you quick energy, but don't have any other nutrients.

An energy boost from simple carbohydrates may not last long. In fact, simple carbohydrates on an empty stomach can make you tired, because they cause your blood sugar to quickly rise, then rapidly fall. In addition, many foods high in simple carbohydrates are also high in fat.

A Carbo By Another Name May Not Be As Sweet

Some foods in the grain group, although still providing carbohydrates, are also high in fat and sugar.

Some cereals, muffins and granola have a lot of sugar.

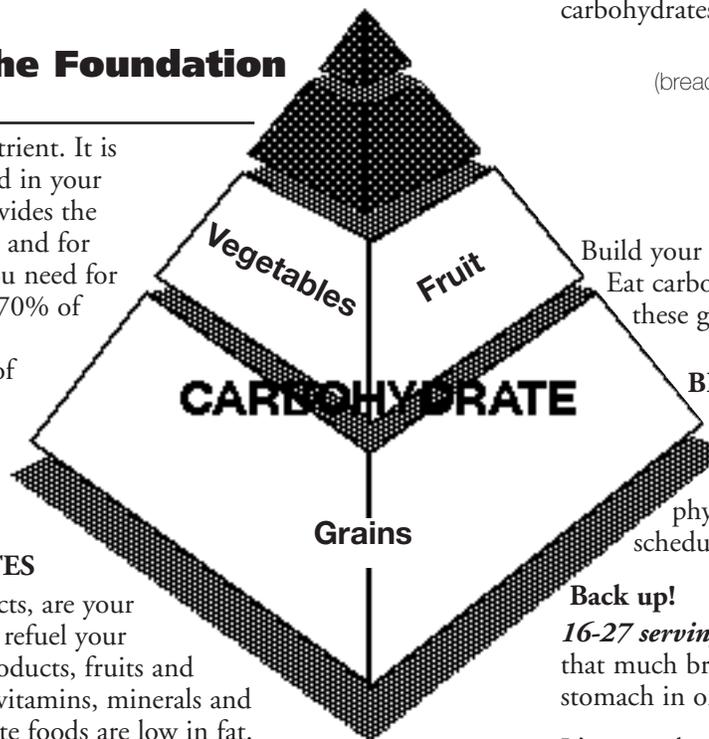
Doughnuts, croissants, cake, pie, and sweet rolls are high in sugar, fat, and calories.

FOR TOP PERFORMANCE, CHOOSE CARBOHYDRATES THAT ARE LOW IN FAT & SUGAR.

Do You Know Where Your Carbohydrates Are Tonight?

Three of the food groups in the food pyramid are good sources of carbohydrates.

Grains
(bread, cereal, pasta, rice)
Vegetables
Fruit



Build your diet on carbohydrates. Eat carbohydrates from each of these groups every day.

BREAD, PASTA, RICE, CEREAL
16 -27 servings a day for a heavy physical training schedule.

Back up!

16-27 servings? Is it possible to put that much bread and pasta in your stomach in one day?

It's not as hard as it sounds. Here are some examples of servings from this carbohydrate group. Add up the servings you eat in a typical day. You may be eating more servings than you think you are.

	# of Food Servings
1 slice bread	1
1 hamburger bun	2
1 bagel	2
1 large sub roll	3-4
1/2 cup cooked rice	1
1/2 cup cooked pasta	1
2 cups spaghetti	4
3/4 cup dry cereal, 1 oz	1
Cereal, typical bowl	2
1 pancake	1
1 slice pizza, thick crust	1
3 cups popcorn	1
1 6-inch tortilla	1

Answers to: How Do You Rate On Food Variety?

1. **ALMOST DAILY.** Many people believe that eating breads and cereals will make them fat. That's not true for most of us. Extra calories often come from the fat and/or sugar you MAY eat with them. Both whole-grain and enriched breads and cereals provide starch and essential nutrients. (Learn more in module 3)
2. **ALMOST DAILY.** Whole-grain breads and cereals contain vitamins, minerals, and dietary fiber that are low in the diets of many Americans. Select whole-grain cereals and bakery products – those with a whole grain listed first on the ingredients label. Or make your own and use whole-wheat flour.
3. **ALMOST DAILY.** Vegetables vary in the amounts of vitamins and minerals they contain. So, it's important to include several kinds every day.
4. **3 TO 4 TIMES A WEEK.** Dry beans and peas fit into two food groups because of the nutrients they provide. They can be used as an alternate to meat, poultry, and fish to provide protein. And, they are also an excellent source of carbohydrate.
5. **3 TO 4 TIMES A WEEK.** Popeye gulped down spinach to build his superior strength. Although this effect of spinach was exaggerated, spinach and other dark-green leafy vegetables are excellent sources of some nutrients that are low in many diets.
6. **ALMOST DAILY.** Fruits are nature's sweets. They taste good and are good for you. Choose several different kinds each day.
7. **ALMOST DAILY.** Adults as well as children need the calcium and other nutrients found in milk, cheese, and yogurt.
8. **ALMOST DAILY.** Most Americans include some meat, poultry, or fish in their diets regularly. Dry beans and peas, peanuts (including peanut butter), nuts and seeds, and eggs can be used as alternates.

VEGETABLES 3-8 servings a day.

Vegetables are high fiber, lowfat sources of carbohydrate. Eating a variety of vegetables supplies you with many of the vitamins and minerals, such as vitamin A and potassium, that you need for performance and health.

Vitamins and minerals help your body process carbohydrates and proteins so that you can exercise and build strength. They help repair muscle and other tissues which are especially important for persons doing heavy physical activity.

Here's how to figure your daily servings of vegetables.

1/2 cup cooked or 1 cup raw vegetables	1 serving
1 cup raw leafy vegetables	1 serving
Typical salad bar salad, 2 cups	2 servings
1 medium baked potato	1 serving
1/2 cup cole slaw	1 serving
1/2 cup stir fried vegetables	1 serving
3/4 cup vegetable juice	1 serving

WHEN VEGGIES TURN TO FAT.

Vegetables lose their lowfat rating when you fry them or douse them in things like cheese sauce, butter and sour cream. For top performance, make fried and fatty veggies only an occasional choice.

For the most vitamins and minerals, go for fresh or cooked veggies that are still a bit crunchy. (BEST BET: brightly-colored, dark green or orange.) The less cooked a vegetable is, the more vitamins and minerals it has.

FRUITS 7-14 servings a day.

In addition to grains and vegetables, fruits are an excellent source of carbohydrate to boost your glycogen stores. Fruits are high in vitamins, such as A and C, and minerals, such as potassium.

It's not hard to get 7-14 servings of fruit. All of the following count as one serving.

1/2 cup raw, canned or cooked fruit	1 serving
1 medium apple, banana, orange, tangerine, nectarine	1 serving
1/2 grapefruit	1 serving
2 Tbsp. raisins	1 serving

You can also get fruit servings from juice.

3/4 cup unsweetened fruit juice	1 serving
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Sweets Without Sugar

Fresh and canned fruits with no added sugar make great performance snacks. They ...

- ▲ Provide a quick energy boost without the blood sugar dip you get from other sugars.
- ▲ Satisfy cravings for sweets.
- ▲ Contain vitamins, minerals and fiber that other sweet treats don't.

Protein

On the third level of the Performance Food Pyramid are two groups of foods that come mostly from animals and that are high in protein. They also are important for calcium, iron and zinc. They are:

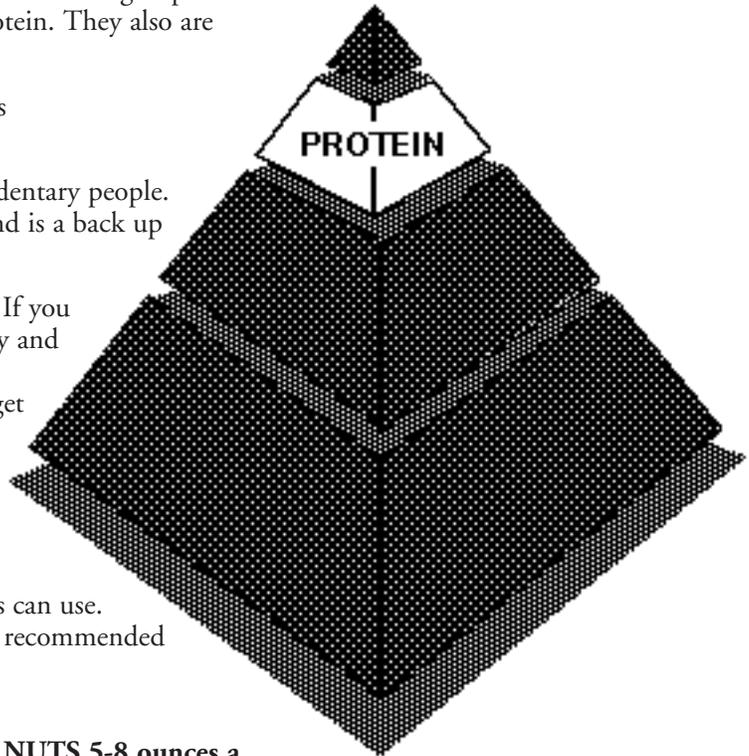
- ▲ Meat, poultry, fish, dry beans, eggs and nuts
- ▲ Milk, yogurt and cheese.

Physically active people need more protein than sedentary people. Protein repairs and builds hard working muscles and is a back up energy source.

But “more protein” does not mean “high protein.” If you increase calories to cover the added physical activity and keep the proportion of protein in your diet at the typical 12 to 15 percent of total calories, you will get the additional protein you need.

The Performance Food Pyramid can guide you on the amount of protein foods to include in your diet to keep you within the 12 to 15%.

Most Americans eat more protein than their bodies can use. You already could be eating the amount of protein recommended for heavy physical activity.



MEAT, POULTRY, FISH, DRY BEANS, EGGS, NUTS 5-8 ounces a day.

The serving size for this group is a little different. It is figured in ounces. The total amount of servings from this group should be the equivalent of 5 to 8 ounces of cooked lean meat, poultry or fish per day.

Counting to see if you have an equivalent of 5-8 ounces of cooked lean meat a day can be tricky. Typical portion sizes vary with the type of food and meal. For example, a 3-ounce piece of meat is about the size of a deck of cards. This is a good serving size.

For other foods in this group, count

- one half 6 1/2 oz can tuna = 3 oz
- 1 egg = 1 oz
- 1/2 cup cooked dry beans = 1 oz
- 2 Tbsp. peanut butter = 1 oz
- 1/3 cup nuts = 1 oz
- 1/4 cup seeds (like sunflower) = 1 oz

Here's how easy it can be to overdo this protein group:

- A 14-ounce steak 2 whole days' meat group allotment
- 2 chicken breast halves 1 whole day's meat group allotment
- 8-ounce fish steak (typical of most restaurants) 1 whole day's meat group allotment
- large bowl of chili (2 cups) half a day's meat allotment in one meal

Watch For Cholesterol

Egg yolks, liver and kidneys are good protein foods, but they are high in cholesterol. Cholesterol contributes to heart and blood vessel disease. Eat these foods only occasionally.

Egg whites, however, where the protein is, are fat free.

Cutting The Fat

Some of these protein foods can be high in fat. The 14- ounce steak probably has most of a day's fat allotment. Two tablespoons of peanut butter have 16 grams of fat. Nuts and seeds are very high in fat, so eat them sparingly. And fat is added to meat, poultry and fish when they are fried.

To reduce the fat content of meat, when you have a choice:

- ▲ Choose lowfat meats or protein foods.
- ▲ Substitute poultry (no skin), fish or beans for beef and higher-fat meats.
- ▲ Trim away visible fat, choose select grades of beef, choose cuts with little marbling.
- ▲ Use lowfat cooking methods.
- ▲ Don't add more fat at the table.
- ▲ Avoid gravies and cream sauces.

Milk does not cause "cotton-mouth"!

Go For Variety

Get your protein from both protein food groups to get a variety of vitamins and minerals.

Meat, poultry, fish, beans, eggs, and nuts are high in B vitamins, iron, and zinc, all of which are important for performance. Beans are also high in carbohydrate and low in fat.

Dairy foods are the best source of calcium, an important performance mineral for bone strength and muscle contraction.

MILK, YOGURT, CHEESE 2-4 servings a day.

You can easily get this performance requirement from milk on cereal, cheese on pizza, milk drinks with meals, or frozen yogurt for dessert.

Here are the serving amounts:

8 fl. oz (1 cup) container yogurt	1 serving
8 fl. oz (1 cup) carton milk	1 serving
1/2 cup milk on cereal	1/2 serving
1 cup frozen yogurt	1 serving
1 1/2 oz natural cheese	1 serving
2 oz (2-3 slices processed cheese)	1 serving
1/4 cup cottage cheese	1 serving (protein equivalent)*.

* The USDA food pyramid calls 2 cups of cottage cheese a serving. That is the amount of cottage cheese it takes to equal the calcium in a serving of milk.

Performance Choices: Choose Lowfat

You get the same or more protein and calcium in lowfat or skim milk as you do in whole milk. By using 1 percent milk instead of whole, however, you cut the fat by 6 grams in a cup of milk. When you can, choose lowfat milk and dairy products. Milk and yogurt also provide carbohydrate to your diet.

Milk Product	Portion Size	Grams of Fat
Skim milk	1 cup	Trace
Lowfat milk, 2%	1 cup	5
Chocolate milk, 2%	1 cup	5
Whole milk	1 cup	8
Nonfat yogurt, plain	8 oz	Trace
Lowfat yogurt, plain	8 oz	4
Lowfat yogurt, fruit	8 oz	3
Whole milk yogurt	8 oz	7
Reduced-fat cheese	1 - 1 1/2 oz	4-7
Natural cheddar cheese	1 - 1 1/2 oz	9-14
Process cheese	2 oz	18
Mozzarella, part skim	1 1/2 oz	7
Mozzarella, whole milk	1 1/2 oz	10
Ricotta, light	1/2 cup	3
Ricotta, part skim	1/2 cup	10
Ricotta, whole milk	1/2 cup	16
Cottage cheese, 1% fat	1/2 cup	1
Cottage cheese, 4% fat	1/2 cup	5
Lowfat frozen yogurt, 1 scoop	1/2 cup	2
Ice cream, 10% milk fat, 1 scoop	1/2 cup	7

If You Can't Drink Milk ...

If you have trouble digesting milk try to:

- ▲ Drink a small amount of milk at a time. Most people who can't digest the lactose in milk can tolerate 1/2 to 1 cup at a time without discomfort.
- ▲ Eat yogurt or *aged* cheese.
- ▲ Drink milk to which lactase has been added. Lactase is the enzyme that breaks down the milk sugar, lactose. Or add lactase yourself. You can buy Lactase (drops or tablets) in almost any drugstore.

If you still can't eat or drink the recommended number of servings from the milk group:

- ▲ Add an ounce of lean meat a day to your diet for additional protein.

For your calcium, substitute:

- ▲ Tofu.
- ▲ Dark green, leafy vegetables, such as broccoli, spinach, or kale.
- ▲ Tortillas made with cornmeal that's fortified with calcium.
- ▲ Canned fish, such as tuna, salmon, sardines, that include the bones.
- ▲ Calcium fortified orange juice.

If lactose intolerance or other factors prevent you from getting adequate nutrients, see a Registered Dietitian.

Fats, Oils, Sweets

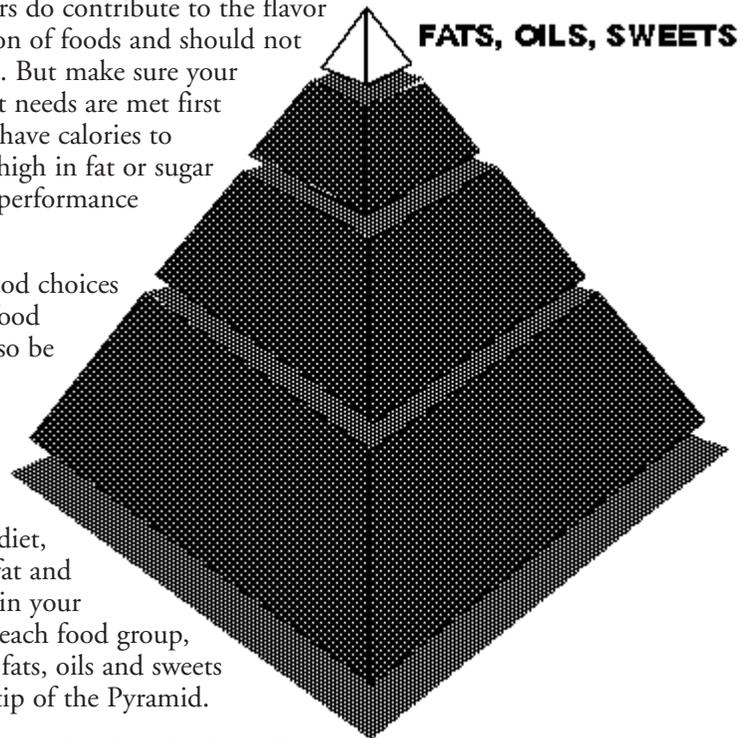
FATS, OILS, SWEETS - Eat as little fat as possible. Keep sugars and sweets to less than 10 percent of calories.

(Some athletes eat as little as 10 percent of daily calories as fat to make room for the large amounts of carbohydrate they need!)

The tip of the Performance Food Pyramid is the smallest section, because fats, oils and sweets provide calories but little or no vitamins and minerals. Use them sparingly.

Fats and sugars do contribute to the flavor and satisfaction of foods and should not be eliminated. But make sure your other nutrient needs are met first and that you have calories to spare. A diet high in fat or sugar is not a high performance diet.

Remember food choices in the other food groups can also be high in fat or added sugars. When choosing foods for a performance diet, consider the fat and added sugars in your choices from each food group, as well as the fats, oils and sweets group at the tip of the Pyramid.



You do need some fat, though. A small amount of fat is absolutely essential for health and performance. Dietary fat transports fat-soluble vitamins into the body. Body fat is a part of every cell membrane and acts as insulation and cushioning.

And fat is a major energy source while you sleep, sit, read and do other light activities. But fat burns slowly. It can't fuel high-speed or power activities. For these, you need carbohydrates.

Eating more than 20-25% fat could mean you're not getting the carbohydrate calories you need for top performance. And, if you're filling up on fat, you may just be feeding your fat cells.

You don't have to eat much fat to reach your performance limit. That's because fat is the densest nutrient. Gram for gram, fat is worth a lot more calories than any other nutrient.

1 gram fat = 9 calories

1 gram carbohydrate = 4 calories

1 gram protein = 4 calories

KEEPING THE LID ON FAT

A good way to keep track of how much fat you eat is to count the grams of fat you eat each day. Many food labels show you the grams of fat in a serving of a product.

You don't need to count fat grams every day, but doing a fat check-up once in a while will keep you on the right track. This chart can help you calculate where to set the limit on your daily fat intake.

CALORIES NEEDED PER DAY	FAT INTAKE LIMIT grams		
	20% of Calories	25% of Calories	30% of Calories
1600	36	44	53
1800	40	50	60
2000	44	56	67
2400	53	67	80
2600	58	72	87
2800	62	78	93
3000	67	83	100
3500	78	97	117
4000	89	111	133
5000	111	139	167
6000	133	167	200

How Do You Score On Fat?

Do the foods you eat provide more fat than is good for you? Answer the questions below, then see how your diet stacks up.

How often do you eat:	seldom or never	1 or 2 times a week	3 to 4 times a week	almost daily
1. Fried, deep-fat fried, or breaded foods?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Fatty meats such as bacon, sausage, luncheon meats, and heavily marbled steaks and roasts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Whole milk, high-fat cheeses, and ice cream?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. High-fat desserts such as pies, pastries, and rich cakes or bakery muffins?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Rich sauces and gravies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Oily salad dressings or mayonnaise?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Whipped cream, table cream, sour cream, and cream cheese?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Butter or margarine on vegetables, dinner rolls, and toast?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Chocolate, candy bars or nuts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Take a look at your answers. Several responses in the last two columns means you may have a high-fat intake. Is it time to cut back on foods high in fat?

THE COST OF EXCESS FAT:

- ▲ Can take the place of valuable carbohydrate calories.
- ▲ Can add unwanted pounds.
- ▲ Raises cholesterol levels.
- ▲ Increases risk of heart disease, diabetes and some cancers.

GENERALLY SPEAKING ...

Less fat is okay, but do not completely eliminate fat. You need about 15 grams or 1 tablespoon of fat a day to keep your body functioning properly.

During training:

- ▲ Men can afford 80-120 grams of fat.
- ▲ Women can have 60-90 grams of fat.

This will keep you in the 20-25% of daily fat intake range.

FINDING FAT

There's no doubt about it, fat makes food taste good. It enhances flavors.

We're used to a lot of fat in our food. Most Americans eat much more fat than they need. We've made high-fat fast foods of burgers, fries, cheese and special sauces staples in our diets.

If you want to eat no more than 20-25% fat, you probably need to reduce the amount of fat you eat. With a little thought you can. Before long it will be habit.

Reducing your fat intake doesn't mean you should eliminate fat. Don't completely give up your favorite high-fat foods.

Make changes in your fat intake gradually. If you do it all at once, your training performance could suffer while your body adjusts to a sudden big change in diet.

These guidelines can help you keep performance limits on your fat intake.

- ▲ Count fat grams - Read food labels.
- ▲ Know where to look for fat - Learn common sources of fat.
- ▲ Use lower-fat, high-carbohydrate substitutes.
- ▲ Look for “Lowfat” labels.
- ▲ Eat favorite high-fat foods less often.
- ▲ Fried = fat. Avoid fried foods.
- ▲ Watch sweets — many sweet products are also high in fat.
- ▲ Balance high-fat foods with lowfat foods.

AS FAR AS HEALTH: ALL FATS ARE NOT CREATED EQUAL

Better - Unsaturated fat

- ▲ Does not raise blood cholesterol.
- ▲ Found in most vegetable oils, especially olive oil, canola oil and peanut butter.

Not so good- Saturated fat

- ▲ Raises blood cholesterol and increases risk of heart disease and stroke.
- ▲ If its solid at room temperature, it’s mostly saturated.
- ▲ Found in butter, lard, shortening, hydrogenated oils and some vegetable fats, such as coconut and palm kernel oils.

Remember: All fats are high in calories!

SOME FATS ARE HIDDEN

Lard, oils, butter and other high-fat ingredients are often hidden in other foods, such as baked goods and salads. Fat is also hidden in meat as marbling (the white streaks seen in uncooked meat).

SOME FATS ARE CLEARLY VISIBLE:

Butter	Cream cheese	Margarine
Mayonnaise	Oil	Sour cream
Salad Dressings	Cream	Salad dressings
Outer removable fat on meat	(dairy & non dairy)	(mayonnaise-type)

Since these fats are easier to see, they are easier to avoid. Many are also available in fat-reduced versions. But, fat lurks in food you may not suspect. Become familiar with foods that harbor a lot of fat and try to choose them less often. The following list will help you find the fat in your diet.

How Much Fat?	
Here’s how much fat you’re getting when you eat some of these popular foods.	
FOOD	GRAMS OF FAT
4 slices pepperoni pizza	68
Double Whopper with cheese	61
Taco salad in taco shell	61
1 Avocado	30
Fried fish, batter-dipped, 6 oz	26
1 cup macaroni and cheese, homemade	22
Apple pie, 1 large piece	18
Glazed doughnut	18
1 slice chocolate cake, vanilla icing	15
Beef hot dog	14
1 cup vanilla ice cream, 10% milk fat	14
1 biscuit	13
3 Double Stuff Oreos	12
1 tablespoon mayonnaise	11
1 tablespoon butter or margarine	11
1 Burger King croissant	10
Muffin, bakery type	10
1/2 Fried chicken breast, with skin	9
1 1/2 slices Processed American cheese	9
Cheddar Cheese, 1 oz (size of 4 game dice)	9
Beef bologna, 1 slice	8
10 French fries	8
1 7-inch waffle, plain	8
10 potato chips	8
Brownie	6
Butter or margarine, 1 pat	5
4 Ritz crackers	4
1 tablespoon light cream	3

If You Want To Cut Your Fat Intake, Try These Substitutions

Instead of	Grams of Fat	Grams of Fat	try
A doughnut	18	1	A bagel with jelly
20 french fries	16	<1	Baked potato
1 oz cheddar cheese	9	5	Part skim mozzarella
1/2 chicken breast, fried with skin	9	3	1/2 chicken breast, roasted, no skin
6 oz batter-dipped fried fish filet	26	8	6 oz broiled fish
3 oz roast beef, lean and fat	16	6	3 oz roast beef, lean only
1 drumstick, fried with skin on	12	6	1 drumstick, roasted without skin
Big Mac	26	18	2 McDonald's hamburgers, (plus you get more carbohydrate with 2 rolls)
4 slices thin crust pepperoni pizza	68	48	4 slices thin crust, cheese pizza
1 tablespoon mayonnaise on sandwich	11	0	Mustard or ketchup
English muffin with 1 tablespoon butter	13	1	English muffin with 1 tablespoon jelly
20 potato chips	14	1	20 mini pretzels
1.5 oz milk chocolate candy bar	14	0	Jelly beans
4 tablespoons ranch salad dressing	32	8	1 tablespoon ranch salad dressing,
1/2 cup 10% milk fat, ice cream	7	2	1/2 cup lowfat frozen yogurt

Look for other ways to substitute lowfat choices. Cutting back on major fat ingredients, for example, eating fewer fried foods, helps to keep your fat intake at a performance level.

Sugar

Like fat, you should use sugar sparingly. Sugar is a simple carbohydrate. Because it has no other nutrients, it's called an empty calorie.

Eating too much sugar before physical activity can hurt your performance. Whether it's from sweet soda or sweet food, a lot of sugar before training activity or exercise can cause cramps, nausea, diarrhea, bloating and abrupt swings in blood sugar that can cause fatigue.

To Satisfy The Sweet Tooth

Here are some lowfat performance choice sweets that would be good for supplying needed calories after you have made sure you have met your nutrient needs. Eat sparingly for a treat.

Marshmallows	Jam, jelly	Hard candy
Lowfat frozen yogurt	Jelly beans	Licorice
Fruit, (fresh, dried, canned)	Jello	Graham crackers
Gingerbread, plain	100% fruit juice	Fudgesicles
Lowfat puddings	Frozen fruit juice bars	Popsicles
Gingersnaps		Instant hot chocolate mix in water

*While honey is sweet,
& bees are busy,
honey does not enhance performance.*

A Day At the Training Table

FROM THE UNIVERSITY OF MIAMI HURRICANES FOOTBALL TEAM, NCAA CHAMPIONS, 1989 & '91.

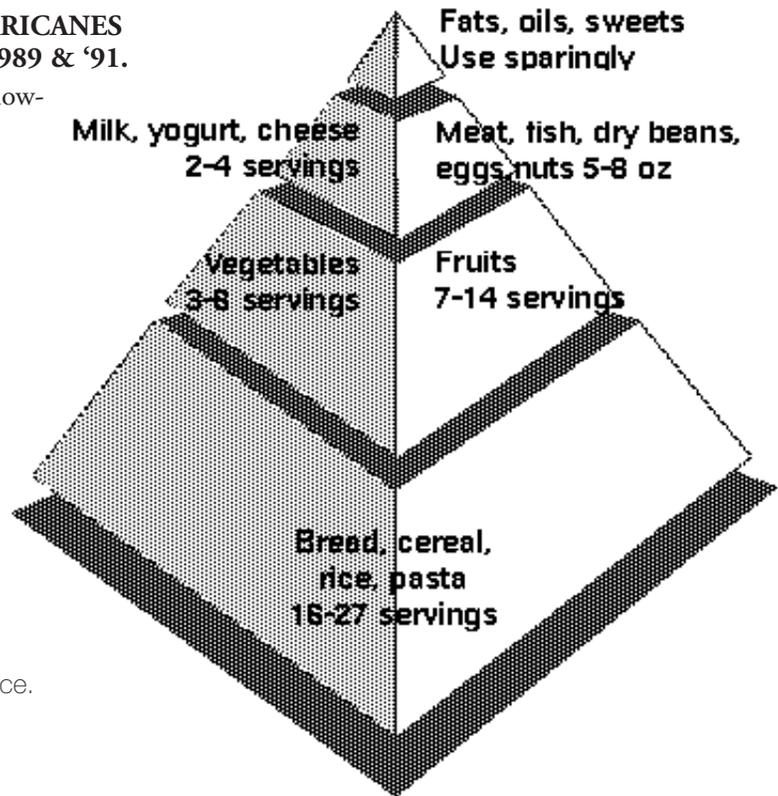
Notice the many high-carbohydrate, lowfat and low-sugar foods and the food variety in these menus.

LUNCH

- Grilled boneless chicken sandwich
- Beef and bean burritos
- Shrimp Jambalaya
- Mixed vegetables
- Zucchini and tomatoes
- Spanish Rice
- Hush puppies

DINNER

- Roast turkey with dressing
- Tortellini and Ziti pasta with meat or primavera sauce.
- Lemon dill baked fish
- Garlic bread
- Broccoli
- Corn O'Brien
- Mashed potatoes



Use the Performance Food Pyramid as a guide to making performance eating choices.

Carbohydrate 55-70% of your calories
Protein 12-15% of calories
Fat 20-25% of calories

FROM CAPT. B.T., USAR, COACH, U.S. MILITARY PENTATHLON TEAM, FORMER PENTATHLETE.

A Typical Day's Training Diet:

BREAKFAST

- Whole wheat cereal, no more than 2% lowfat milk
- Bowl of fruit
- Cup of orange juice
- Yogurt
- Piece of whole wheat toast
- Boiled egg whites, (for protein, but cutting out the fat and cholesterol in the yolks)

LUNCH

- Big vegetable salad with vinegar dressing - pick the colors of the rainbow to get variety. Not too much lettuce, but lots of carrots, peppers, cauliflower, broccoli
- Baked potato
- Triscuits
- Lowfat yogurt

DINNER

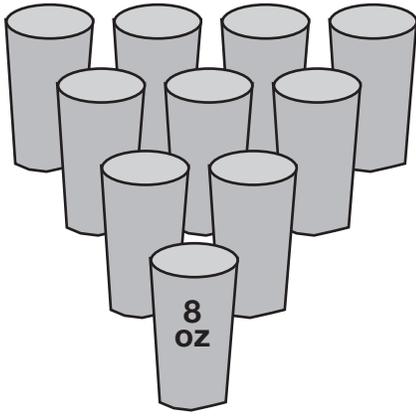
- Vegetable salad
- Pasta with tomato sauce with turkey or chicken
- Baked potato

IN BETWEEN MEAL SNACKS

- Fruit, health bars, vegetables, pretzels, Triscuits, Wheat Thins, hot tea

MIDNIGHT SNACK

- Lowfat yogurt with fruit and sometimes a little chocolate syrup



Drink 8-10 8 oz glasses of water a day. Drink more in extreme heat and cold!

Water

Water is not on the food pyramid. It has no calories, but water is your most important performance nutrient.

Water cools your body as it heats up during physical activity. Not getting enough water can lead to dehydration. Dehydration reduces your performance. Severe dehydration can cause death.

Cool water is your best fluid replacement. It's absorbed quickly from your stomach.

MONITOR YOUR FLUID LOSS.

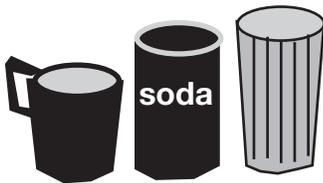
- ▲ Weigh yourself before and after physical activity. Drink 2 cups of water for each pound lost.
- ▲ Check your urine. If it's dark yellow or brown, drink water until it is light yellow or clear.

"Alcohol"

Alcohol is not a good fluid replacer. It dehydrates you by increasing body water loss through urination.

Alcohol reduces your coordination. Regular use of alcohol limits your ability to recover from exercise.

Caffeine



Caffeine also increases body water loss. If you drink coffee or soda containing caffeine before or after exercise, drink water with it.

Summary

When you determine your individual nutritional needs and eat the recommended portions from each food group on the Performance Pyramid, it won't be long before you feel the results in your training performance.

You should have more energy at the end of the day. Your speed and endurance should improve.

To eat a performance diet:

- ▲ Keep your energy tanks filled with the premium fuel, carbohydrate.
- ▲ Eat a variety of foods from each food group to get a balance of all the nutrients you need.
- ▲ Eat at least three meals a day if you can. Don't skip a meal.
- ▲ Snack on high-carbohydrate foods.

The recommended number of servings from the different food groups are:

- ▲ Fats and sugar - sparingly.
- ▲ Milk, yogurt, cheese - 2-4 servings a day to get calcium, protein and other nutrients.
- ▲ Meat, poultry and fish, dry beans, nuts - 5-8 oz or equivalent a day for protein, iron, zinc, other minerals, and B vitamins.
- ▲ Vegetables - 3-8 servings a day for carbohydrate, vitamins, minerals, fiber.
- ▲ Fruit - 7-14 servings a day for carbohydrate, vitamins, minerals, fiber.
- ▲ Bread, cereal, rice, pasta - 16-27 servings a day, for carbohydrate, vitamins, minerals, fiber.

Food For Thought & Action

A. Calculate the your energy needs.

B. Using the performance food pyramid, identify where your diet is out of balance.

- Do I eat too much fat?
- Do I eat too many sweets?
- Do I eat enough vegetables?
- Do I eat too much or too little meat?
- Do I drink enough water?
- Do I eat enough from the bread/cereal food group?.

C. Answer the following statements:

- I will eat a better performance and health diet if I:
 - a. Eat less of ___ food group(s).
 - b. Eat more of ___ food group(s).
 - c. Eat the same amount of ___ food group(s).

A performance diet can be your nutrition connection to performance power ... in training and throughout your military career.

CALCULATING ENERGY EXPENDITURE

Directions:

Use the worksheets below to calculate how many calories you burn in one day. Refer to the descriptions of activity categories on the next page.

Do this procedure for two days in one week. One of the two days should be a typical "light" day and the other day should be a typical "heavy" day. To get a more accurate energy figure, keep a daily activity log for both the light and heavy days. Note the category corresponding to the activity of each 15-minute period in the 24-hour period. Total how many hours were spent at each activity level and use these numbers to fill in the worksheet.

To use the worksheet, enter the number of hours spent at each activity level (to the nearest quarter hour) within a 24-hour period. Keep in mind the intensity level. Some sports and activities are listed more than once but under different categories due to different intensity levels. Remember, when determining the category, consider how much time you actually spend participating. For example, when playing basketball, subtract the time spent standing around during time outs, water breaks, and the like. Also remember, THERE ARE ONLY 24 HOURS IN A DAY!

Light Day

CALCULATING ENERGY EXPENDITURE				
CATEGORY VALUE	# OF HOURS PER DAY	CAL/LB PER HOUR	BODY WT (LB)	CAL PER HOUR
1	X	0.47	X	=
2	X	0.69	X	=
3	X	1.04	X	=
4	X	1.25	X	=
5	X	1.53	X	=
6	X	2.18	X	=
7	X	2.54	X	=
8	X	2.73	X	=
9	X	3.64	X	=
10	X	5.00	X	=
TOTAL 24 HOUR CAL				<input type="text"/>

Multiply the number of hours spent in each activity category by the specified CAL/POUND/HR figure and multiply that result by your body weight in pounds. The final number is entered in the column under the heading "CAL PER HR." Add up the figures in the CAL/HR column. This is your estimated total number of calories burned for the day. Remember, this value is only an estimate and can vary by 10 percent or more.

Use your estimated energy expenditure value as a general guide in planning your performance or weight loss/gain diet. If you are curbing your fat intake and emphasizing carbohydrates, let your appetite regulate your food intake.

Heavy Day

CALCULATING ENERGY EXPENDITURE				
CATEGORY VALUE	# OF HOURS PER DAY	CAL/LB PER HOUR	BODY WT (LB)	CAL PER HOUR
1	X	0.47	X	=
2	X	0.69	X	=
3	X	1.04	X	=
4	X	1.25	X	=
5	X	1.53	X	=
6	X	2.18	X	=
7	X	2.54	X	=
8	X	2.73	X	=
9	X	3.64	X	=
10	X	5.00	X	=
TOTAL 24 HOUR CAL				<input type="text"/>

Little to No Activity

Category 1 = Sleeping; resting in bed; lying still, relaxed.

Category 2 = Sitting; eating; reading; writing; driving a car; piloting airplane; standing still.

Light Activity

Category 3 = *Light activity while standing:* washing, shaving, combing, cooking, dish washing, making beds; playing darts.

Polishing boots and brass; guard duty; driving a motorcycle; pilot airplane in combat; office work.

Category 4 = Slow walking (≤ 2.5 mph) on hard surface, no load; driving a heavy truck; cleaning a rifle; dressing; showering; shooting pool.

Moderate Activity

Category 5 = Walking at moderate speed (3 mph), hard surface, no load; walking at 2.5 mph, hard surface w/ 66 lb. load; manual of arms; marksmanship training/range firing; driving armored vehicle; airplane repair.

Light manual work: floor sweeping, window washing, and light housework; painting; waiting on tables; quantity cooking; nursing chores; electrician; garage work; shopping; bowling; fishing; pleasure sailing; washing cars; bowling; noncompetitive weightlifting.

Category 6 = Calisthenics; walking at moderate speed (2.5 mph) on hard surface w/ 100 lb. load; walking at 3.5 mph w/ no load; walking 2.5 mph on loose sand; close order drill; scouting patrol; pick/shovel work, obstacle/endurance/confidence course.

Moderate exercise (leisure activities/sports in a recreational environment): fast walking, dancing, baseball, basketball (shooting baskets), golf, volleyball, canoeing or rowing, archery, bicycling at moderate speed, table tennis, gardening; mowing lawn with a power mower; etc.

Heavy Activity

Category 7 = Walking at 4 mph on hard surface, no load; foxhole digging; crawling with a full pack; regular road march; field assaults.

Manual work at a moderate pace: mining, carpentry, house building, lumberjacking and wood cutting, snow shoveling, loading and unloading goods, etc.

Category 8 = Walking at an almost run or fast uphill walking; walking at moderate speed (3.5 mph) with 66 lb load; walking at moderate speed on loose sand with no load; emplacement digging.

Leisure/sport activities of higher intensity (not competitive): Bicycling (10 mph); canoeing (3-5 mph); fast dancing, downhill skiing, gymnastics, swimming, tennis, horse riding, novice mountain climbing, weight training (continuous circuit training), general backpacking.

Competitive sports: badminton, tennis (singles), fencing, wrestling.

Very Heavy Activity

Category 9 = Walking at 3 mph w/ 100 lb load; assault course; forced road march; litter carry.

Intense manual work or high-intensity sport activities/competition: tree cutting, carrying heavy loads (75-99 lbs), boxing (sparring), jogging ($< 11:30$ min/mile), touch football, snowshoeing, hiking and mountain climbing, orienteering, swimming, basketball.

Category 10 = *Very high intensity/competitive sports:* racquetball, running (8-9 min/mile), martial arts, canoeing/sculling, cross country skiing, scuba diving (frogman).