

Module 1: Performance Power ... The Nutrition Connection: Getting Started

This manual introduces the concepts of Performance Nutrition. It includes:

- ▲ *The similarities between athletic training and military training and performance.*
- ▲ *The nutritional needs of the athlete and the military person and why these needs differ from those of the average person.*
- ▲ *The principle of energy balance.*
- ▲ *What nutrition balance means.*
- ▲ *The six major categories of nutrients and their impact on performance and health.*

Performance Nutrition is a sports nutrition program designed especially for the military.

MODULE

1

 Getting Started

MODULE

2

 Building a Performance Diet

MODULE

3

 Performance Choices

MODULE

4

 Fluids: Your Key to Performance

MODULE

5

 Nutritional Supplements: The Facts

MODULE

6

 High Caliber Nutrition In The Field

POWER
PERFORMANCE
THE NUTRITION CONNECTION

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module 1: instructor's manual

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INSTRUCTOR PREPARATION

PRE-SESSION SUGGESTIONS:

- Read Instructor's Guidelines.
- Read the Participant's Manual.
- Read this document and decide whether to add or delete activities. Decide if the module should be divided into one or more sessions. Keep in mind that although each module is outlined as one session, ideally it should be broken up into a couple of sessions so the participants can absorb the information. For example: After viewing the visual presentation (video or slides) the rest of the class time may be spent in a discussion and brainstorming session; reading this module's participant's manual could be part of a homework assignment, and the next session would continue with the lesson plan.
Use activities as time allows, but be sure to:
 1. Show the video or slide presentation.
 2. Pass out the Participant's Manual.
 3. Review the Key Concept.
- Review optional activities at the end of this manual.
- Draw from your own experience as an example when appropriate.
- Create your own activities.
- Order the following newsletters as resources for yourself and the class:
Nutrition Action, Center for Science in the Public Interest, 1875 Connecticut Ave., NW Ste 300, Washington DC 20009-5728; or
Environmental Nutrition, PO Box 420451, Palm Coast, FL 32142-0451.
(Other resources listed in Participant's Manual 5, page 5-11.)

BEFORE BEGINNING:

- Have Module 1 manuals ready to pass out.
- Determine whether presenting video or slide show.
- Have video (TV & VCR) or slide equipment (slide projector with slide set) set up to run.
- Have Handouts (Pre-Test, Quotes, Activity sheet) duplicated and ready.

MATERIALS:

- Clock or watch.
- Writing Surface (blackboard, flip chart, or overhead projector).
- Appropriate writing implement (chalk or magic marker).
- Handouts (Pre-Test, Quotes, Activity sheet).
- Pencils.
- Participant's **Manual 1: Getting Started**.

WRITE ON THE BOARD:

- PERFORMANCE POWER...THE NUTRITION CONNECTION
- Module 1: Getting Started
- Key Concepts and Objectives (found on page 1-2)
- (Your Name)



INTRODUCTION

WELCOME/PARAPHRASE

“Welcome to this first training session on PERFORMANCE POWER...THE NUTRITION CONNECTION. My name is _____, and today you'll be receiving an overview on the connection between what you eat and how you perform. Thank you for your time and attention.”

OVERVIEW/PARAPHRASE

“We all know how important performance is; how we perform is how we're evaluated. Everyday we are rated on our mental, physical and emotional performance. You are already receiving physical and mental training. Now you're going to receive nutritional training. This will allow you to maximize your mental, emotional and physical performance. We'll begin today by learning how nutrition plays a vital role in our performance.

PERFORMANCE POWER...THE NUTRITION CONNECTION is a training program which consists of 6 modules. Each module consists of a visual presentation and classroom information plus additional information in your manual.

The modules are:

MODULE 1: GETTING STARTED

MODULE 2: BUILDING A PERFORMANCE DIET

MODULE 3: PERFORMANCE CHOICES

MODULE 4: FLUIDS: YOUR KEY TO PERFORMANCE

MODULE 5: NUTRITIONAL SUPPLEMENTS: THE FACTS

MODULE 6: HIGH CALIBER NUTRITION IN THE FIELD

At the beginning of each module, you will be taking a pre-test which we will review at the end of each session. These tests will help us to determine the effectiveness of this program. It will also help you find out what you currently know about nutrition.”

PRE-TEST

PRETEST DIRECTIONS

“Let's go over the directions for completing the pre-test. Read each question or statement. Select what you believe is the best answer from the choices listed below it. Write the letter for your answer in the box next to the question number. You have five minutes to complete the pre-test. When I call time, please put your pencils down and I'll collect the tests.



DISTRIBUTES MATERIALS

Hand Out Pre-Test

Is everyone ready? We'll begin now.”



PARTICIPANT'S WRITTEN ACTIVITY

Testing Time: 5 minutes
Call time after minute 5

KEY CONCEPT/ OBJECTIVES

DIRECT

"Please put your pencils down and hand me your tests."

Collect Pre-Tests

STATE

"Now that you've taken the pre-test, I'd like to state the objectives for this training session."

HAVE KEY CONCEPT AND OBJECTIVES POSTED.

EXPLAIN

"The Key Concept of this module is:"

KEY CONCEPT: There is a relationship between nutrition and health and physical and mental performance.

OBJECTIVES: After this training, you should be able to:

- ▲ List the similarities between athletic training and military training and performance.
- ▲ Identify the nutritional needs of the athlete and the military person (requiring high intensity performance and endurance) and why those needs differ from those of the average person.
- ▲ Explain the principle of energy balance.
- ▲ Explain what nutrition balance means.
- ▲ Identify the six major categories of nutrients and explain each one's impact on performance and health.

PARAPHRASE

"After this training, you should be able to:

(Read the Objectives out loud.)

During this first session, we'll be watching a video or slide presentation that will get us started on improving our performance."

PARAPHRASE

"Athletes see improvements in their performance by the way they eat. It makes a difference between winning and losing. Like any team sport, our winning means all of you must be mentally, physically and emotionally fit in order to train and fight efficiently."

ASK

"Have any of you used nutrition to help your exercise performance? How did it affect your performance?"

Sample Responses:

- ▲ In high school, I ran cross country, the coach made us drink lots of water. The guys who didn't drink had problems.
- ▲ When I eat sugar and work out I become tired more quickly.
- ▲ I ate whatever I wanted and it never affected my performance.



STATE

“Good. Some of you already have first-hand knowledge of sports nutrition.”

SUMMARIZE

“Some of us are already familiar with nutrition's impact on performance and some of us have tried various regimens. What's interesting is the increasing knowledge coming from sports nutritionists regarding the importance of nutrition on peak performance.”

VIDEO/SLIDE PRESENTATION

“This video or slide show draws comparisons between athletic training and military training and addresses the relationship between performance and nutrition. Look for information regarding these key points (refer to Key Concept & Objectives):”



Presentation Key Points:

- ▲ How athletic and military training are alike
- ▲ How nutrition affects physical & mental performance
- ▲ Principles of Energy Balance
- ▲ Balance and Interaction of Nutrients
- ▲ Six Major Categories of Nutrients

Show Video/Slide Show
Time: 19 minutes

STATE

“Now we will review the Key Points with some activities.”

Hand Out **Participant's Manual: Module 1:
Getting Started**

STATE

“The video/slide presentation demonstrated the similarity between military and athletic training activities.

In your Participant's Manual on page 1-2 is a list of military and sports activities. Look at the amount of calories you burn per minute. This is a measure of the intensity of an activity. In close combat you burn 9.8 calories per minute, which is similar to the 10.2 calories per minute a basketball player burns.”

ASK

“Some of our training activities are similar to various sports. Can you name some military training activities and the sports they are similar to.”

List Responses On The Board

VIDEO/SLIDE PRESENTATION INTRODUCTION



Sample Responses:			
MILITARY TRAINING	CALORIES /MINUTE	ATHLETIC ACTIVITY	CALORIES /MINUTE
Conditioning hike 3.5 mph, 30 lb pack, full gear	7.6	Cycling, 9.4 mph	7.4
Confidence Course	7.2	Orienteering	9.4
Circuit run	9.6	Basketball	10.2
Infiltration course	10.6	Cross country skiing	10.6
Close combat	11.5	Judo	13.3
Company run 8 min./mile	14.8	Cycling - racing	11.5
Scuba diving	16.4	Scuba driving	16.4
3 mile run 6.5 min./mile	17.1	Running-race, 6 min/mile	17.3

STATE

“Women and men who lead sedentary to moderately active lifestyles burn 1800 - 2500 calories each day.”

Write “1800 - 2500” on the board

Pass Out Handout #1-1



DIRECT

“If 1800 - 2500 calories per day is what people not in high intensity activities burn, then how many calories do active people burn? Estimate the calories burned per day by someone participating in the military activities listed on the handout.”

Answers:	Women	Men
Competitive athlete in training	2000-4000	3000-6000
Military Basic Training	2000-3000	3000-4000
Marine OCS	2200-3200	3600-4800
Army Ranger School	n/a	3600-4800
Navy Seal training	n/a	4000-5000
Mountain training	n/a	4600-6000
Arctic field training, Infantry	n/a	3000-4000
SOF reconnaissance & surveillance mission to include in- and exfiltration	n/a	3000-3700

REFER TO ANSWERS ON PAGE 1-2 IN PARTICIPANT’S MANUAL STATE

“You can see how much more energy we need when we are in training.”

REVIEW

“Remember the race car engine. Our bodies require fuels for performance; high-carbohydrate, lowfat and adequate protein. And like any team, nutrients also work together to deliver energy where it is needed.”



Pass Out Handout #1-2 and Refer to Chart



ASK

“Look at the handout. What kind of nutrients are carbohydrates, proteins, fats, minerals, vitamins and water?”

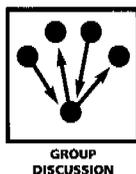
NUTRIENT	PERFORMANCE VALUE	FOOD SAMPLES
Carbohydrate	High Performance Quick Start & Endurance	Pasta, Rice, Fruits, Vegetables Breads
Fat	Compact Energy Storage Insulation	Butter, Ice Cream, Fried Foods, Oils, Chips, Nuts
Protein	Builds & Repairs Muscles & Other Tissues	Meats, Poultry, Dry Beans, Soy Beans, Tofu, Fish, Eggs, Cheese, Dairy Foods
Minerals	Assists in Energy Production	Found in fresh and minimally processed foods
Vitamins	Involved in Body Defense System	Found in fresh and minimally processed foods
Water	Cools body, carries nutrients to muscles and the brain	Water, fruits, fruit & vegetable juices & other beverages

STATE

“Now we’re going to look at some comments from people already involved with Performance Nutrition.”

ACTIVITY

GROUP DISCUSSION



Select 6 readers to read quotes from the Quote Handout

Pass Out Handout #1-3: Quotes



DIRECT

“Look at your handout. These quotes are from military personnel involved in training. After each quote is read feel free to share any comments. Reader #1, please read the first quote on the handout.”

READER #1

MALE USMC CAPTAIN, FORMER MEMBER NEW YORK GIANTS FOOTBALL TEAM, CURRENT MEMBER US MILITARY PENTATHLON TEAM (EVENTS IN MIL. PENTATHLON - 500 METER LAND OBSTACLE COURSE RUN, 500 METER SWIM, 10-12 KM ORIENTEERING RUN, RIFLE SHOOT, PISTOL SHOOT)

“I used to eat a lot of junk food, fast food. I only ate two large meals a day, lunch and dinner, never breakfast. My meals were erratic. I ate a big dinner at 10 at night. I drank a lot of Coke and Pepsi.

When I was training for international competition I began to change my eating. I started by drinking a lot more water — a gallon or more. Now I drink water every time I think about it.

I broke my meals into five smaller meals a day and went to a high carbohydrate, high protein diet. I eliminated a lot of fat and salt. I stopped drinking soda.

Over the summer I went from Level 2 fitness to Level 1 fitness, in large part because of my eating changes.

And I definitely see the results in my training. When my eating schedule gets thrown off because of travel or other extenuating circumstances, my energy level goes to zero. My workout times are the slowest when I'm not able to eat right. When I get back on my eating schedule, my speed improves.”



INSTRUCTOR ASKS
QUESTIONS



ANSWERS & KEY
CONCEPTS

ASK

“What was this person's experience with the effect of nutrition on his performance?”

Look for these Key Points:

- ▲ Gradual change in diet
- ▲ High carbohydrate diet
- ▲ Increase of water intake
- ▲ Smaller meals throughout the day
- ▲ Resulted in an improved fitness level which regressed when he didn't eat well
- ▲ High protein means an increase of protein that is adequate for the increase in physical activity



INSTRUCTOR ASKS QUESTIONS



ANSWERS & KEY CONCEPTS

STATE

Reader #2.”

READER #2

FEMALE MARINE LT. - PACIFIC REGIONAL COMPETITIVE AEROBICS CHAMPION

“Nutrition is at least 50 percent of your training. When I’m strict with my diet, I see a large difference, not just in my body shape, but just in how I feel. You have that overall healthy feeling, and it definitely helps in your performance.”

“I had to increase my eating habits at OCS. I found myself eating very large amounts for breakfast, lunch and dinner, including things I never did include before, *like a little more fat products, because I needed that to perform and stay energized.*”

ASK

“Any comments?”

Look for these Key Points:

- ▲ Improved nutrition improves not only body but attitude
- ▲ Not everyone is the same. Each person will have to modify his or her present diet differently. In this case, the increase in fat, which is a high energy food, was needed to help her get adequate calories.

STATE

“Reader #3.”

READER #3

MALE USAR CAPTAIN, COACH MILITARY PENTATHLON TEAM, FORMER TEAM MEMBER

“The body is like a machine. If it doesn’t get fuel it won’t function at maximum capacity.”

ASK

“Any comments?”

Look for these Key Points:

- ▲ Some of us take care of our cars and machines better than we take care of our bodies.
- ▲ Food is our source of fuel. This is sometimes taken for granted.



INSTRUCTOR ASKS QUESTIONS



ANSWERS & KEY CONCEPTS



INSTRUCTOR ASKS QUESTIONS



ANSWERS & KEY CONCEPTS

STATE

“Reader # 4.”

READER #4

MALE USAR CAPTAIN, COACH MILITARY PENTATHLON TEAM, FORMER TEAM MEMBER

“If you don't do it, you can't describe the energy the right nutrition gives you. For one thing, you don't need as much sleep, which is definitely important for Ranger training and other high activity MOS.”

ASK

“Any comments?”

Look for these Key Points:

- ▲ What have you got to lose; only by trying Performance Nutrition will you explore your potential.
- ▲ Performance Nutrition results in increased energy levels.

STATE

“Reader # 5.”

READER #5

MALE USAR CAPTAIN, COACH MILITARY PENTATHLON TEAM, FORMER TEAM MEMBER

“The first time I tried out for the Military Pentathlon team I didn't make it. I dramatically changed my eating and made the team the next year. I won overall in 1988.

If your goal is to experience peak performance, you have to do everything, including nutrition. If you're not doing the total training concept, you're in essence running against the wind. You'll never make peak performance. When you're eating potato chips and drinking cokes, you're running against the wind.”

ASK

“Any comments?”

Look for these Key Points:

- ▲ A change in diet may be the difference you need to achieve peak performance.
- ▲ Nutrition balance is vital to peak performance.
- ▲ Excess junk food can prevent nutritional balance.



INSTRUCTOR ASKS QUESTIONS



ANSWERS & KEY CONCEPTS



INSTRUCTOR ASKS QUESTIONS



ANSWERS & KEY CONCEPTS



ASK

“Any comments?”

ASK

“Okay now, what are some changes in your diet you can make between now and our next session?”

WRITE THEM ON THE BOARD



Possible Answers:

- ▲ Drink more water.
- ▲ Increase the amount of fruit I eat.
- ▲ Include a variety of foods.
- ▲ Reduce fatty foods.
- ▲ Eat more bread.

Pass Out Handout #1-4



DIRECT

“Now, select just one change you can make now to improve your diet. Write it down on Handout #1-4 and notice its effect on your performance. Be ready to share what you notice at the next session.”

Have participants share what they are going to do.



ASK

“What one change are you going to make?”

- ▲ Instead of reviewing the pre-test, re-administer the same test to evaluate how much the class learned during this session and to identify topics to be further discussed at the next session.
- ▲ Have class do exercise on Handout #1-5. (Answers are: 55-70% carbohydrate, 12-15% protein, 20-25% fat)

SUMMARY

“Remember, in order to optimize performance, a balance of nutrients is needed; carbohydrates, proteins, fats, vitamins, minerals and water. These nutrients are found in the foods we eat. A performance diet will delay fatigue, increase endurance, improve concentration, help prevent disease, increase confidence and make you look and feel better.”

STATE

“Now let’s look at the pre-test and review the correct answers.”

Read questions and provide correct answers.
Field questions.
Note questions you cannot answer for next class.

OPTIONAL ACTIVITY

PRE-TEST REVIEW

HANDOUT #1-1 ACTIVITY SHEET

Directions: If a person who leads a moderately active lifestyle burns 1800 - 2500 calories each day, then how many calories do people participating in these activities burn?

TYPE OF TRAINING	BURNED PER DAY
Competitive athlete in training?	_____ - _____
Basic training?	_____ - _____
Marine Corps Officer Candidate or Army Ranger training?	_____ - _____
Navy Seal training?	_____ - _____
Mountain training?	_____ - _____

HANDOUT #1-2
PERFORMANCE
VALUES

Directions: Fill in the blanks under "Performance Value."

NUTRIENT	PERFORMANCE VALUE	FOOD EXAMPLES
Carbohydrate	_____ _____ _____	Pasta, Rice, Fruits, Vegetables Breads
Fat	_____ _____ _____	Butter, Ice Cream, Fried Foods, Oils, Chips, Nuts
Protein	_____ _____ _____	Meats, Poultry, Dry Beans, Soy Beans, Tofu, Fish, Eggs, Cheese, Dairy Foods
Minerals	_____ _____ _____	Found in fresh and minimally processed foods
Vitamins	_____ _____ _____	Found in most foods minimally processed foods
Water	_____ _____ _____	Water, found in foods, juices

HANDOUT #1-3 QUOTES

READER #1

MALE USMC CAPTAIN, FORMER MEMBER NEW YORK GIANTS FOOTBALL TEAM, CURRENT MEMBER US MILITARY PENTATHLON TEAM (EVENTS IN MIL. PENTATHLON - 500 METER LAND OBSTACLE COURSE RUN, 500 METER SWIM, 10-12 KM ORIENTEERING RUN, RIFLE SHOOT, PISTOL SHOOT)

"I used to eat a lot of junk food, fast food. I only ate two large meals a day, lunch and dinner, never breakfast. My meals were erratic. I ate a big dinner at 10 at night. I drank a lot of Coke and Pepsi.

When I was training for international competition I began to change my eating. I started by drinking a lot more water — a gallon or more. Now I drink water every time I think about it.

I broke my meals into five smaller meals a day and went to a high carbohydrate, high protein diet. I eliminated a lot of fat and salt. I stopped drinking soda.

Over the summer I went from Level 2 fitness to Level 1 fitness, in large part because of my eating changes.

And I definitely see the results in my training. When my eating schedule gets thrown off because of travel or other extenuating circumstances, my energy level goes to zero. My workout times are the lowest when I'm not able to eat right. When I get back on my eating schedule, my speeds improve."

READER #2

FEMALE MARINE LT. - PACIFIC REGIONAL COMPETITIVE AEROBICS CHAMPION

"Nutrition is at least 50 percent of your training. When I'm strict with my diet, I see a large difference, not just in my body shape, but just in how I feel. You have that overall healthy feeling, and it definitely helps in your performance."

"I had to increase my eating habits at OCS. I found myself eating very large amounts for breakfast, lunch and dinner, including things I never did include before, like a little more fat products, because I needed that to perform and stay energized."

READER #3

MALE USMC CAPTAIN, COACH MILITARY PENTATHLON TEAM, FORMER TEAM MEMBER

"The body is like a machine. If it doesn't get fuel it won't function at maximum capacity."

READER #4

"If you don't do it, you can't describe the energy the right nutrition gives you. For one thing, you don't need as much sleep, which is definitely important for Ranger training and other high activity MOS."

HANDOUT #1-3 QUOTES

READER #5

"The first time I tried out for the Military Pentathlon team I didn't make it. I dramatically changed my eating and made the team the next year. I won overall in 1988.

If your goal is to experience peak performance, you have to do everything, including nutrition. If you're not doing the total training concept, you're in essence running against the wind. You'll never make peak performance. When you're eating potato chips and drinking cokes, you're running against the wind."

READER #6

MALE USMC CAPTAIN

"It's taken me about a year and a half to develop a performance eating routine, and it's still evolving."

#1-5
OPTIONAL
ACTIVITY

Directions: Circle the approximate percent that carbohydrates, proteins and fat should make up of your calories.

Carbohydrate 10% 15% 20% 25% 30% 35% 40% 45% 50% 55% 60% 65% 70% 75%

Protein 10% 15% 20% 25% 30% 35% 40% 45% 50% 55% 60% 65% 70% 75%

Fat 10% 15% 20% 25% 30% 35% 40% 45% 50% 55% 60% 65% 70% 75%

HANDOUT #1-6

MODULE 1

PRE-TEST

DIRECTIONS

Read each question or statement. Select what you believe is the best answer from the choices listed below it. Write the letter for your answer in the box next to the question number. You have five minutes to complete the pre-test. When time is called, please put your pencils down, and I'll collect the tests.

1. The **major** difference in nutritional needs of the athlete and the nonathlete is:
- A) The athlete needs more protein
 - B) The athlete needs more vitamins and minerals
 - C) The athlete needs less fiber
 - D) The athlete needs more calories
2. What you eat and how much you eat affects:
- A) How you maintain, gain and lose weight.
 - B) Your mental performance
 - C) Your health
 - D) Your physical performance
 - E) All of the above
3. Energy balance is:
- A) An increase in energy as a result of eating more food.
 - B) The relationship between calories consumed and calories burned
 - C) The way energy is stored by the body
 - D) A method of eating the same proportion of all nutrients
 - E) All of the above
4. Carbohydrates, proteins, fats, water, vitamins and minerals are:
- A) Major categories of nutrients that are required for health and performance
 - B) Forms of energy that are found in all foods
 - C) Nutrients that are found in all foods
 - D) Food supplements essential for maintaining health and performance
5. Performance Power ... The Nutrition Connection means that:
- A) There is a relationship between nutrition and health and physical and mental performance
 - B) When you exercise your body is highly efficient at extracting nutrients from food
 - C) A good diet alone will increase your physical performance
 - D) In order to improve your mental and physical performance, you need to take vitamins and mineral supplements
6. A balanced diet for an athlete would include:
- A) Mostly carbohydrate, some protein, and a little fat
 - B) Equal amount of carbohydrate, protein, and fat
 - C) Mostly protein, some carbohydrate and a little fat
 - D) mostly carbohydrate, some fat, and a little protein
7. Is a meal composed of a carbonated beverage and a hamburger adequate nutrition for a service member who is working out or training?
- A) Yes
 - B) No
8. A vitamin-mineral supplement taken each day is a good substitute for when you can't eat a variety of foods.
- A) Yes
 - B) No

ANSWERS TO MODULE 1 PRE-TEST

- D** 1. The **major** difference in nutritional needs of the athlete and the nonathlete is:
- A) The athlete needs more protein
 - B) The athlete needs more vitamins and minerals
 - C) The athlete needs less fiber
 - D) The athlete needs more calories

- E** 2. What you eat and how much you eat affects:
- A) How you maintain, gain and lose weight.
 - B) Your mental performance
 - C) Your health
 - D) Your physical performance
 - E) All of the above

- B** 3. Energy balance is:
- A) An increase in energy as a result of eating more food.
 - B) The relationship between calories consumed and calories burned
 - C) The way energy is stored by the body
 - D) A method of eating the same proportion of all nutrients
 - E) All of the above

- A** 4. Carbohydrates, proteins, fats, water, vitamins and minerals are:
- A) Major categories of nutrients that are required for health and performance
 - B) Forms of energy that are found in all foods
 - C) Nutrients that are found in all foods
 - D) Food supplements essential for maintaining health and performance

- A** 5. Performance Power ... The Nutrition Connection means that:
- A) There is a relationship between nutrition and health and physical and mental performance
 - B) When you exercise your body is highly efficient at extracting nutrients from food
 - C) A good diet alone will increase your physical performance
 - D) In order to improve your mental and physical performance, you need to take vitamins and mineral supplements

- A** 6. A balanced diet for an athlete would include:
- A) Mostly carbohydrate, some protein, and a little fat
 - B) Equal amount of carbohydrate, protein, and fat
 - C) Mostly protein, some carbohydrate and a little fat
 - D) mostly carbohydrate, some fat, and a little protein

- B** 7. Is a meal composed of a carbonated beverage and a hamburger adequate nutrition for a service member who is working out or training?
- A) Yes
 - B) No

- B** 8. A vitamin-mineral supplement taken each day is a good substitute for when you can't eat a variety of foods.
- A) Yes
 - B) No

NOTE: The answers provided for the questions below contain information not necessarily provided in this training program. Many of the answers to typical questions are supplied in the Participant Manual contents. Refer to Participant's Manual and related modules.

Program Questions

1. Why do we need this nutritional training?

Performance Nutrition will maximize your physical, mental and emotional performance whether it's in the field or in basic training. The field of medicine called sports nutrition has learned over the years that nutrition can play a significant role in improving not only your health but how your body responds to physical activity and mental stress. The physical and mental demands of the military require that you have a strong body and mind that is adequately fueled for the short and long haul. In the most extreme circumstances, a performance diet can be the difference between life and death. Athletes look to performance diets to help give them that competitive edge over other athletes. Performance Nutrition can maximize your natural talent, and training and conditioning to help you achieve peak performance in your military career.

2. Is there someone who can help me evaluate my present diet?

Contact the Registered Dietitian at your local installation medical facility, your Unit Master Fitness Trainer, or your installation Fit To Win Coordinator.

3. Will Performance Nutrition help everyone?

Yes! Everyone benefits from good nutrition and a performance diet. The people who may benefit the most from are those who have poor diets to start and those who are involved in daily endurance training. The body must be adequately fueled to sustain this kind of physical activity.

4. Is it okay for my family or friends to follow the Performance Nutrition guidelines/eat a performance diet?

Yes. A balanced diet high in carbohydrate, moderate in protein, and low in fat, is beneficial and healthy for all people. Sedentary adults and children, however, need fewer calories than the active military person or athlete.

helping your endurance. Regular meals and snacks will help maintain your blood sugar improving your focus and concentration. The benefit of adequate fluids can also be felt immediately! You can become dehydrated in just 30-60 minutes, so drinking enough water can be noticed the first day you incorporate this change. Attaining ideal body weight and increasing muscle strength are additional positive effects you may notice over time, probably starting in 2-4 weeks.

2. What kind of physical results can I expect?

A performance diet of high carbohydrate, adequate protein, lowfat and adequate fluid will help you maintain your optimal performance level at all times. It can maximize your endurance and strength as well as your ability to focus and concentrate, factors essential to military performance. A performance diet can also help prevent injuries and speed recovery if you should become injured. You will be better equipped to withstand the mental and emotional demands of field training, including long hours possibly without sleep. A performance diet will also help you achieve or maintain your ideal body weight.

3. How will Performance Nutrition help me if someone is shooting at me?

Your success in handling "the field" and real life situations that may arise in your military career depend on your training and conditioning, and yes, your performance diet. Life saving, high pressure, immediate-response decisions coupled with fast reflexes, may not be available to you if you are dehydrated, weak from lack of food, or have glycogen starved muscles from lack of carbohydrates. These types of decisions are more likely to have successful outcomes if you are strong and well hydrated from eating a performance diet and drinking lots of water.

4. I feel perfectly fine. Why do I need to change my diet?

If you are already eating a performance diet, congratulations. But if not, you are sure to see progress and improvement in your performance. If you are not eating a performance diet you are probably so used to your current eating habits that your body doesn't even recognize how "feeling strong" or "energetic" should feel. You don't have anything to lose. Performance Nutrition should only improve your energy level and performance.

5. How can I eat what's suggested for a performance diet if I don't have time, food available, etc.?

For questions such as this, suggest that although it is difficult to eat for performance sometimes, if you really

Performance Questions

1. When can I expect results?

You can expect results almost immediately. You may notice several changes. Be eating at least 55-60% carbohydrate every day you should notice your energy level improve as well as the ability to exercise longer. As your training and conditioning progress, your body's ability to store carbohydrates will improve, further

want to, you can find ways to do it. Then, ask the group for suggestions on how to answer the question. The point is that each individual will decide what methods work best to try to fit a performance diet into his/her lifestyle (up to and including some lifestyle changes.)

6. I can't drink all the water you want me to because I don't have the time to urinate.

Water is the most important nutrient in your performance diet. Inadequate water will hurt your performance and possibly risk your health. Including time to urinate should be a priority in your day. Inadequate water and prolonging the need to urinate can put an unnecessary strain on your kidneys.

7. Does drinking milk before exercise or training cause cotton mouth and cut speed and wind?

Cotton mouth seems to be caused by emotional stress and fluid loss. Performance does not decline when drinking milk.

8. Does everyone performing the same activity burn calories at the same rate; an active person compared to an inactive person?

Not necessarily. Different activities have average rates at which calories are burned per minute. For example a 150 pound man might burn 420 calories running 30 minutes at an 8 mph pace. Factors that influence the rate of calories burned per minute include percent muscle and body fat as well as genetic makeup. Since everyone's metabolism is a bit different, calories burned per activity may vary slightly. Active people tend to burn more calories than inactive people because they usually have more muscle mass.

9. Should we be carbohydrate loading before we exercise or train?

Carbohydrate loading is a training and diet regimen that may store as much as two times more muscle glycogen than normal. It should be used only by well-trained individuals/athletes involved in consistent, intense, endurance activities lasting 90 minutes or longer. It is ineffective for most military exercises or training activities because they are either too short in duration or because the exercise training schedule cannot be tapered prior to "the event." A consistent daily high-carbohydrate diet is adequate to prepare for most military events.

10. How should I change my eating habits when I'm not as physically active?

The balance of carbohydrates, proteins and fats in a performance diet is appropriate for everyone. The only change needed if you are less active is to decrease your calories in proportion to your activity level. You should continue to eat at least 55-60% carbohydrate, 12-15% protein, and 20-25% fat but just in fewer calories.

11. I need 5000-6000 calories or more to maintain my weight. How can I eat enough in three meals a day at the mess hall?

You do have to select wisely. For you a 30% fat diet may be more appropriate, the extra fat providing extra calories. But don't go overboard on the fat! Make sure your beverages provide calories. Ask if your dining facility allows fruit, crackers, bread, or other foods to be taken from the facility to be eaten as snacks later. If you can't maintain a healthy weight despite eating all you can in the mess hall, seek out a Registered Dietitian at your local medical treatment facility for a personalized assessment and possible recommendation for separate rations.

Food Questions

1. I don't like fruits or vegetables. Can't I just take vitamins?

It would be so easy if it were as simple as taking a pill to keep us healthy or improve our performance. Fruits and vegetables should be your first choice to get the vitamins and minerals found in these foods. Fruits and vegetables also provide fiber and are low in calories. Our bodies use vitamins and minerals better when they are included in a balanced performance diet. Additionally, the protective health benefits from fruits and vegetables may not come from their vitamins and minerals alone. There are other elements found in fruits and vegetables, not found in a vitamin pill, that may be protective to your health. To help increase your intake, experiment with different fruits and vegetables that are not as common, such as kiwis, or mix vegetables with other foods such as in casseroles. A multivitamin is okay to take, especially if it is difficult to eat all the calories you need on a performance diet, however, vitamin supplements should never replace a performance diet.

2. What about caffeine? Is it part of Performance Nutrition?

Caffeine can be included in a Performance Diet in moderation. Caffeine can help improve endurance in some athletes, however, the more caffeine you drink, the less benefit you will receive. Caffeine is dehydrating which can hurt your performance. If you choose to drink caffeinated drinks like coffee, tea or soda, do so in moderation, only 1-2 cups (8-16 oz) per day and try to drink an additional cup of water with each cup of caffeinated fluid.

3. I must have fried food. Do I have to eliminate all fried food from my diet?

No! A performance diet also means balance. Fried food is high in fat and excessive dietary fat can hurt your performance. Everyone has their favorite foods. Rather than totally depriving yourself of these foods which can

lead to overeating, simply balance these foods in moderation into your performance diet. Include your favorite fried foods occasionally in your diet. On the days you eat these foods balance your other meals by making lowfat choices.

4. Since most fat is not a separate item but is in food, how can I know how much fat is in the food I'm eating?

Fat can be hidden in food. To be a smart fat detective remember:

- ▲ Common fat sources are cheese, meats, whole milk or whole yogurt, oils, butter, margarine, cream cheese, gravies and creamed sauces.
- ▲ How is it cooked: Choose broiled, baked or steamed foods.
- ▲ Is the food fried or greasy? Does it leave an oil mark if left on a paper towel?
- ▲ Foods high in sugar are often high in fat including pastries such as muffins and donuts.
- ▲ Foods high in protein can be high in fat. choose lowfat, high-protein foods such as skim milk and skinless chicken.

5. How do I evaluate a casserole dish for carbohydrate, protein and fat?

The nutrients in casseroles can be deceptive to find, especially fat. Consider the following when evaluating casserole dishes:

- ▲ Carbohydrates can be found in pasta, rice, beans veggies
- ▲ Protein can be found in chicken, fish, meats, or beans
- ▲ Fat can be found in melted cheese, high fat meats, chicken skin, added oils and creamed sauces. Be careful of hidden fats.

6. Are food additives — common in canned, frozen, processed and restaurant/fast foods — bad for a performance diet?

Almost all food additives are in some way helping to protect the quality and safety of the food product. Deliberate food additives are under strict regulation by the Food and Drug Administration and are safe to the best of our knowledge. Probably more hazardous to our health and performance are the excessive amounts of refined sugars, salt, and oils added to many products. Common additives and their purposes are:

- ▲ Colors and flavors - make the food more appealing
- ▲ Emulsifiers - keep water and oil together in sauces
- ▲ Preservatives - help keep foods fresher, longer
- ▲ Thickeners - help bring solid particles together and give food its desired consistency.

7. Are processed foods bad in a performance diet?

Processed foods, such as those that are refined, dried, canned or frozen, can be an important source of essential nutrients in the performance diet. In many

cases, food preservation, processing, and preparation are needed to keep foods safe and sustain its quality. Processing allows a greater and more varied food supply. However, storing, processing and cooking can all result in nutritional loss and many processed foods contain high amounts of added sugars, salts, fats or oils. Processed foods can fit into a performance diet if you choose wisely and balance them with a variety of fresh and minimally-processed foods.

8. Will there be the appropriate foods available at the PX and Mess Hall?

Yes. There will always be a variety of choices, some easier to fit into a performance diet than others. Be willing to try new foods. Look for breads, cereals, and crackers; pasta with a tomato sauce and plain or veggie pizza; fresh fruit and 100% fruit juice; skim milk and lowfat yogurt; green salads with lowfat dressing; green and orange vegetables; and lean meats such as boiled ham, roast beef, turkey, chicken, and fish. If you feel that there are not enough performance food choices available, talk to the managers. Menu planners will continue to offer high-fat fare if that is what they think their customers want. Both the PX restaurants and the Armed Forces Recipe Service are continually looking for way to serve you better.

9. How is the menu determined for the base dining facility? Where does the food come from?

Master menus are developed by the military and distributed to each base dining facility. Dining facility food preparers then choose or modify menus for their facility based on the foods available through local and military food distributors. All foods are wholesome, and meet all state and federal health requirements. The menus provide a variety of foods from the food pyramid. When appropriately selected, the foods make up a nutritious, well-balanced, healthful and high-performance diet. Periodically, the military conducts nutrition and menu assessments that may prompt nutrition initiatives and menu changes.

Restaurant Questions

1. Do restaurants have to provide nutrition information?

Under the 1994 food labeling regulations, restaurants and other establishments that serve food for immediate consumption, do not have to provide nutrition information unless nutrient content or health claims are made (e.g., "low in fat", or "Diets low in fat and cholesterol may reduce the risk of heart disease.") Many restaurants, especially well-known fast food chains such as MacDonald's, Burger King and Wendy's, provide nutrition and ingredient information upon request.

2. Many restaurant and processed foods are high in sodium (salt.) Is salt good or bad?

Salt is made up of the minerals sodium and chloride. Both are needed for normal body functions, but excessive amounts of sodium may cause or aggravate high blood pressure in some people.

To help minimize your salt intake from processed and restaurant foods:

- ▲ Be a label reader and look for high-sodium ingredients such as sodium chloride, MSG, baking soda, sodium sulfate, and sodium citrate.
- ▲ Ask the server what seasonings are in the food, and/or ask for nutritional information.
- ▲ Taste food before automatically salting it.
- ▲ Don't salt the food at the table.
- ▲ Try other seasonings instead of salt, such as lemon, pepper and herbs.

**PERFORMANCE
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Module 2: Building A Performance Diet

This manual contains activities on the relationship between nutrition and health and physical and mental performance. It includes:

- ▲ *The concept of determining individual nutrition needs*
- ▲ *How to get a balanced diet to meet caloric needs using the food pyramid*
- ▲ *The concept of portion size for each major food group*

Performance Nutrition is a sports nutrition program designed especially for the military.

MODULE

1 Getting Started

MODULE

2 Building a Performance Diet

MODULE

3 Performance Choices

MODULE

4 Fluids: Your Key to Performance

MODULE

5 Nutritional Supplements: The Facts

MODULE

6 High Caliber Nutrition In The Field

**POWER
PERFORMANCE**
THE NUTRITION CONNECTION

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module 2: instructor's manual

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INSTRUCTOR PREPARATION

PRE-SESSION SUGGESTIONS:

- Read Instructor's Guidelines.
- Read the Participant's Manual.
- Read this document and decide whether to add or delete activities. Decide if the module should be divided into one or more sessions. Keep in mind that although each module is outlined as one session, ideally it should be broken up into a couple of sessions so the participants can absorb the information. For example: After viewing the visual presentation (video or slides) the rest of the class time may be spent in a discussion and brainstorming session; reading this module's participant's manual could be part of a homework assignment, and the next session would continue with the lesson plan.
Use activities as time allows, but be sure to:
 1. Show the video or slide presentation
 2. Pass out the Participant's Manual
 3. Review the Key Concept
- Review optional activities at the end of this manual.
- Draw from your own experience as an example when appropriate.
- Create your own activities.

BEFORE BEGINNING:

- Have Module 2 manuals ready to pass out.
- Determine whether presenting video or slide show.
- Have video (TV & VCR) or slide equipment (slide projector with slide set) set up to run.
- Have Handouts (Pre-Test, The Performance Food Pyramid, Sizing Up A Serving, Nutrition IQ) duplicated and ready.

MATERIALS:

- Clock or watch
- Writing Surface (blackboard, flip chart, or overhead projector)
- Appropriate writing implement (chalk or magic marker)
- Handouts (Pre-Test, The Performance Food Pyramid, Sizing Up A Serving, Nutrition IQ)
- Pencils
- Participant's **Manual 2: Building A Performance Diet**
- Cooking measuring cups
- A deck of cards, a tennis ball, 4 dice, a light bulb, a baseball, a ping pong ball

WRITE ON THE BOARD:

- PERFORMANCE POWER...THE NUTRITION CONNECTION
- Module 2: Building a Performance Diet
- Key Concepts and Objectives (found on page 2-2)
- Draw an outline of the food pyramid with the 6 divisions and blank spaces (see Handout #2-1)
- (Your Name)



INSTRUCTOR'S MANUAL

MODULE 2: BUILDING A PERFORMANCE DIET

INTRODUCTION

WELCOME/PARAPHRASE

"Welcome to our second training session on PERFORMANCE POWER ...THE NUTRITION CONNECTION. My name is _____, and today you'll learn the basis of Performance Power eating, whether you're in training, on maneuvers, at home or at the mess. Thank you for your time and attention."

OVERVIEW/PARAPHRASE

"Nutritional training allows you to maximize your mental, emotional and physical performance. **Module 1** introduced the vital role nutrition plays in performance and the similarity between athletic training and military training. Today in **Module 2: Building a Performance Diet**, we will learn more about nutritional balance. How carbohydrate, fat and protein relate to the food pyramid and its serving sizes.

Before we begin, let's review the Key Concepts we learned in Module 1. You can follow along on page 1-1 in your manual for **Module 1: Getting Started**.

REVIEW: KEY CONCEPTS: MODULE 1

KEY CONCEPT: There is a relationship between nutrition and health and physical and mental performance.

- ▲ Athletic training and military training both require endurance training and strength.
- ▲ The nutritional needs of the athlete and the military person (requiring high intensity performance/endurance) differ from those of an average person.
- ▲ Energy balance: the relationship between calories consumed and calories burned.
- ▲ Nutrition balance: high carbohydrate, lowfat, and adequate protein
- ▲ Six major categories of nutrients: carbohydrate, protein, fat, water, vitamins and minerals.

Are there any questions or comments regarding the last module? Did you notice any changes in performance or encounter any challenges? What changes did you make to your diet? Were you able to stick to your commitment?

Okay, now let's learn some more."

PRE-TEST



PARTICIPANT'S WRITTEN ACTIVITY

"Let's go over the directions for completing the pre-test. Read each question or statement. Select what you believe is the best answer from the choices listed below it. Write the letter for your answer in the box next to the question number. You have five minutes to complete the pre-test. When I call time, please put your pencils down and I'll collect the tests.



DISTRIBUTES MATERIALS

Is everyone ready? We'll begin now."

Hand Out Pre-Test

Testing Time: 5 minutes
Call time after minute 5

DIRECT

“Please put your pencils down and hand me your tests.”

Collect Pre-Tests

KEY CONCEPT/ OBJECTIVES

STATE

“Now that you’ve taken the pre-test, I’d like to state our objectives for this training.”

HAVE KEY CONCEPT AND OBJECTIVES POSTED.

EXPLAIN

“The Key Concept of this module is:”

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

OBJECTIVES: After completing this module you should be able to:

- ▲ Determine caloric needs based on activity level, weight and body composition.
- ▲ Explain how to get a balanced diet to meet caloric needs using the food pyramid.
- ▲ Explain three general tips for getting an optimally nutritious diet.
- ▲ Identify what foods you need to 1) eat more of, 2) eat less of, and 3) eat the same amount of to get a more healthful diet that can help maximize performance.

VIDEO/SLIDE PRESENTATION INTRODUCTION



SHOW
VIDEO OR SLIDES

During this session, we’ll be watching a video/slide presentation that will introduce us to the concepts of **Building a Performance Diet**.

This video/slide show will get you started in assessing your nutritional status. Look for information regarding these key points.”

Presentation Key Points:

- ▲ How to determine how much to eat
- ▲ Identify portion sizes of foods from each group
- ▲ How to use the food pyramid to get a balanced diet

Show Video/Slide Show
Time: 13 minutes



ASK

“Based on the video/slide show, what was the major point of the presentation?”

Compliment accurate responses.

Use responses to review key points:

Sample Responses:

- ▲ Both athletes and military trainees require high intensity performance and endurance.
- ▲ Each individual has different nutritional needs.
- ▲ Everyone needs to eat a variety of food from the 6 major food groups to get fuel and vitamins and minerals.



ASK

“What does the performance food pyramid show?”

Sample Responses:

- ▲ The performance food pyramid shows:
 - The major food groups or categories.
 - The relative proportion of these categories in a performance diet. (Eat more from the bottom {carbohydrates; grains, fruits & vegetables} and less amounts as you reach the top.)
 - The recommended number of servings from each food group and their respective serving sizes.

REVIEW

“Remember the food pyramid. Our bodies require a variety of fuels for performance; lots of carbohydrates, adequate protein and sparse fats & sugars. Choose foods from all of the food groups to get the vitamins and minerals you need.”



Hand Out **Participant’s Manual: Module 2: Building A Performance Diet**
and Handout #2-1: The Performance Food Pyramid

STATE

“Look at the pyramid on your Handout.

- STEP 1: Fill in the spaces on the outside of the food pyramid. Choose from the 3 major fuels; **fat, protein and carbohydrate.**
- STEP 2: Now, in the blank spaces on the inside of the food pyramid, using the list below the pyramid, fill in the 6 food groups.
- STEP 3: Name 3 examples of foods from each of the 6 groups. (Ex: Fruit: apple, peach, raisin)

After participants fill in the answers on the Handout,
fill in the answers on the board.



ACTIVITY: FILLING IN THE PERFORMANCE FOOD PYRAMID

ACTIVITY: WHAT AM I EATING?



STATE

“The Food Pyramid is a good framework on which to build our own Performance Power diets. We know *what* to eat. Next we will identify how many serving to eat from each category. On page 2-5 of your manual is the food pyramid with recommended servings.

So let’s look at a typical breakfast of scrambled eggs, bacon, toast with butter and jam, coffee.”

On The Board make a chart like the one below without the checkmarks

“Now, next to the food, write the categories in which it belongs.”

Instructor Example:

Food	Grains	Fruit	Vegetables	Meat	Dairy	Fats & Sweets
scrambled eggs				✓		
bacon				✓		✓
toast with butter		✓				✓
jam						✓
coffee w/milk & sugar					✓	✓

“Now let’s look at the servings. For this we need quantities. I had 2 scrambled eggs.”

Instructor Example:

Food	Grains	Fruit	Vegetables	Meat	Dairy	Fats & Sweets
2 scrambled eggs				2 oz		
3 strips of bacon				1 oz		*
2 pieces of toast with 2 pats butter	2					2
1 tablespoon of jam						1
2 cups (mugs) of coffee w/milk & sugar					1/4	*
TOTAL SERVINGS	2	0	0	3 oz	1/4	3

“Now let’s evaluate where we are. Refer to the food pyramid on page 2-5 in the manual.

Under carbohydrates are: grains, fruits and vegetables. 16-27 servings of grain are recommended. We have 2. That leaves at least 13 more servings to go! Fruit: 7-14 servings. we have 0, that leaves at least 7 more servings to go! Vegetables:3-8 servings. We have 0. That leaves at least 3 more servings to go!

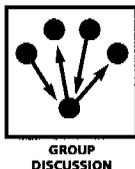
The next major group is Protein, meat and dairy. 5-8 oz of meat are recommended. We’ve eaten 3 ounces, that leaves 2-5 oz. Please note that one of those servings is from the bacon, which has an added 9 grams of fat! Dairy has 2-4 servings recommended. We’ve eaten 1/4 of a serving. That leaves at least 1 3/4 servings.

Last is Fats and Sweet; use sparingly. Well, in this example we’ve already had a lot!

The next step is to think about how to handle the rest of the day – lunch, dinner, and snacks – so we have a *whole* day that is nutritionally balanced.”



SIZING UP A SERVING ACTIVITY



STATE

"Some of us have no idea what a serving is, what a cup is or a tablespoon is. We just eat what's in front of us or what looks good or until we are full. Performance Nutrition requires us to become knowledgeable about serving sizes so we can balance our food intake."

Set out "Size Samples"; tennis ball, 4 dice (stacked), a deck of cards, a light bulb, a baseball, and a ping pong ball on a table surface.

Handout #2-2: Activity Sheet



STATE

"Your idea of a serving may not be the same as the serving size referred to in the performance food pyramid. A "serving" is not the same as a helping. On this Handout are listed 6 different foods and 6 common items. The items represent one serving. Match the item to the food.

Example:

ASK: What would be equal to the size of a serving of fruit?
ANSWER: A tennis ball

Correct Matches:

1 Serving	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	= baseball
1 tablespoon peanut butter	= ping pong ball

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."

STATE

"Referring to the Performance Food Pyramid, make a list of food groups you should eat more of and less of. There's a chart to fill in on page A-1 of your manual."

ACTIVITY: MORE OF/LESS OF



Sample Responses:

	FOOD GROUPS	MORE OF	LESS OF
FAT	(Oils & Sweets)	none	butter, sugar & salad dressing
PROTEIN	Meat, Poultry, Fish	fish & poultry	fried meat
	Dry Beans, Eggs, Nuts	dry beans	eggs
	Milk, Yogurt, Cheese Groups	lowfat milk	cheese
CARBOHYDRATE	Fruits	more variety	none
	Vegotables	more variety	none
	Bread, Cereal, Rice, Pasta	whole grain bread	none

"Your next meal is a good time to start making gradual changes to your diet. What you choose to eat should be based on your activity level, your caloric needs and food availability. Think today about tomorrow's activity."

ENERGY EXPENDITURE ACTIVITY



PARTICIPANT'S
WRITTEN ACTIVITY

STATE

“Now we will analyze our caloric requirements. On page 2-4 of your manual is a quick formula to estimate your caloric requirements.”

Read directions and have class figure their energy expenditures.

Example:

Using the calculation method shown below, you can estimate how much energy you burn in a day.

1. Multiply your weight by your activity level.

Weight (lbs)	<u>170</u>	X	13	(sedentary-light activity)
			16	(moderate activity)
		→	20	(heavy activity)
			25	(exceptionally heavy activity)

Weight x Activity Level = Amount $170 \times 20 = 3400$

2. Subtract from that amount the appropriate number for your age group.

	Age	Subtract
→	25-340
	35-49100
	50-64200

Amount - Age = Total **estimated calories burned/day** $3400 - 0 = 3400$

Appendix 1 of this module contains a work sheet and instructions to better calculate the energy you burn, based on the types of military and recreational activities you do.

Remember, these are just estimates. Also, other factors, such as extreme heat and cold, can increase the number of calories you need. If you are trying to lose body fat, you may require fewer calories.

STATE

“For those of you who want a more accurate estimation, refer to page 2A-2 in your manual. Note the descriptions of the 10 activity levels. Duration of an activity, along with the level of intensity affects calories burned. As the physical effort gets harder, the energy cost greatly increases. The more time you spend at the heavier activities, the more calories you need. Even if you don't use this activity to calculate how many calories you burn on a given day, you can use this information to select calorie burning activities to aid in weight loss.”

Activity Level Examples:

Little to No Activity	<i>Category 1 & 2</i>	Sleeping, or sitting
Light Activity	<i>Category 3 & 4</i>	Slow walking or driving
Moderate Activity	<i>Category 5 & 6</i>	Airplane repair or mod. walking
Heavy Activity	<i>Category 7 & 8</i>	Running or fast dancing
High Intensity Activity	<i>Category 9 & 10</i>	High intensity sports

See Chart on page 2A-3 for more examples.

OPTIONAL ACTIVITIES

- ▲ Instead of reviewing the pre-test, re-administer the same test to evaluate how much the class learned during this session and to identify topics to be further discussed at the next session.
- ▲ Have class members write down what they ate the previous day and compare their food choices and amounts to the Performance Pyramid guidelines.
- ▲ Have each class member identify one eating habit that needs improvement. Choose 2 or 3 to problem solve. Then, either as one group or broken down into smaller groups, identify realistic solutions to the problem eating habits. Realistic solutions will be different for everyone, depending on their lifestyles.
- ▲ Write at least one contract for diet change. Follow the contract for the next week. (By putting the contract in writing, a firm commitment is made.) (Follow-up activity would be a discussion generated by the questions, "Did you fulfill your contracts? What changes were the easiest? What changes were the most difficult?")
- ▲ Look at the Nutrition IQ test (Handout #2-3). Answer the questions using your classroom knowledge and manual. Don't worry if you can't answer all of the questions. We'll answer these questions at the beginning of the next module.

SUMMARIZE

"Remember, in order to optimize performance, a balance of nutrients is needed, carbohydrates, proteins, fats, vitamins, minerals and water. These nutrients are found in the foods we eat. A performance diet will delay fatigue, increase endurance, improve concentration, help prevent disease, increase confidence and make you look and feel better."

PRE-TEST REVIEW

STATE

"Now let's look at the pre-test and review the correct answers."

Read questions and provide correct answers.
Field questions.
Note questions you cannot answer for next class.

WRAP UP

EXPLAIN

"Read your participant's manual for more detailed information about energy needs; carbohydrates, proteins and fats; and how to use the performance food pyramid."

PERFORMANCE TIPS: We all need the same kinds of foods to be healthy but each of us needs to adjust the amounts to our own energy needs.

- ▲ Eat a balanced diet to get the nutrients you need
- ▲ Eat a variety of foods
- ▲ Select foods from the performance food pyramid using the suggested serving amounts as a guide
- ▲ Eat 3 meals a day and 2 snacks, avoid skipping meals

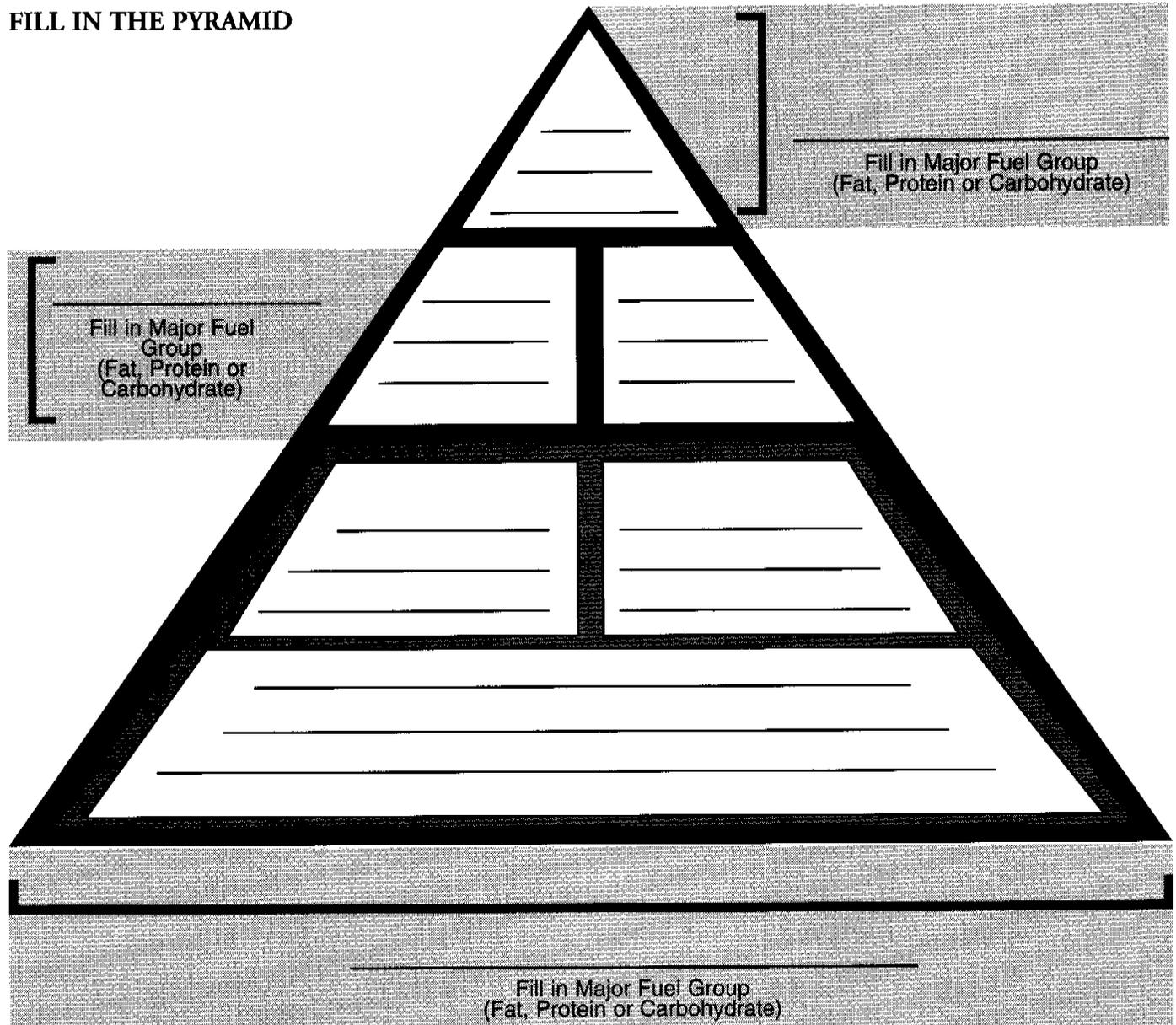
"You know yourself best. You know how your body reacts to various foods under various conditions and you know what kind of shape you are in now and where you

HANDOUT #2-1

THE PERFORMANCE FOOD PYRAMID

- STEP 1: Fill in the spaces on the outside of the food pyramid. Choose from the 3 major fuels, fat, protein and carbohydrate.
- STEP 2: In the blank spaces on the inside of the food pyramid, using the list below the pyramid, fill in the 6 food groups.
- STEP 3: Name 3 examples of foods from each of the 6 groups. (Ex: Fruit: apple, peach, raisin)

FILL IN THE PYRAMID



Six Food Groups

Examples

- ▲ Bread, Cereal, Rice & Pasta
- ▲ Fruits
- ▲ Meat, Poultry, Fish, Dry Beans, Eggs & Nuts
- ▲ Fats, Oils, Sweets
- ▲ Milk, Yogurt & Cheese
- ▲ Vegetables

HANDOUT #2-2

SIZING UP A SERVING

Directions: Your idea of a serving may not be the same as the serving size referred to in the food pyramid. A 'serving' is not the same as a helping. Here are 6 different foods and 6 common items. Each represents one serving. Match the food to the item.

1 Serving	Size Comparison
1 med. fruit	=
1 oz swiss cheese	=
3 oz cooked meat	=
1/2 cup cooked broccoli	=
1 large scoop (1 cup) ice cream	=
1 tablespoon peanut butter	=

Size Comparison Items
4 stacked dice
tennis ball
a deck of cards
pin pong ball
a light bulb
baseball

HANDOUT #2-3

NUTRITION IQ TEST

Circle the correct answer: True or False.

- | | | |
|--|----------|----------|
| 1 Bananas, bread, potatoes and pasta are foods that have a high fat content. | T | F |
| 2 One cup of cottage cheese contains more protein than three ounces of loin steak. | T | F |
| 3 Vitamins are necessary because they provide protein. | T | F |
| 4 After working out, you should take salt tablets. | T | F |
| 5 Water is an essential nutrient. | T | F |
| 6 Honey, like table sugar, has little nutritional value. | T | F |
| 7 Fat is considered an essential nutrient. | T | F |
| 8 Meat is the only food source of protein. | T | F |
| 9 Carbohydrates are fattening and should be avoided. | T | F |
| 10 Vitamin pills are necessary in order to obtain an adequate amount of vitamins. | T | F |
| 11 Butter contains more calories than regular margarine. | T | F |
| 12 Carbohydrates may be classified as either sugars or starches. | T | F |
| 13 Two slices of bacon contain more fat than a baked potato. | T | F |
| 14 Steak is the best source of protein for athletes. | T | F |
| 15 Only foods which contain protein, carbohydrate or fat provide energy. | T | F |

NUMBER CORRECT _____

14 or greater = excellent

11 - 13 = good

8 - 10 = fair

7 or less = read your manual and come to the next session

Answer Box

3. F	6. T	9. F	12. F	15. T
2. T	5. T	8. F	11. F	14. F
1. F	4. F	7. T	10. F	13. T

HANDOUT #2-4
MODULE 2
PRE-TEST

DIRECTIONS

Read each question or statement. Select what you believe is the best answer from the choices listed below it. Write the letter for your answer in the box next to the question number. You have five minutes to complete the pre-test. When time is called, please put your pencils down, and I'll collect the tests.

1. A person's energy or calorie needs are most affected by:
A) Body weight
B) Body composition
C) Age
D) Physical activity
2. The Performance Food Pyramid helps in planning diets because it:
A) Recommends the amounts of nutrients needed
B) Shows what to eat and how much
C) Tells what foods are not good for us
D) Recommends foods good for certain meals
3. A balanced diet means:
A) Eating the right combination of foods to get the proper blend of nutrients
B) Eating the same amount of food at each meal
C) Eating equal amounts of fat, carbohydrate, and protein
D) All of the above
4. To get a nutritious, well-balanced diet that can help you maximize your performance:
A) Eat a variety of foods from each food group
B) Select foods from all food groups on the performance pyramid using the suggested number of servings as a guide
C) Eat at least three meals a day; Avoid skipping meals
D) All of the above
5. Carbohydrates should be what proportion of your food intake?
A) The largest proportion
B) The smallest proportion
C) The same amount as protein
D) The same amount as all the other foods
6. To be physically and mentally alert, a person should:
A) Consume about 1/3rd of the day's calories for breakfast
B) Fast until noon
C) Drink coffee with meals
D) Take a vitamin/mineral supplement every day
7. Which of the following groups contains the *least* carbohydrate?
A) Grains and starchy vegetables
B) Sugars and dried fruits
C) Milk, yogurt and cheese
D) Fruits and vegetables
8. Is red meat the best source of protein for athletes?
A) Yes
B) No
9. Can dried peas, beans and nuts substitute for some of the daily protein needs?
A) Yes
B) No

ANSWERS TO MODULE 2 PRE-TEST

- D** 1. A person's energy or calorie needs are most affected by:
- A) Body weight
 - B) Body composition
 - C) Age
 - D) Physical activity
- B** 2. The Performance Food Pyramid helps in planning diets because it:
- A) Recommends the amounts of nutrients needed
 - B) Shows what to eat and how much
 - C) Tells what foods are not good for us
 - D) Recommends foods good for certain meals
- A** 3. A balanced diet means:
- A) Eating the right combination of foods to get the proper blend of nutrients
 - B) Eating the same amount of food at each meal
 - C) Eating equal amounts of fat, carbohydrate, and protein
 - D) All of the above
- D** 4. To get a nutritious, well-balanced diet that can help you maximize your performance:
- A) Eat a variety of foods from each food group
 - B) Select foods from all food groups on the performance pyramid using the suggested number of servings as a guide
 - C) Eat at least three meals a day; Avoid skipping meals
 - D) All of the above
- A** 5. Carbohydrates should be what proportion of your food intake?
- A) The largest proportion
 - B) The smallest proportion
 - C) The same amount as protein
 - D) The same amount as all the other foods
- A** 6. To be physically and mentally alert, a person should:
- A) Consume about 1/3rd of the day's calories for breakfast
 - B) Fast until noon
 - C) Drink coffee with meals
 - D) Take a vitamin/mineral supplement every day
- C** 7. Which of the following groups contains the *least* carbohydrate?
- A) Grains and starchy vegetables
 - B) Sugars and dried fruits
 - C) Milk, yogurt and cheese
 - D) Fruits and vegetables
- B** 8. Is red meat the best source of protein for athletes?
- A) Yes
 - B) No
- A** 9. Can dried peas, beans and nuts substitute for some of the daily protein needs?
- A) Yes
 - B) No

Module 3: Performance Choices

This manual contains activities that shows how to tailor a nutritionally optimal diet to lifestyle, training regimen, food availability and food preference. It includes:

- ▲ *Tactics for the elimination of obstacles to a high performance diet.*
- ▲ *Information on developing an eating strategy for making performance food choices in the mess hall, restaurants and food stores.*
- ▲ *What to eat and drink before, during and after physical activity to optimize performance.*
- ▲ *Realistic performance diet goal setting.*

Performance Nutrition is a sports nutrition program designed especially for the military.

MODULE

1 Getting Started

MODULE

2 Building a Performance Diet

MODULE

3 Performance Choices

MODULE

4 Fluids: Your Key to Performance

MODULE

5 Nutritional Supplements: The Facts

MODULE

6 High Caliber Nutrition In The Field

POWER
PERFORMANCE
THE NUTRITION CONNECTION

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INSTRUCTOR PREPARATION

PRE-SESSION SUGGESTIONS:

- Read Instructor's Guidelines.
- Read the Participant's Manual.
- Read this document and decide whether to add or delete activities. Decide if the module should be divided into one or more sessions. Keep in mind that although each module is outlined as one session, ideally it should be broken up into a couple of sessions so the participants can absorb the information. For example: After viewing the visual presentation (video or slides) the rest of the class time may be spent in a discussion and brainstorming session; reading this module's participant's manual could be part of a homework assignment, and the next session would continue with the lesson plan.
Use activities as time allows, but be sure to:
 1. Show the video or slide presentation
 2. Pass out the Participant's Manual
 3. Review the Key Concept
- Review optional activities at the end of this manual
- Draw from your own experience as an example when appropriate.
- Create your own activities

BEFORE BEGINNING:

- Have Module 3 manuals ready to pass out.
- Determine whether presenting video or slide show.
- Have video (TV & VCR) or slide equipment (slide projector with slide set) set up to run.
- Have Handouts (Pre-Test, The Menu, What Are The Obstacles?, Reading Nutrition Fact Labels) duplicated and ready.

MATERIALS:

- Clock or watch
- Writing Surface (blackboard, flip chart, or overhead projector)
- Appropriate writing implement (chalk or magic marker)
- Handouts (Pre-Test, The Menu, What Are The Obstacles?, Reading Nutrition Fact Labels)
- Pencils
- Participant's **Manual 3: Performance Choices**

WRITE ON THE BOARD:

- PERFORMANCE POWER...THE NUTRITION CONNECTION
- Module 3: Performance Choices
- Key Concepts and Objectives (page 3-2)
- (Your Name)



INTRODUCTION

WELCOME/PARAPHRASE

“Welcome to our training session on performance nutrition. My name is _____, and today we’re going to be looking at the best food choices for a performance diet. We all know it’s not always easy to ‘eat right.’ From our crazy schedules to the food that’s served in the dining facility, it may seem pretty impossible. But there are some practical, real life ways to make better food choices to optimize your performance in PT, in field training and during missions.”

PARAPHRASE

“The first step is to take this pre-test. It will help you find out what you currently know about the subject and give you a preview of the types of things you’ll be learning today. We’ll review the test after the training to see what you’ve learned.”

PRE-TEST



Hand Out Pre-Test

DIRECT

“Let’s review the directions for completing the pre-test. First, read each question or statement. Select what you believe is the best answer from the choices listed below it. Write the letter for your answer in the box next to the question number. You have five minutes to complete the pre-test. When I call time, please put your pencils down and I’ll collect the tests.”

Testing Time: 5 minutes
Call time after minute 5

DIRECT

“Please put your pencils down and hand me your tests.”

Collect Pre-Tests

KEY CONCEPT/ OBJECTIVES

STATE

“Now that you’ve taken the pre-test, I’d like to state our objectives for this training.”

HAVE KEY CONCEPT AND OBJECTIVES POSTED.

EXPLAIN

“The Key Concept of this module is:”

KEY CONCEPT: A nutritionally optimal diet can be tailored to an individual military person’s lifestyle, training regimen, food availability, and food preferences.

OBJECTIVES: After this training, you should be able to:

- ▲ Identify and eliminate obstacles to eating a high performance diet.
- ▲ Develop an eating strategy for making performance food choices in the mess hall, restaurants and food stores.
- ▲ Time what you eat and drink before, during and after physical activity to optimize performance.
- ▲ Set realistic goals to achieve a performance diet.

STATE

“During this session, we’ll be watching a video/slide show that provides key information to help us meet our objectives.”

PARAPHRASE

“Whether in training sessions like this, on TV, or in the news, you’ve all learned or heard somewhere along the line that some diets are better than others for good health and performance.”

ASK

“If that’s the case, why don’t some of us eat better than we do?”

Sample Responses:

- ▲ No time to eat.
- ▲ No choices in the dining facility.
- ▲ Don’t like “healthy” foods.

STATE

“Every mission requires analyzing the situation for possible obstacles that could prevent success. The same holds true if you want to help maximize your performance through better eating.

When you’re involved in physically demanding exercise and training, your nutritional needs may be different than what you’ve been used to. What may prevent you from eating a performance diet? Take the following survey to analyze the possible obstacles.”



INSTRUCTOR ASKS
QUESTIONS



ANSWERS & KEY
CONCEPTS

ACTIVITY: WHAT ARE THE OBSTACLES?

Pass Out Handout #3-1
What Are The Obstacles?

SUMMARIZE

“There are a lot of reasons for not eating a ‘better’ diet, and each of us probably has a different one. All are valid. But I’m going to suggest that if you want to eat for better performance, you can. And it may not be as difficult as you might imagine.”

PARAPHRASE

“This video/slide show offers some alternatives for performance eating regardless of your lifestyle. It also gives some suggestions for timing meals with your exercise so that you can optimize your endurance and shorten your recovery time.”

Show Video/Slide Show
Time: 15 minutes

ASK

“Based on the video/slide show, what type of diet will help your physical and mental performance?”

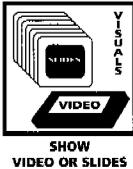
Compliment accurate responses.

Use responses to review key points (strategy) of a performance diet.

Look for these Key Points:

- ▲ Gradual change in diet
- ▲ Eat a diet:
 - high in carbohydrate for energy
 - low in fat so you don't feed your fat cells
 - adequate in protein which helps repair and maintain body tissue.
- ▲ Eat a balance of nutrients by eating a variety of foods.
- ▲ Try to eat moderate three meals and two snacks a day when you can. It's tough some days, but try to do it whenever you can.
- ▲ Drink water to maintain hydration.
- ▲ Eat enough to maintain your best performance weight.

VIDEO/SLIDE PRESENTATION



BEST PERFORMANCE CHOICES



DISTRIBUTES MATERIALS



INSTRUCTOR ASKS QUESTIONS



ANSWERS & KEY CONCEPTS



INSTRUCTOR ASKS QUESTIONS



ANSWERS & KEY CONCEPTS

STATE

“Here are some sample menu selections you might find in the base dining facility or a typical restaurant. Refer to the ‘Best’ ‘Better’, and ‘Not-So-Good’ chart on page 3-3 of your participant’s manual.”

Hand Out **Participant’s Manual: Module 3: EATING FOR PERFORMANCE**

and

Pass Out Handout #3-2: THE MENU

ASK

“Looking at the breakfast menu, what would you choose for the best performance meal? Why?”

Best Answers:

- ▲ Fresh fruit
- ▲ Dry cereal, Hot cereal, Toast or bagel
- ▲ Hard/soft boiled eggs
- ▲ Griddle Cakes, Waffles
- ▲ Syrup, Jelly
- ▲ Hot coffee, Cocoa, Tea, Fruit juice, Skim milk

STATE

“Reason: The foods are high in carbohydrates and low in fat. Breakfast plays an important role in contributing nutrients as well as calories to the diet. It’s the first opportunity to replenish your glycogen stores and help raise blood sugar levels. Nutritionists recommend that approximately 1/3 of an individual’s daily requirements of both nutrients and calories come from breakfast. Add a glass of cool water to help you start the day well hydrated.”

ASK

“What would you select for a performance lunch? Why?”

Best Answers:

- ▲ Roast beef sandwich, Turkey sandwich
- ▲ Assorted fresh vegetables, Assorted lowfat dressings
- ▲ Baked chicken, no skin
- ▲ Candied sweet potatoes (if not swimming in butter), Rice pilaf, Simmered asparagus, Creamed corn
- ▲ Hot dinner rolls, Assorted breads
- ▲ Mustard or ketchup
- ▲ Hot coffee, Cocoa, Tea, Fruit juice, Skim milk
- ▲ Apple sauce cake

STATE

“Reason: The foods are high in carbohydrate, moderate in protein and low in fat, and most are good sources of necessary vitamins and minerals.”



INSTRUCTOR ASKS
QUESTIONS



ANSWERS & KEY
CONCEPTS

ASK

“What would you select for a performance dinner? Why?”

Best Answers:

- ▲ Vegetable
- ▲ Baked fish, Baked tuna with noodles (May not always be a better choice if it is made with sour cream, cheese sauce, or other high-fat sauce.)
- ▲ Baked potato, Hot spiced beets, Simmered green beans
- ▲ Assorted vegetables
- ▲ Hot dinner rolls, Assorted breads
- ▲ Mustard or ketchup
- ▲ Hot coffee, Cocoa, Tea, Fruit juice, Skim milk
- ▲ Butterscotch pudding, Frozen yogurt

STATE

“Reason: Again, the foods are high in carbohydrate, moderate in protein and low in fat. Typically, lunch and dinner tend to be our biggest meals. They can easily get too big, so you want to try to weigh your options before making your choices and avoid eating all your daily calories in one meal.”



DISTRIBUTES
MATERIALS

Pass Out Handout #3-3: NUTRITION FACTS LABELS

ASK

“Now take a look at the labels from two snack foods. Which one would you pick for your performance diet? Why?”

Best Answers:

- ▲ The fig bar (Although the fig bars have more sugar than the chocolate chip cookies, much of the sugar comes from the figs, which also provide small amounts of vitamins and minerals.)
- ▲ While both have the same amount of carbohydrate, the fig bars are lower in fat.

STATE

“Reason: It’s lower in fat, higher in carbohydrates. If you do choose the other snack, even after reading the label, try to eat a smaller portion and balance out the rest of your meals.”



INSTRUCTOR ASKS
QUESTIONS



ANSWERS & KEY
CONCEPTS



INSTRUCTOR ASKS
QUESTIONS



ANSWERS & KEY
CONCEPTS

ASK

“From The Menu, what might be a good meal to eat two to four hours before you exercise? Why?”

Best Answers:

- ▲ 2-3 griddle cakes, syrup, skim milk or juice
- ▲ Small turkey sandwich with mustard, fresh fruit, skim milk
- ▲ Baked potato, baked fish, vegetable or fruit & skim milk

STATE

“Reason: Complex carbohydrates top off glycogen (energy) stores and help raise blood sugar levels. This helps delay fatigue by 30 - 60 minutes, and enables you to maintain an optimum pace longer. It also helps prevent hunger during exercise which could lessen concentration, motivation, and energy. Eating a high-fat meal before exercise can slow you down. Fat takes longer to empty from the stomach and digest. It can leave a heavy, full or sleepy feeling or make you feel nauseous.”

ASK

“From any of these menus, what should you bulk up on after you exercise? Why?”

Best Answers:

- | | | |
|---------------|----------------|-----------------|
| ▲ Fruit juice | ▲ Bread, bagel | ▲ Griddle cakes |
| ▲ Fruits | ▲ Potato | ▲ Cereal |
| ▲ Rice | | |

STATE

“Reason: You need to replace lost fluids and glycogen used during exercise. This helps you and your glycogen stores recover faster.”

ASK

“What do you want to remember to always do before, during and after exercise? Why?”

Best Answer:

- ▲ Drink fluids

STATE

“Reason: You need to replace lost fluids and maintain hydration. Don't wait to feel thirsty. Your body loses water quickly during exercise, and dehydration can lead to hindered performance, heat stroke and even death.

In the video, the pentathlete states that he drinks 3 gallons a day. Three gallons is 12 quarts. This may seem like a lot, but it's not if you are working hard in hot and humid weather. But don't over do it! When you drink gallons of plain water without eating food to supply you with electrolytes, you risk developing a serious condition called hyponatremia, also known as water intoxication.”



INSTRUCTOR ASKS
QUESTIONS



ANSWERS & KEY
CONCEPTS



INSTRUCTOR ASKS
QUESTIONS



ANSWERS & KEY
CONCEPTS

SUMMARIZE

"Now you have more information on how to select foods that will help you optimize your performance. Yes, the barriers to eating a performance diet are probably still going to be there. But if you want to increase your endurance and get to that peak performance, you'll look at eating for performance as a way of life. Set your priorities and start eating based on the performance nutrition guidelines. You'll notice improvement almost immediately."

- ▲ Instead of reviewing the Pre-test, re-administer the same test to evaluate how much the class learned during this session and to identify topics to be further discussed at the next session.

STATE

"Now let's look at the pre-test and review the correct answers."

Read questions and provide correct answers.
Field questions.
Note questions you cannot answer for next class.

EXPLAIN

"There's more valuable information on how to eat for performance in this participant's manual. It contains the strategies you learned here today but in more detail and new information on good, better, and best food choices in the dining facility, in restaurants, and in the shoppette or grocery store. There's also more detailed information on the timing and content of meals before, during and after exercise. Again, if you're serious about trying to optimize your performance, this guide will be a good resource for you."

Go over these pages with the class:

- ▲ Class Discussion lead in: Do you have the attitude that, 'You must eat your money's worth?' Do you go to 'All-you-can-eat' places to fill up? Instead of thinking of getting the most food for the money, think of getting the most nutrition for your buck. Compare cost of orange and candy bar.
- ▲ Fill out Nutrition Goals: Participant's Manual, page 3-14.
- ▲ Meals Of Champions: Participant's Manual, page 3-15.
- ▲ Performance Snacks: Participant's Manual, page 3-17.
- ▲ Sharpen Your Shopping Tactics: Participant's Manual, page 3-18.
- ▲ Convenience Foods: Participant's Manual, page 3-19.
- ▲ More on Reading Nutrition Facts Labels using Handout #3-3 and information on Participant's Manual, page 3-20. Quiz class as to what is a serving size or portion size? How much would you really eat? What % of calories come from fat? (Calories from fat divided by total calories multiplied by 100.)
- ▲ Bring in a label from a fat-reduced product, like diet margarine. Calculate the % of fat calories. (Calories from fat divided by total calories multiplied by 100.) Remind the class that diet and lowfat products (such as diet margarine and lowfat mayo) are better choices, but they are still high in fat. Often we use more of these products because they do not taste as good as the original. If you do choose them, use as small an amount as possible.
- ▲ Have class discuss restaurant eating strategies that they will practice.

OPTIONAL ACTIVITY

PRE-TEST REVIEW

ALTERNATIVE ACTIVITIES

HAND OUT #3-1 WHAT ARE THE OBSTACLES?

Every mission requires analyzing the situation for possible obstacles that could prevent success. The same holds true if you want to help maximize your performance through better eating.

When you're involved in physically demanding exercise and training, your nutritional needs may be different than what you've been used to. What may prevent you from eating a performance diet? Take the following survey to analyze the possible obstacles.

Directions: Check those statements that you agree with. There are no right or wrong answers!

1. I'm not sure I know what the optimal diet is for good health and performance.
2. I don't have a lot of time to eat.
3. I eat out a lot.
4. I think nutritious food is expensive.
5. I don't know what foods will help me optimize my performance.
6. I don't have a lot of choice regarding what I eat.
7. When I eat out, I eat fast foods.
8. I think nutritious food doesn't taste good.
9. I don't like the idea of being on a diet.
10. If I ate only what I'm supposed to, I'd be hungry all the time.
11. My health and weight are fine, I don't need to change my eating.
12. Shopping for nutritious food is inconvenient and time-consuming.
13. I think healthy foods are difficult to prepare.
14. I've always eaten this way, and it suits me just fine.

Scoring: Use the following scoring table to help identify some obstacles that you may want to target, as well as key tactics you may want to employ.

If you checked statement ... Then you may want to...

1, 5, 9, 10, 11, &/or 14	<ul style="list-style-type: none"> ▲ Identify why you may need to eat differently now because of your military training requirements. ▲ Read Modules 1 and 2 in this program: "Getting Started", "Building a Performance Diet." ▲ Review Strategy and General Tactics in Module 3 of your manual.
2, 3, &/or 7	<ul style="list-style-type: none"> ▲ Identify tactics for eating out at fast food and/or fine dining restaurants to help you make better food choices for your performance. ▲ Read General Tactics, Performance Snacks, Dining Out & Convenience Foods in Module 3 of your manual.
4 and/or 8	<ul style="list-style-type: none"> ▲ Be more open minded. ▲ Identify 10 performance food choices in your manual and try them for a week. You may be surprised. ▲ Review Module 2. A diet based on cereals, breads, grains, fruits and vegetables can be less expensive than a diet heavy in meats, snack foods and candy. And these performance foods can be prepared and served in an endless variety of ways.
6	<ul style="list-style-type: none"> ▲ Identify the choices you do have. ▲ Focus on General Tactics in Module 3 of your manual.
12 &/or 13	<ul style="list-style-type: none"> ▲ Identify better and best choices when shopping and/or preparing meals or snacks. ▲ Read General Tactics, Shopping & Cooking For Performance in Module 3 of your manual. ▲ Check out a few lowfat cookbooks. For ideas see list of cookbooks on page 3-11 of your manual.

HAND OUT #3-2

THE MENU

Mission: Performance eating in the dining facility

Select those foods from each food group that best contribute to your performance strategy from the sample dining facility menus below. Remember your eating strategies and the general tactics when you make your selections.

Breakfast

Fruits

- Fresh fruit
- Fruit cup (canned)

Cereals & Breads

- Dry cereal
- Hot cereal
- Toast or bagel
- Plain biscuit
- Butter pastry

Eggs

- Fried eggs
- Hard/soft boiled eggs
- Cheese omelet
- Scrambled egg

Meats

- Bacon
- Sausage

From the Griddle

- Griddle cakes
- Fried potatoes
- French toast
- Waffles

Condiments & Extras

- Butter
- Margarine
- Syrup
- Jelly

Beverages

- Hot coffee
- Cocoa
- Tea
- Fruit juice
- Whole milk
- 2% milk
- Skim milk
- Chocolate milk

Lunch

Short Order

- Grilled hamburger or cheese burger on bun
- Grilled hot dog on bun
- Roast beef sandwich
- Turkey sandwich
- French fries
- Potato chips

Salad Bar

- Assorted fresh vegetables
- Assorted pasta and vegetable salads w/mayo dressing
- Assorted dressings

Hot Entrees

- Baked chicken
- Chicken gravy
- Baked ham steak

Hot Vegetables

- Candied sweet potatoes
- Rice pilaf
- Simmered asparagus
- Creamed corn

Breads

- Hot dinner rolls
- Assorted breads

Condiments & Extras

- Butter
- Margarine
- Mayonnaise
- Mustard or catsup

Beverages

- Hot coffee
- Cocoa
- Tea
- Soft drink
- Whole milk
- 2% milk
- Skim milk
- Chocolate milk

Pastry Bar & Desserts

- Apple sauce cake
- Peanut butter brownie

Dinner

Short Order

- Fish sandwich
- Grilled cheese
- Peanut butter and jelly

Soups

- Cream of broccoli
- Vegetable

Hot Entrees

- Baked fish
- Beef pot pie
- Baked tuna with noodles

Hot Vegetables

- Buttered noodles
- Baked potato
- Hot spiced beets
- Simmered green beans

Salad Bar

- Assorted vegetables
- Assorted dressings

Breads

- Hot dinner rolls
- Assorted breads

Condiments & Extras

- Butter
- Sour cream
- Margarine
- Mayonnaise
- Mustard or catsup

Beverages

- Hot coffee
- Cocoa
- Tea
- Soft drink
- Whole milk
- 2% milk
- Skim milk
- Chocolate milk

Pastry Bar & Desserts

- Apple pie
- Butterscotch pudding
- Ice cream
- Frozen yogurt

**HAND OUT #3-3
READING
NUTRITION FACT
LABELS**

Nutrition Facts Labels

Read below the Nutrition Facts labels from two snack foods. Circle the one that best fits into a performance diet.

Chocolate Chip Cookies

Nutrition Facts			
Serving Size 2 Cookies (30g)			
Servings Per Container 12			
Amount Per Serving			
Calories 150 Calories from Fat 70			
% Daily Value*			
Total Fat	8g		12%
Saturated Fat	5g		25%
Cholesterol	10mg		3%
Sodium	100mg		4%
Total Carbohydrate	19g		6%
Dietary Fiber	0g		0%
Sugars	11g		
Protein	1g		
Vitamin A 0% • Vitamin C 0%			
Calcium 0% • Iron 0%			
* 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			

Fig Bar

Nutrition Facts			
Serving Size 2 pieces (30g)			
Servings Per Container 30			
Amount Per Serving			
Calories 120 Calories from Fat 20			
% Daily Value*			
Total Fat	2g		3%
Saturated Fat	.5g		2%
Cholesterol	0mg		0%
Sodium	120mg		5%
Total Carbohydrate	18g		6%
Dietary Fiber	1g		4%
Sugars	12g		
Protein	1g		
Vitamin A 0% • Vitamin C 0%			
Calcium 4% • Iron 0%			
*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: 3,000	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 • Carbohydrates 4 • Protein 4			

HAND OUT #3-4
MODULE 3
PRE-TEST

DIRECTIONS

Read each question or statement. Select what you believe is the best answer from the choices listed below it. Write the letter for your answer in the box next to the question number. You have five minutes to complete the pre-test. When time is called, please put your pencils down, and I'll collect the tests.

1. The basic guidelines for a performance diet are:
- a) Eat a diet high in protein, high in carbohydrate, and low in fat.
 - b) Eat a diet moderate in protein, moderate in carbohydrate, and moderate in fat.
 - c) Eat a diet moderate in protein, high in carbohydrate, and low in fat.
 - d) Eat a diet moderate in protein, moderate in carbohydrate, and low in fat.
2. From the meals below, the best choice for a performance dinner is:
- a) Steak, baked potato with sour cream, broccoli with Hollandaise sauce, strawberries and skim milk.
 - b) Chicken, mashed potatoes, broccoli with Hollandaise sauce, chocolate cake and skim milk.
 - c) Pasta in tomato sauce, two meat balls, tossed salad with dressing, ice milk and orange juice.
 - d) Tuna casserole, fried zucchini, small salad, no dressing, apple and milk.
3. How could you compare the nutritive value of corn tortillas and tortilla chips?
- a) Read the list of ingredients on the label.
 - b) Look up the food product in a list of foods.
 - c) Write to the manufacturer.
 - d) Read the nutrition facts panel on the label.
4. Before exercise, you should:
- a) Drink plenty of water for hydration, but limit food to avoid digestion problems and a feeling of heaviness.
 - b) Drink plenty of water for hydration, and eat a light carbohydrate meal two to four hours prior to beginning.
 - c) Drink plenty of water for hydration, and eat a high-carbohydrate, high-protein meal two to four hours prior to beginning.
 - d) Avoid eating and drinking to ensure that all your energy is used for exercise and not digestion.
5. After exercise, you should:
- a) Eat a large meal within 30 minutes to 2 hours to help replace glycogen stores.
 - b) Eat a light protein snack and drink plenty of water within 30 minutes to 2 hours.
 - c) Eat a light, carbohydrate meal or snack and drink plenty of water within 30 minutes to 2 hours.
 - d) Drink plenty of water, but not eat for 30 minutes to 2 hours to avoid digestion problems.
6. Which is the best meal choice?
- a) Tortilla chips, salsa, beef and bean chimichanga and Mexican rice.
 - b) Corn tortilla, salsa, bean burrito and Mexican rice.
 - c) Chicken enchilada with sour cream and refried beans.
 - d) Taco salad and corn bread.
7. You are trying to lose weight. Your friends are going to a fast food restaurant after work. You don't want to reverse the great strides you have made. What's your best option?
- a) Tell you friends you cannot go.
 - b) Go, and order french fries and a shake instead of a burger.
 - c) Go, and eat what they are eating since you can start your diet again later.
 - d) Go, and order the broiled chicken sandwich, side salad and a diet soda.
8. Which grades of meat are leaner?
- A) Select
 - B) Choice
9. A Performance Diet means eliminating all candies, pastries or cakes?
- A) Yes
 - B) No

ANSWERS TO MODULE 3 PRE-TEST

- C** 1. The basic guidelines for a performance diet are:
- Eat a diet high in protein, high in carbohydrate, and low in fat.
 - Eat a diet moderate in protein, moderate in carbohydrate, and moderate in fat.
 - Eat a diet moderate in protein, high in carbohydrate, and low in fat.
 - Eat a diet moderate in protein, moderate in carbohydrate, and low in fat.
- C** 2. From the meals below, the best choice for a performance dinner is:
- Steak, baked potato with sour cream, broccoli with Hollandaise sauce, strawberries and skim milk.
 - Chicken, mashed potatoes, broccoli with Hollandaise sauce, chocolate cake and skim milk.
 - Pasta in tomato sauce, two meat balls, tossed salad with dressing, ice milk and orange juice.
 - Tuna casserole, fried zucchini, small salad, no dressing, apple and milk.
- D** 3. How could you compare the nutritive value of corn tortillas and tortilla chips?
- Read the list of ingredients on the label.
 - Look up the food product in a list of foods.
 - Write to the manufacturer.
 - Read the nutrition facts panel on the label.
- B** 4. Before exercise, you should:
- Drink plenty of water for hydration, but limit food to avoid digestion problems and a feeling of heaviness.
 - Drink plenty of water for hydration, and eat a light carbohydrate meal two to four hours prior to beginning.
 - Drink plenty of water for hydration, and eat a high-carbohydrate, high-protein meal two to four hours prior to beginning.
 - Avoid eating and drinking to ensure that all your energy is used for exercise and not digestion.
- C** 5. After exercise, you should:
- Eat a large meal within 30 minutes to 2 hours to help replace glycogen stores.
 - Eat a light protein snack and drink plenty of water within 30 minutes to 2 hours.
 - Eat a light, carbohydrate meal or snack and drink plenty of water within 30 minutes to 2 hours.
 - Drink plenty of water, but not eat for 30 minutes to 2 hours to avoid digestion problems.
- B** 6. Which is the best meal choice?
- Tortilla chips, salsa, beef and bean chimichanga and Mexican rice.
 - Corn tortilla, salsa, bean burrito and Mexican rice.
 - Chicken enchilada with sour cream and refried beans.
 - Taco salad and corn bread.
- D** 7. You are trying to lose weight. Your friends are going to a fast food restaurant after work. You don't want to reverse the great strides you have made. What's your best option?
- Tell you friends you cannot go.
 - Go, and order french fries and a shake instead of a burger.
 - Go, and eat what they are eating since you can start your diet again later.
 - Go, and order the broiled chicken sandwich, side salad and a diet soda.
- A** 8. Which grades of meat are leaner?
- Select
 - Choice
- B** 9. A Performance Diet means eliminating all candies, pastries or cakes?
- Yes
 - No

Module 4: Fluids: You Key To Performance

This manual contains activities about fluid and electrolyte requirements during exercise and when in extreme environments. It includes:

- ▲ *The functions of water in the body.*
- ▲ *The consequences of dehydration in relation to health and performance.*
- ▲ *Training situations in which sports drinks can help performance.*
- ▲ *Information on how environmental conditions affect fluid requirements.*

Performance Nutrition is a sports nutrition program designed especially for the military.

MODULE

1 Getting Started

MODULE

2 Building a Performance Diet

MODULE

3 Performance Choices

MODULE

4 Fluids: Your Key to Performance

MODULE

5 Nutritional Supplements: The Facts

MODULE

6 High Caliber Nutrition In The Field

POWER
PERFORMANCE
THE NUTRITION CONNECTION

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module 4: instructor's manual

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INSTRUCTOR PREPARATION

PRE-SESSION SUGGESTIONS:

- Read Instructor's Guidelines.
- Read the Participant's Manual.
- Read this document and decide whether to add or delete activities. Decide if the module should be divided into one or more sessions. Keep in mind that although each module is outlined as one session, ideally it should be broken up into a couple of sessions so the participants can absorb the information. For example: After viewing the visual presentation (video or slides) the rest of the class time may be spent in a discussion and brainstorming session; reading this module's participant's manual could be part of a homework assignment, and the next session would continue with the lesson plan.
Use activities as time allows, but be sure to:
 1. Show the video or slide presentation
 2. Pass out the Participant's Manual
 3. Review the Key Concept
- Review optional activities at the end of this manual
- Draw from your own experience as an example when appropriate.
- Create your own activities

BEFORE BEGINNING:

- Have Module 4 manuals ready to pass out.
- Determine whether presenting video or slide show.
- Have video (TV & VCR) or slide equipment (slide projector with slide set) set up to run.
- Have Handout (Pre-Test) duplicated and ready to hand out.

MATERIALS:

- Clock or watch
- Writing Surface (blackboard, flip chart, or overhead projector)
- Appropriate writing implement (chalk or magic marker)
- Handout (Pre-test)
- Pencils
- Participant's **Manual 4: Fluids: Your Key To Performance**
- 8 8 ounce cups or a quart container of water

WRITE ON THE BOARD:

- PERFORMANCE POWER...THE NUTRITION CONNECTION
- Module 4: Fluids: Your Key To Performance**
- Key Concepts and Objectives (page 4-3)
- (Your Name)



INSTRUCTOR'S MANUAL

MODULE 4: FLUIDS: YOUR KEY TO PERFORMANCE

INTRODUCTION

REVIEW: KEY CONCEPTS: MODULE 3

WELCOME/PARAPHRASE

"Welcome to this training session of PERFORMANCE POWER ... THE NUTRITION CONNECTION. My name is _____, and today you'll learn how to meet your fluid needs during training and exercises in extreme environmental conditions."

OVERVIEW/PARAPHRASE

"Nutritional training allows you to maximize your mental, emotional and physical performance. **Module 1: Getting Started** introduced the vital role nutrition plays in performance and the similarity between athletic training and military training. Today in **Module 4: Fluids: Your Key To Performance**, we will learn how fluids affect our performance.

Before we begin, let's review the Key Concepts from **Module 3: Performance Choices.**"

KEY CONCEPT: A nutritionally optimal diet can be tailored to an individual military person's lifestyle, training regimen, food availability and food preferences.

- ▲ Personal eating patterns can be barriers to a performance diet.
- ▲ The basic guidelines of a performance diet are:

High-carbohydrate	Eat a variety of foods
Adequate Protein	Drink 8-10 cups of water per day
Low fat	
- ▲ Foods that meet the basic performance diet guidelines are available at the base dining facility or restaurant.
- ▲ Nutrition Facts Labels help us make optimal performance food choices.
- ▲ The timing and content of meals and fluids before, during and after training affects our performance.



INSTRUCTOR ASKS QUESTIONS

ASK

"Are there any questions or comments regarding the last module? What changes did you make to your diet? Were you able to stick to your commitment? Did you notice any changes in performance or encounter any challenges?"

Okay, now let's learn some more."

Hand Out Pre-Test

PRE-TEST



PARTICIPANT'S WRITTEN ACTIVITY



DISTRIBUTES MATERIALS

"Let's go over the directions for completing the pre-test. Read each question or statement. Select what you believe is the best answer from the choices listed below it. Write the letter for your answer in the box next to the question number. You have five minutes to complete the pre-test. When I call time, please put your pencils down and I'll collect the tests.

Is everyone ready? We'll begin now."

Testing Time: 5 minutes
Call time after minute 5

DIRECT

“Please put your pencils down and hand me your tests.”

Collect Pre-Tests

Hand Out
Participant’s Manual: Module 4: Fluids: Your Key To Performance



KEY CONCEPT/ OBJECTIVES

STATE

“Now that you’ve taken the pre-test, I’d like to state our objectives for this training.”

HAVE KEY CONCEPT AND OBJECTIVES POSTED.

EXPLAIN

“The Key Concept of this module is:”

KEY CONCEPT: Fluid and electrolyte requirements are increased by physical activities and environmental conditions, such as heat, cold and altitude.

OBJECTIVES: After this training, you should be able to:

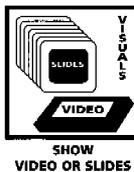
- ▲ List the functions of water in the body.
- ▲ Identify the consequences of dehydration in relation to health and performance.
- ▲ Identify training situations in which sport drinks can help performance.
- ▲ State the amount of fluid recommended before, during and after physical activity.
- ▲ Explain how environmental conditions affect fluid requirements.

STATE

“During this session, we’ll be watching a video/slide presentation that will introduce us to the concepts of Fluids: Your Key To Performance.”

This video/slide show will get you started in assessing your own fluid needs. Look for information regarding these key points. (Refer to Key Concept & Objectives).”

VIDEO/SLIDE PRESENTATION INTRODUCTION



Presentation Key Points:

- ▲ Importance of fluids in performance
- ▲ Guidelines for fluid replacement
- ▲ Specific fluid requirements in extreme environments

Show Video/Slide Show
Time: 14 minutes

ASK

“Based on the video/slide show, what was the major point of the presentation?”

POSSIBLE RESPONSES:

- ▲ Intense physical military activities increase chances of becoming dehydrated.
- ▲ The consequences of dehydration as it affects performance
- ▲ Water is our most important nutrient.

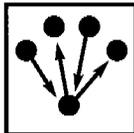
REVIEW

“Not drinking enough during physical activity can hurt your performance and health. Severe cases of dehydration can lead to serious physical problems and even death.”

STATE

“Water is considered the most critical nutrient. Let's review what water does. Keep in mind the comparison made, in the presentation, to a car engine.”

FUNCTION OF WATER



GROUP DISCUSSION



WRITE ON BOARD

Write on the board: **WHAT DOES WATER DO FOR OUR BODIES?**

ASK

“What does water do for our bodies?”



WRITE ON BOARD

Write on the board:

MAINTENANCE OF BLOOD PRESSURE
LUBRICATION
TEMPERATURE REGULATION

STATE

“Maintenance of blood pressure, lubrication and temperature are functions of water.”



WRITE ON BOARD

Fill in correct answers.

MAINTENANCE OF BLOOD PRESSURE

Carries nutrients (like carbohydrates & protein) to working muscles

Carries waste products away from the muscle
Eliminates waste products from the body

Maintains blood pressure

LUBRICATION

Lubricates joints and internal organs

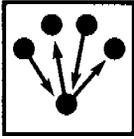
TEMPERATURE REGULATION

Cools body temperature when you heat up



INSTRUCTOR ASKS QUESTIONS

CONSEQUENCES OF DEHYDRATION



GROUP DISCUSSION



INSTRUCTOR ASKS QUESTIONS

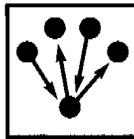


INSTRUCTOR ASKS QUESTIONS



INSTRUCTOR ASKS QUESTIONS

ENERGY EXPENDITURE



GROUP DISCUSSION

ASK

“Not counting any caffeine-containing coffee, tea or soda ...how many of you drink any other fluid.? Stand up. Good.

Now sit down if you drank less than 1 cup of any non-caffeinated beverage, like water, juice, non-caffeinated soda, tea or coffee yesterday.

Now sit down if you drank 2 cups yesterday. 3 cups? 4 cups? 5 cups?” (Keep going until everyone is sitting down.)

ASK

“What is the goal? How many cups of fluid should we drink every day?”

Line up 8 8-oz cups or 2 quart containers of water

STATE

“You should note that the video recommends that you drink 10 to 12 cups per day and that your manual it recommends 8-10 cups. Different sports nutrition sources give different general guidelines. The important thing to remember is that you need to drink enough so that you go to the bathroom every 4 to 6 hours and that your urine should be light in color.”

ASK

“What percentage of our body is water?”

ANSWER

- ▲ The body is about 60% water.
- ▲ Muscle & brain are approximately 75% water.

SUMMARIZE

“That’s a lot of water which constantly needs replacing. If you do not already drink at least 8 - 10 cups of water or other non-caffeinated beverages per day, begin now to increase your daily intake. ”

STATE

“Our bodies are made to be in motion; externally moving from one place to another and internally creating new cells and eliminating old. Fluids and foods coming in and out all the time. All of this activity means we must be alert to keeping our bodies well fed and hydrated.”

DIRECT

“I am going to list dehydration symptoms; stand up if you hear a symptom which you’ve had. (refer to Participant’s Manual page 4-3) I’ll start with the most severe symptoms first.

Numb or cracked skin, inability to urinate, stiffened eyelids, or deafness?

This means you possibly suffered from a 15-20% body weight loss.

Shrivelled tongue, sunken eyes, dim vision, inability to swallow, painful urination?

These symptoms can appear when you’ve had a 12-15% body weight loss.

Swollen tongue, muscle spasms, delirium?

8-12% body weight loss.

Cotton mouth, headache, dizziness, shortness of breath, indistinct speech?

A 6-8% body weight loss.

Flushed skin, apathy, clear loss of muscular endurance?

4-6%

Thirst, verbal complaints, vague discomforts, fatigue?

2-4%

You can see that just a 2% body weight loss, which can happen in a matter of minutes through sweating, affects your body, hence your performance. Perhaps you have had one of these symptoms, like fatigue or slurred speech and not even thought, "I must be dehydrated."



ASK

"Knowing the possible affects of dehydration, why might someone NOT keep themselves hydrated?"

POSSIBLE RESPONSES:

- ▲ Time: doesn't want to take the time to drink
- ▲ Weighing in: Wants to keep weight down
- ▲ Avoiding urination
- ▲ Doesn't feel thirsty

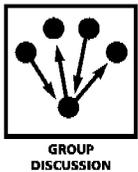
STATE

"Man is the only animal that will choose not to drink. We, serving in the military, must make a conscious decision to stay well hydrated, so that dchydration will not affect our performance."

STATE

"Not all liquids will hydrate you, in fact some fluids actually increase dehydration."

FLUID FACTS



Write on Board 2 columns under the headings:

<u>HYDRATES</u>	<u>DEHYDRATES</u>
------------------------	--------------------------



ASK

"What do you drink when you are thirsty?"

POSSIBLE RESPONSE: Water. soda. coffee, beer, alcohol, fruit juice, sports drinks, tea, milk.



ASK

"Let's list the various beverages we drink under the appropriate category. Which fluids hydrate us and which dehydrate us?"



WRITE ON BOARD

HYDRATES	DEHYDRATES
water	soda (caffeinated)
coffee (decaffeinated)	tea
soda (decaffeinated)	coffee
herbal or decaffeinated tea	alcohol
fruit juice	beer
sports drinks	
milk	

STATE

“Water is the best fluid replacer and cool water is absorbed into the bloodstream faster than warm water. After drinking caffeinated drinks like coffee, tea or soda, drink water to counter their dehydrating effects.”

ASK

“Raise your hand if you ever drank a sports drink. Why?”

POSSIBLE RESPONSES:

- ▲ To replace electrolytes
- ▲ To build muscles
- ▲ To gain strength
- ▲ To increase endurance

STATE

“Electrolytes are a major reason many people take sports drinks. Electrolytes are mineral salts such as potassium and sodium. They help your body hold on to water and they aid in nerve and muscle function.”

ASK

“Do you lose electrolytes when you sweat?”

STATE

“Yes, but not much. Most of the electrolytes lost will be replaced by the foods you eat. This is true except during prolonged activity lasting greater than 4 hours, when you sweat heavily and are not eating.”

SUMMARY

“Recent research has shown that for physical activities lasting more than 60 minutes, sports drinks can have added performance benefits. They provide carbohydrates to refuel energy stores and blood sugar levels. They are absorbed into your body faster than water.”

SPORTS DRINKS



INSTRUCTOR ASKS QUESTIONS



INSTRUCTOR ASKS QUESTIONS

ENVIRONMENTAL CONDITIONS EFFECT ON HYDRATION



INSTRUCTOR ASKS
QUESTIONS



INSTRUCTOR ASKS
QUESTIONS



INSTRUCTOR ASKS
QUESTIONS

STATE

“Hot and cold environments and high altitudes increase the risk of dehydration. These are times we must be especially aware of keeping ourselves hydrated.”

ASK

“How does the heat increase dehydration?”

ANSWERS:

- ▲ Body heats up faster.
- ▲ In humidity, sweat doesn't evaporate, decreasing cooling effect.
- ▲ When wearing protective gear, you sweat more thus lose more water.
- ▲ Sweat more to keep body cool.

ASK

“What can you do?”

ANSWERS:

- ▲ Observe work-rest cycles.
- ▲ Schedule heavy work during coolest time of day.
- ▲ Gradually build up tolerance to heat.
- ▲ Wear lightweight clothing to allow more sweat to evaporate.
- ▲ Wear light colored clothing.
- ▲ Cover as much of your body as possible to prevent sunburn.
- ▲ Drink water frequently!!!

STATE

“In the heat, 8 cups (point to the 8 cups of water or 2 quarts of water display) of water aren't enough.”

ASK

“How much do we need when we exercise or work in the heat?”

ANSWER

- ▲ 10 - 12 quarts = 40 - 48 cups of water

STATE

“Not 10 -12 CUPS of water, but 10 - 12 QUART CANTEENS! That's a lot more water than many of us are used to drinking, but that's how much our bodies require.”



ASK

“How does the cold increase dehydration?”

ANSWERS:

- ▲ Since it's cold and you aren't feeling hot, you are not aware of the need to drink.
- ▲ Increases water loss through the lungs from dry air.
- ▲ Multi-layered clothes may increase sweating and overheating.



ASK

“What can you do?”

ANSWERS:

- ▲ Wear layers of loose clothing.
- ▲ Drink even when not thirsty.
- ▲ Drink warm liquids to conserve body heat.
- ▲ Watch caffeine intake.

STATE

“In the cold, 8 cups (point to the 8 cups of water or 2 quarts of water display) of water aren't enough.”



ASK

“How much do we need when exercising or working hard in the cold?”

ANSWER

- ▲ 4 - 5 quarts = 16 - 20 cups of water



ASK

“How does working in high altitudes increase dehydration?”

ANSWERS:

- ▲ Dry, cold air evaporates water from the lungs and mouth.
- ▲ Altitude and cold increase urination.
- ▲ Altitude can cause AMS (Acute Mountain Sickness), which may lead to vomiting.
- ▲ Dulled sensation of thirst.
- ▲ The magnesium in glacier water can have a laxative effect.



ASK

“What can you do?”

ANSWERS:

- ▲ Drink even when not thirsty.
- ▲ Drink a quart canteen of water every 3 hour period.
- ▲ If nauseous, sip small amounts of liquid.
- ▲ Watch caffeine intake.

STATE

“Once again, at high altitudes 8 cups (point to the 8 cups of water or 2 quarts of water display) of water aren’t enough.”

ASK

“How much do we need?”

ANSWER

- ▲ 4 - 6 quart canteens = 16 - 20 cups of water per day

SUMMARY

“Concentrating on increasing your water intake is a good way to start your personal Performance Nutrition program. Here are some tips to recap this class:”

PERFORMANCE TIPS:

- ▲ Water is critical to performance and health in military training and exercise.
- ▲ Water is always a good fluid replacement.
- ▲ Water, in the form of sweat, cools you down during physical activity. You are able to sweat only if you drink.
- ▲ Replace water often during physical activity to prevent dehydration.
- ▲ Dehydration can affect performance and, in severe cases, can lead to kidney failure and death.
- ▲ For continuous activity lasting longer than 90 minutes, fluid replacement drinks may have added performance value.
- ▲ The small amount of electrolytes you lose in sweat can easily be replaced with food.
- ▲ Extreme climates increase body water loss.
- ▲ Drink even when you're not thirsty.

OPTIONAL ACTIVITY

- ▲ Instead of reviewing the pre-test, re-administer the same test to evaluate how much the class learned during this session and to identify topics to be further discussed at the next session.

HAND OUT #4-1

MODULE 4

PRE-TEST

DIRECTIONS

Read each question or statement. Select what you believe is the best answer from the choices listed below it. Write the letter for your answer in the box next to the question number. You have five minutes to complete the pre-test. When time is called, please put your pencils down, and I'll collect the tests.

1. About how much of our total body weight is water?
A) 20%
B) 40%
C) 60%
D) 80%
2. Before exercising be sure to:
A) Decrease fluid intake
B) Increase fluid intake.
C) Maintain your normal amount of fluid intake.
D) Eliminate all fluid intake at least one hour before exercising.
E) Drink only sports drinks.
3. Sweating during exercise is the body's way of:
A) Breaking down muscle.
B) Synthesizing glycogen.
C) Cooling itself.
D) Converting fat into sweat.
4. Thirst and dark urine are an indication of:
A) Dehydration.
B) Drinking too much coffee.
C) The body's need for mineral replacement.
D) An excess of fluid in the body.
5. The best choice for fluid replacement after a PT test is:
A) Sports drinks
B) Water
C) Milk
D) Cola
6. To maintain hydration you should:
A) Drink when thirsty.
B) Drink at least 8-10 cups each day.
C) Not drink during exercise.
D) Drink warm water for better body absorption.
7. Fluid replacement drinks with minerals and electrolytes are:
A) The best form of fluid replacement.
B) Essential after exercise to replace minerals and electrolytes lost in sweat.
C) Never beneficial.
D) Often helpful when you can't eat and during prolonged activity in the heat.
8. During exercise you should:
A) Not drink fluids at all.
B) Drink 1/2 to 1 cup every 15 - 20 minutes.
C) 1 cup in the beginning and 1 cup at the end.
D) Only drink if thirsty.
9. When working for long periods in hot, humid weather, you need to drink:
A) About 8 cups per day.
B) About 3 quarts per day.
C) About 10 quarts per day.
D) About 30 quarts per day.
10. After going for a run, you weigh yourself and find you have lost 3 lbs. What should you do?
A) Celebrate, you just ran off 3 lbs. of fat!
B) Nothing. You will gain it back by tomorrow.
C) Drink 3 cups of water, juice or sports drink within the next couple hours.
D) Drink 6 cups of water, juice or sports drink within the next couple hours.
E) Drink 2 beers within the next couple hours.
11. Should fluid intake be restricted during training or athletic events?
A) Yes
B) No
12. Thirst is:
A) An adequate indicator of the need for water.
B) An inadequate indicator of the need for

ANSWERS TO MODULE 4 PRE-TEST

- C** 1. About how much of our total body weight is water?
A) 20%
B) 40%
C) 60%
D) 80%
- B** 2. Before exercising be sure to:
A) Decrease fluid intake
B) Increase fluid intake.
C) Maintain your normal amount of fluid intake.
D) Eliminate all fluid intake at least one hour before exercising.
E) Drink only sports drinks.
- C** 3. Sweating during exercise is the body's way of:
A) Breaking down muscle.
B) Synthesizing glycogen.
C) Cooling itself.
D) Converting fat into sweat.
- A** 4. Thirst and dark urine are an indication of:
A) Dehydration.
B) Drinking too much coffee.
C) The body's need for mineral replacement.
D) An excess of fluid in the body.
- B** 5. The best choice for fluid replacement after a PT test is:
A) Sports drinks
B) Water
C) Milk
D) Cola
- B** 6. To maintain hydration you should:
A) Drink when thirsty.
B) Drink at least 8-10 cups each day.
C) Not drink during exercise.
D) Drink warm water for better body absorption.
- D** 7. Fluid replacement drinks with minerals and electrolytes are:
A) The best form of fluid replacement.
B) Essential after exercise to replace minerals and electrolytes lost in sweat.
C) Never beneficial.
D) Often helpful when you can't eat and during prolonged activity in the heat.
- B** 8. During exercise you should:
A) Not drink fluids at all.
B) Drink 1/2 to 1 cup every 15 - 20 minutes.
C) 1 cup in the beginning and 1 cup at the end.
D) Only drink if thirsty.
- C** 9. When working for long periods in hot, humid weather, you need to drink:
A) About 8 cups per day.
B) About 3 quarts per day.
C) About 10 quarts per day.
D) About 30 quarts per day.
- D** 10. After going for a run, you weigh yourself and find you have lost 3 lbs. What should you do?
A) Celebrate, you just ran off 3 lbs. of fat!
B) Nothing. You will gain it back by tomorrow.
C) Drink 3 cups of water, juice or sports drink within the next couple hours.
D) Drink 6 cups of water, juice or sports drink within the next couple hours.
E) Drink 2 beers within the next couple hours.
- B** 11. Should fluid intake be restricted during training or athletic events?
A) Yes
B) No
- B** 12. Thirst is:
A) An adequate indicator of the need for water.
B) An inadequate indicator of the need for

Module 5: Nutritional Supplements: The Facts

This manual contains activities about some of the many misleading nutritional claims regarding ergogenic aids and nutritional supplements. It includes:

- ▲ *The definition of nutritional supplements and ergogenic products.*
- ▲ *Information about some common nutritional supplements and ergogenic aids.*
- ▲ *How to avoid nutrition misinformation.*

Performance Nutrition is a sports nutrition program designed especially for the military.

MODULE

1 Getting Started

MODULE

2 Building a Performance Diet

MODULE

3 Performance Choices

MODULE

4 Fluids: Your Key to Performance

MODULE

5 Nutritional Supplements:
The Facts

MODULE

6 High Caliber Nutrition
In The Field

POWER
PERFORMANCE
THE NUTRITION CONNECTION

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INSTRUCTOR PREPARATION

PRE-SESSION SUGGESTIONS:

- Read Instructor's Guidelines.
- Read the Participant's Manual.
- Read this document and decide whether to add or delete activities. Decide if the module should be divided into one or more sessions. Keep in mind that although each module is outlined as one session, ideally it should be broken up into a couple of sessions so the participants can absorb the information. For example: After viewing the visual presentation (video or slides) the rest of the class time may be spent in a discussion and brainstorming session; reading this module's participant's manual could be part of a homework assignment, and the next session would continue with the lesson plan.
Use activities as time allows, but be sure to:
 1. Show the video or slide presentation
 2. Pass out the Participant's Manual
 3. Review the Key Concept
- Review optional activities at the end of this manual
- Draw from your own experience as an example when appropriate.
- Create your own activities

BEFORE BEGINNING:

- Have Module 5 manuals ready to pass out.
- Determine whether presenting video or slide show.
- Have video (TV & VCR) or slide equipment (slide projector with slide set) set up to run.
- Have Handouts(Pre-test, The Claims) duplicated and ready.

MATERIALS:

- Clock or watch
- Writing Surface (blackboard, flip chart, or overhead projector)
- Appropriate writing implement (chalk or magic marker)
- Handout (Pre-test, The Claims)
- Pencils
- Participant's **Manual 5: Nutritional Supplements: The Facts**

WRITE ON THE BOARD:

- PERFORMANCE POWER...THE NUTRITION CONNECTION
- Module 5: Nutritional Supplements: The Facts**
- Key Concepts and Objectives (page 5-2)
- (Your Name)



INSTRUCTOR'S MANUAL

MODULE 5: NUTRITIONAL SUPPLEMENTS: THE FACTS

INTRODUCTION

WELCOME/PARAPHRASE

"Welcome. My name is _____. This module deals with the facts and myths regarding nutritional supplements. The field is full of all kinds of claims regarding the effects and promises of supplements. Some of you may have taken supplements, some of you have not ... most of you do not need any supplements."

OVERVIEW/PARAPHRASE

"Nutritional fitness allows you to maximize your mental, emotional and physical performance. In the last module we learned how fluids affect our performance. In today's session we will learn how to interpret the misleading claims made for nutritional supplements. Before we begin, let's review the concepts covered in **Module 4: Fluids: The Key To Performance.**"

REVIEW: KEY CONCEPTS: MODULE 4

KEY CONCEPT: Fluid and electrolyte requirements are increased by physical activities and extreme environmental conditions, such as heat, cold and altitude.

- ▲ Water is critical to performance and health in military training and exercise.
- ▲ Water is the best fluid replacement for most situations.
- ▲ Water, in the form of sweat, cools you down during physical activity. You are able to sweat only if you drink.
- ▲ Replace water often during physical activity to prevent dehydration.
- ▲ Dehydration can affect performance and, in severe cases, can lead to kidney failure and death.
- ▲ For continuous activity lasting longer than 90 minutes, fluid replacement drinks may have added performance value.
- ▲ The small amount of electrolytes you lose in sweat can easily be replaced with food.
- ▲ Extreme climates increase body water loss.
- ▲ Drink even when you're not thirsty.

REVIEW

"Are there any questions or comments regarding the last module? What changes did you make to your diet since we last met? Have you been able to increase your fluid intake? Did you notice any changes in performance or encounter any challenges?"

Okay, now let's learn some more."

PRE-TEST



PARTICIPANT'S
WRITTEN ACTIVITY



DISTRIBUTES
MATERIALS



DISTRIBUTES
MATERIALS

Hand Out Pre-Test

“Let’s go over the directions for completing the pre-test. Read each question or statement. Select what you believe is the best answer from the choices listed below it. Write the letter for your answer in the box next to the question number. You have five minutes to complete the pre-test. When I call time, please put your pencils down and I’ll collect the tests.”

Is everyone ready? We’ll begin now.”

Testing Time: 5 minutes
Call time after minute 5

DIRECT

“Please put your pencils down and hand me your tests.”

Collect Pre-Tests

Hand Out **Participant’s Manual: Module 5: Nutritional Supplements: The Facts**

KEY CONCEPT/ OBJECTIVES

STATE

“Now that you’ve taken the pre-test, I’d like to state our objectives for the training.”

HAVE KEY CONCEPT AND OBJECTIVES POSTED.

EXPLAIN

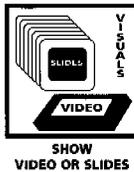
“The Key Concept of this module is:”

KEY CONCEPT: Misleading nutritional information, including the marketing of ergogenic aids and nutritional supplements, creates a false idea of what leads to good nutrition and performance. This may promote unsound dietary practices that hinder performance and pose a health risk.

OBJECTIVES: After completing this module you should be able to:

- ▲ Define nutritional supplements and ergogenic products and give two examples.
- ▲ Identify four popular commercial ergogenic products that have no proven benefit to performance.
- ▲ Specify how and when sport drinks could be incorporated into the diet to enhance training and recovery.
- ▲ Identify the truth about some common nutritional supplements and ergogenic aids.
- ▲ Identify how to avoid nutrition misinformation.

VIDEO/SLIDE PRESENTATION INTRODUCTION



STATE

“During this session, we’ll be watching a video/slide presentation that will introduce us to the concepts of nutritional supplements.”

“This video/slide show will get you started in identifying nutritional misinformation. Look for information regarding these key points (point to board):”

Presentation Key Points:

- ▲ How to best meet your nutrition needs
- ▲ When nutritional supplements are helpful
- ▲ When nutritional supplements are a waste of money
- ▲ Basic guidelines for nutritional supplement use

Show Video/Slide Show
Time: 13 minutes

NUTRITIONAL SUPPLEMENTS



ASK

“Can somebody tell me what a nutritional supplement is?”

Write Answer on the Board



Write On The Board:

NUTRITIONAL SUPPLEMENT: ANYTHING YOU TAKE IN ADDITION TO FOOD THAT HAS NUTRIENTS IN IT.

ERGOGENIC AID: NUTRITIONAL SUPPLEMENT THAT IS SUPPOSED TO INCREASE PHYSICAL AND MENTAL CAPACITY.

ASK

“Can you give me two examples of a supplement or ergogenic aid?”

POSSIBLE RESPONSES:

- ▲ Vitamins
- ▲ Minerals
- ▲ Herbal Remedies
- ▲ Carbohydrate Supplements (Carbofuel, Carboplex, Exceed High Carbohydrate Source)
- ▲ Sports Drinks: Fluid Replacements Drinks (Body Fuel 450, Carboplex II, Exceed, Gatorade, 10-K)
- ▲ Meal Replacement (Power Bar, Exceed Nutritional Beverage, Meal-On-The-Go and GatorPro.)



ASK

“Why do people take nutritional supplements and ergogenic aids?”

POSSIBLE RESPONSES:

- ▲ To perform their best
- ▲ To maintain good health
- ▲ To obtain the performance “edge”
- ▲ To get more of certain nutrients

ASK

“Are people getting the benefits they think they are?”

STATE

“Regardless of the claims, most people do not need nutritional supplements or ergogenic aids. The nutrients needed can be found in a performance diet.”

ASK

“What are muscles made of?”

WRITE ON THE BOARD:

- ▲ Glycogen and minerals:
- ▲ Protein:
- ▲ Water:

STATE

“Muscles are made up of glycogen, minerals, protein and water. 70-75% of your muscle is water; 15-20% is protein and 5-7% is glycogen and minerals.”

WRITE ON THE BOARD:

- ▲ Glycogen and minerals: 5-7%
- ▲ Protein: 15-20%
- ▲ Water: 70-75%

STATE

“To add 1 lb of muscle per week this is what you need to add to your eating and training:

- ▲ 10-14 grams of additional protein per day such as 2 oz meat or 2 glasses of milk. But since many servicemembers eat more protein than the body can use, you are probably already eating this extra protein;
- ▲ Resistance training;
- ▲ 400 extra calories which should come from carbohydrate”

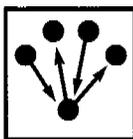
SUMMARIZE

“Remember, a cow doesn’t need to drink milk to make milk and it doesn’t eat meat to make steaks. When you eat a performance diet, you should be able to get all the protein, vitamins and minerals you need for performance and health. You need a balance of nutrients that work together. You generally do not need nutritional supplements. ”

WHAT IS A MUSCLE MADE OF?



**ACTIVITY:
THE
FACTS
ABOUT
THE
CLAIMS**



GROUP
DISCUSSION



DISTRIBUTES
MATERIALS

STATE

“The best foundation for optimum performance is sound nutrition. There are some nutritional supplements that do work, some that don’t and some that you just don’t need. Our next activity will explore the facts about the claims of some nutritional supplements and ergogenic products.”

Pass out Handout #5-1
“The Claim”

DIRECT

“On this handout are a list of claims regarding performance improvement. You will read the claim, share your thoughts about the claim, then referring to your Participant’s Manual, read The Fact and identify three or more important facts which address The Claim.”

First let’s divide into groups.”

GROUP ORGANIZATION

- ▲ Do the exercise with the class. Use claim #1.
- ▲ There’s a possibility of 8 groups depending on class size.
- ▲ You may want to organize the groups by interests.
- ▲ Fact/Claim on #3 is long. The others are short. Two or more Fact/Claims can be given to one group.

<u>Group</u>	<u>“Claim” On Handout</u>	<u>“Fact” In Participant’s Manual</u>
Class exercise	#1	page 5-2
Group 1	#2	page 5-4
Group 2	#3	page 5-5
Group 3	#4	page 5-6
Group 4	#5	page 5-7
Group 5	#6	page 5-7
Group 6	#7	page 5-7
Group 7	#8	page 5-7
Group 8	#9	page 5-8

Do One Exercise With The Class

STATE

“First, let’s read the directions at the top of the handout.”

GROUP DIRECTIONS

- Step 1** Choose one person to read the claim on Handout #5-1.
- Step 2** Discuss what you think about the claim. What is true? What is false? It’s important to explore preconceived ideas.
- Step 3** Read “The Facts” in the Participant’s Manual.
- Step 4** Identify 3 or more pieces of information which address “the Claim.”
- Step 5** Choose someone to report back to the class.

Step 1 Read the claim on the Handout.

READ

“Next we’ll read the claim together. Claim number one reads:” You should take vitamin and mineral supplements for extra energy and strength during heavy physical activity like athletic competition and military training.”

Step 2 Discuss what you think about the claim. What is true? What is false? It’s important to explore preconceived ideas.

ASK

“What do you think about that claim?”



Three Possible Responses:

- ▲ I think it's true. I do, and it helps.
- ▲ There doesn't seem to be any difference when I take vitamins and minerals.
- ▲ I never know how much to take.

Step 3 Read The Facts.”

DIRECT

“Now we’ll read The Facts.”

LOCATED IN BACK OF THIS MANUAL IS THE “INSTRUCTOR’S FACT/CLAIMS SHEET” WITH THE CLAIMS AND THE “POSSIBLE ANSWERS” HIGHLIGHTED IN BOLD LETTERS.

Step 4 As a group, identify 3 or more pieces of information which address “the Claim.”

ASK

“What are three important points?”



POSSIBLE RESPONSES:

- ▲ Vitamins and minerals do not give you energy or strength.
- ▲ Vitamins and minerals help your body get the energy it needs from carbohydrates, proteins and fats. Weight training or resistance training builds strength.
- ▲ You can get vitamins and minerals from two sources — food and nutritional supplements.
- ▲ Vitamin and mineral deficiencies are rare in people who eat regular, nutritionally balanced meals.
- ▲ Some beneficial vitamins and minerals can be harmful to performance and health when you take too much of them.

Step 5 Choose someone to report back to the class.

STATE

“When you are in your groups, choose someone to report back to the class the important points made by ‘The Facts.’”

STATE

“Okay, you have 10 minutes.”

Time: 10 minutes
Call time after minute 10

Instructor: Be sure to check in (eavesdrop) with each group to assure that they understand the instructions or are not sidetracked.

DIRECT

“Group 1, read your claim and tell the class the three major points your group learned.”

Call on all the groups.
Possible Responses are in bold on your copy of Fact/Claims in Appendix.

STATE

“Good job! I’d like to point out two things in your manual, ‘Some Advertising Techniques To Be Wary Of’ on page 5-8, and on 5-11 ‘Good Sources Of Nutrition Information.’ Listed are newsletters and other resources. The main point is this: An informed consumer is the best consumer. The more you know about nutrition and your body, the better you will be able to effect change in your performance.”

**OPTIONAL
ACTIVITY**

PRE-TEST REVIEW

WRAP UP

NOTES

SUMMARY

“Remember, in order to optimize performance, a balance of nutrients is needed; carbohydrates, proteins, fats, vitamins, minerals and water. These nutrients are found in the foods we eat. A performance diet will delay fatigue, increase endurance, improve concentration, help prevent disease, increase confidence and make you look and feel better. Rarely do you need supplements or special food.”

- ▲ Instead of reviewing the pre-test, re-administer the same test to evaluate how much the class learned during this session and to identify topics to be further discussed at the next session.

STATE

“Now let’s look at the pre-test and review the correct answers.”

Read questions and provide correct answers.
Field questions.
Note questions you cannot answer for next class.

EXPLAIN

“There’s valuable information you’ll want to read on nutritional supplements in your participant’s manual.

Performance Nutrition means becoming more educated about your nutritional requirements and energy needs. All the nutrients you need for performance and health are available to you by eating a variety of foods and drinking plenty of water.”

PERFORMANCE TIPS:

- ▲ Balance food intake and physical activity.
- ▲ Don’t overdo any nutrient or nutritional supplement. Excess won’t help your performance. Excess could harm performance and health.
- ▲ There is no quick fix, magic potion or home remedy that will significantly improve your performance without a performance diet and training.
- ▲ If you want to use nutritional supplements, use those that are considered safe or effective because they’ve been proven through scientific investigation.
- ▲ If you have questions about nutritional supplements, consult your physician or a Registered Dietitian.
- ▲ If you want to improve performance and health, you have to practice it every day, not just before a PT test or when it is convenient.

“I hope you have not only learned more from these sessions but will continue to educate yourselves by using the participant manuals and other resources.

Thank you for your time and attention.”

#1 (page 5-2)

The Claim: You should take vitamin and mineral supplements for extra energy and strength during heavy physical activity like athletic competition and military training.

The Facts: **Vitamins and minerals do not give you energy or strength.** Energy means calories, not get-up-and-go, and vitamins and minerals themselves have no calories. Carbohydrates, fats, and proteins provide energy. **Vitamins and minerals help your body get the energy it needs from carbohydrates, proteins and fats. Weight training, or resistance training builds strength.**

You can get vitamins and minerals from two sources — food and nutritional supplements. If you eat a performance diet, you should be able to get all of the vitamins and minerals you need for performance and health from food.

Vitamin and mineral deficiencies are rare in people who eat regular, nutritionally balanced meals. If you are not eating a balanced diet, a daily multivitamin and mineral supplement that supplies 100% of the U.S. RDA is enough to help you get your vitamin and mineral requirements.

Power packs of vitamin supplements and high doses of individual vitamins and minerals generally have no benefit for performance. These products are very expensive, and the claims made are exaggerated and unproven. It is not true that if a little is good, more is better.

YOU CAN HAVE TOO MUCH OF A GOOD THING.

Some beneficial vitamins and minerals can be harmful to performance and health when you take too much of them.

TOO MUCH ...

Vitamin A	Severe headaches, bone and joint pain, dry skin, liver damage
B6	Weakness that resembles muscular dystrophy
Niacin	Fatigue during exercise, liver damage
Vitamin D	Joint pain, calcium deposits in soft tissue, such as the kidney
Chromium	Ulcers, kidney damage
Manganese	Weakness, nervous system problems, mental confusion
Selenium	Abdominal pain, weakness, liver damage
Iron	Liver damage, possible colon cancer, possible cardiovascular disease
Zinc	Stomach erosion, impaired body defense systems, anemia

Consult a physician or a Registered Dietitian before taking supplements of individual vitamins and minerals or high-dose multi-nutrient preparations.

#2 (page 5-4)

The

Claim: Carbohydrate loading, which can be achieved with food and nutritional supplements, improves endurance and performance.

The

Facts: Carbohydrate loading can improve endurance and performance in heavy physical activities that last 90 minutes or more.

Carbohydrate loading is when you consume a much higher than normal amount of carbohydrates — 70% of your calories — several days before an event. At the same time, you cut back your level of activity to allow reserves of glycogen to build up in your muscles and liver.

Studies show that the extra carbohydrates are stored as additional energy-giving glycogen that lasts longer than your normal reserves. Normal glycogen stores usually start to dwindle after 90 minutes of continuous exercise.

But — **carbohydrate loading does not give you any performance advantage for activities that are shorter than 90 minutes.** Many military training events do not last 90 minutes or are not continuous.

Military training schedules also make it difficult for carbohydrate loading to benefit performance. If you can't curtail your activity for 2 or 3 days before an event, you'll continue to burn the extra carbohydrates and not enough will be stored to make a difference.

Be advised that **carbohydrate loading can hurt performance. It can cause stiffness and a heavy feeling in your muscles.**

Your best bet for getting enough carbohydrate is to replenish your glycogen stores every day with a diet that is at least 55-60% carbohydrate — at least 400 grams of carbohydrate a day.

If you want to try carbohydrate loading, talk to a Registered Dietitian first.

#3 (page 5-5)

The

Claim: Athletes and active people need protein supplements and amino acid supplements for energy, strength, power or to build muscle.

The

Facts: This is not true. Even with increased activity or weight training to build muscle mass, **you do not need amino acid supplements or protein supplements.** It's true that in intense physical military training you need more protein than you do when you are moderately active. Protein repairs and builds your hard working muscles.

But even then, only 12-15% of your calories, or 75-150 grams, need to come from protein. You can easily get that protein requirement from food, even for intense activity or bodybuilding.

Reliable studies have not shown that taking two to three times the recommended amount of protein enhances performance, muscle strength or muscle size. Excess protein is converted to fat, which builds fatter bodies, not bigger muscles.

Too much protein can hurt performance. If you're eating excess protein, you may not be getting enough carbohydrate, the nutrient you really need for performance energy and muscle mass. Many high protein foods, such as eggs and meat, also are high in cholesterol and fat, which increase your risk of heart disease.

Excess protein makes you urinate more, taking valuable calcium from your body and increasing risk of dehydration. If you're eating excess protein, you may not be getting enough carbohydrate, the nutrient you need to be able to do the training to build your muscle mass. Not getting enough carbohydrate means your body will break down body proteins - your muscles - for energy. So if building muscle is a priority, a high-carbohydrate diet would be of greater benefit than a high-protein diet.

#4 (page 5-6)

The Claim: Fasting cleanses the body, helps improve performance and increases endurance.

The Facts: This is false.

Cutting out food before physical activity is like not putting gas in your car for a long trip. You'll probably run out of fuel before you reach your destination.

When your body stops getting food, your normal energy storage process is disrupted. **When you don't refuel your body with food, you can't replace energy-giving glycogen in your liver and muscles.**

If you fast for more than 12-14 hours, your body begins to literally munch on itself for energy. In the process, you lose water, muscle tissue, glycogen and vitamins and minerals — all of the things you need for top performance.

Fasting reduces endurance. You can't go as long if you don't have a good store of glycogen. Fasting causes dehydration and lowers your blood sugar, which slows your reaction time and lowers your concentration.

Fasting does not cleanse the body. Fasting floods the body with toxins that were trapped in the liver and fat cells.

Eating regular meals and high carbohydrate snacks before and after activity is the best way to improve performance and increase endurance.



#5 (page 5-7)

The Claim: Alcohol gives you more endurance, improves psychological well-being and warms you up.

The Facts: Alcohol does none of these things. **Alcohol hurts performance. It is a depressant, impairs balance and coordination and reduces reaction time and concentration.** A heavy drinking night or weekend can zap your mental and physical performance for days.

Alcohol can lead to low blood sugar levels and lower your body temperature. In cold weather, alcohol can increase your risk of life-threatening hypothermia.

Alcohol does contain calories, but they are empty calories, without vitamins or minerals. In addition, **alcohol depletes the body of precious nutrients. Alcohol is also a diuretic. It increases urination, which contributes to dehydration.**

Water is your best performance fluid in all climates.

#6 (page 5-7)

The

Claim: Sports drinks are needed to replace fluids, carbohydrates, sodium and other electrolytes lost through sweating.

The

Facts: Sports drinks are not required to replace water, carbohydrates or electrolytes, although, in some situations, they may be a better choice. Water is all that most people need to stay hydrated in intense activity.

Sports drinks have no effect on performance in activities lasting less than an hour, and you can replace electrolytes after an activity with food.

However, there are some times when sports drinks can benefit performance. **For continuous activity lasting longer than 90 minutes, the carbohydrates in sports drinks can help back up dwindling glycogen stores to give you endurance energy.** And the electrolytes in sports drinks help your body absorb fluids faster.

For maximum hydration, drink water before, during and after activity — 1/2 to 1 cup every 15-20 minutes. For an activity lasting longer than 90 minutes, fruit juice diluted with water or sports drinks with less than 10% carbohydrate may improve performance.



#7 (page 5-7)

The

Claim: Sugar and honey are quick energy sources.

The

Facts: Simple carbohydrates, like **sugar and honey, can quickly raise your blood sugar. But the abrupt rise in blood sugar may soon be followed by a fall in blood sugar.** That means that shortly after you eat a simple carbohydrate, you might have a quick surge of energy, but then your blood sugar drops, and you feel tired.

Although simple sugars contribute to glycogen in muscles, just as complex carbohydrates do, they contain no vitamins or minerals. Your best source of energy is the store of glycogen you build up with a steady diet that is high in complex carbohydrates.

#8 (page 5-7)

The Claim: Caffeine improves performance.

The Facts: Caffeine may help some people improve their endurance. However, **caffeine is less effective in improving endurance in habitual caffeine drinkers. Excess caffeine can cause nervousness and jitters, which can reduce marksmanship accuracy.**

You shouldn't consume more than 1-2 cups of caffeinated coffee, tea or soda a day. **Caffeine is a diuretic, which increases urination and may lead to dehydration. If you consume caffeine before or during training, drink a cup of water at the same time.**



#9 (page 5-8)

The Claim: Salt tablets are good for replacing electrolytes lost in sweat during training and field exercises.

The Facts: **Salt tablets are not beneficial in any way for use in heavy physical activity.**

Salt tablets should not be taken before, during or after training or competition. Period.

When you sweat, you need to replace water, not salt. **Salt tablets dehydrate you internally.** They pull water away from working muscles and other parts of the body, where you really need the water.

Salt tablets can build dangerously high concentrations of salt in your blood, which can lead to muscle fatigue, cramping and kidney problems.

DO NOT TAKE SALT TABLETS BEFORE, DURING OR AFTER TRAINING.

HAND OUT #5-2
MODULE 5
PRE-TEST

DIRECTIONS

Read each question or statement. Select what you believe is the best answer from the choices listed below it. Write the letter for your answer in the box next to the question number. You have five minutes to complete the pre-test. When time is called, please put your pencils down and I'll collect the tests.

1. Nutritional supplements:
- A) Make up for a poor diet.
 - B) May help in certain circumstances.
 - C) Are essential to maintain a nutritionally balanced diet.
 - D) Are only necessary when in physical training and high exertion situations.
2. Ergogenic means:
- A) Enhances weight loss.
 - B) Any nutritional supplement.
 - C) Muscle building.
 - D) Work producing.
3. Excess dietary protein :
- A) Is stored as fat.
 - B) Is eliminated in urine.
 - C) Is stored as muscle.
 - D) Is stored as protein.
4. Muscle is made up of:
- A) A little water, and mostly protein.
 - B) Mostly water, some protein, a little fat.
 - C) Some water, a little protein, mostly fat.
 - D) Equal amounts of water and protein.
5. Vitamins:
- A) Contain glycogen which give you an added energy boost.
 - B) Are necessary in high amounts when in physical training.
 - C) Help regulate energy release from carbohydrate, protein or fat.
 - D) Are a great quick fix for recovery after intense exercise.
6. What is the most important thing to remember when seeing or listening to an advertisement for a food product or nutritional supplement?
- A) Industry is interested in selling the product.
 - B) Ads are trying to educate the public about nutrition.
 - C) Information presented in ads is unbiased.
 - D) Only ads comparing two products are accurate.
7. Do vitamins provide energy?
- A) Yes
 - B) No
8. Which are better?
- A) Vitamins made from natural sources.
 - B) Synthetic vitamins.
 - C) They are both the same.

ANSWERS TO MODULE 5 PRE-TEST

- B** 1. Nutritional supplements:
- A) Make up for a poor diet.
 - B) May help in certain circumstances.
 - C) Are essential to maintain a nutritionally balanced diet.
 - D) Are only necessary when in physical training and high exertion situations.
- D** 2. Ergogenic means:
- A) Enhances weight loss.
 - B) Any nutritional supplement.
 - C) Muscle building.
 - D) Work producing.
- A** 3. Excess dietary protein :
- A) Is stored as fat.
 - B) Is eliminated in urine.
 - C) Is stored as muscle.
 - D) Is stored as protein.
- B** 4. Muscle is made up of:
- A) A little water, and mostly protein.
 - B) Mostly water, some protein, a little fat.
 - C) Some water, a little protein, mostly fat.
 - D) Equal amounts of water and protein.
- C** 5. Vitamins:
- A) Contain glycogen which give you an added energy boost.
 - B) Are necessary in high amounts when in physical training.
 - C) Help regulate energy release from carbohydrate, protein or fat.
 - D) Are a great quick fix for recovery after intense exercise.
- A** 6. What is the most important thing to remember when seeing or listening to an advertisement for a food product or nutritional supplement?
- A) Industry is interested in selling the product.
 - B) Ads are trying to educate the public about nutrition.
 - C) Information presented in ads is unbiased.
 - D) Only ads comparing two products are accurate.
- B** 7. Do vitamins provide energy?
- A) Yes
 - B) No
- C** 8. Which are better?
- A) Vitamins made from natural sources.
 - B) Synthetic vitamins.
 - C) They are both the same.

Module 6: High Caliber Nutrition In The Field

This manual addresses the nutritional challenges during field operations. It includes:

- ▲ *The importance of adequate food and fluid intake during field operations.*
- ▲ *Appropriate food and fluid choices during field operations.*
- ▲ *Key nutritional issues when training in hot, cold and high altitude environments.*

Performance Nutrition is a sports nutrition program designed especially for the military.

MODULE

1 Getting Started

MODULE

2 Building a Performance Diet

MODULE

3 Performance Choices

MODULE

4 Fluids: Your Key to Performance

MODULE

5 Nutritional Supplements: The Facts

MODULE

6 High Caliber Nutrition In The Field

POWER
PERFORMANCE
THE NUTRITION CONNECTION

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module 6: instructor's manual

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INSTRUCTOR PREPARATION

PRE-SESSION SUGGESTIONS:

- Read Instructor's Guidelines.
- Read the Participant's Manual.
- Read this document and decide whether to add or delete activities. Decide if the module should be divided into one or more sessions. Keep in mind that although each module is outlined as one session, ideally it should be broken up into a couple of sessions so the participants can absorb the information. For example: After viewing the visual presentation (video or slides) the rest of the class time may be spent in a discussion and brainstorming session; reading this module's participant's manual could be part of a homework assignment, and the next session would continue with the lesson plan.
Use activities as time allows, but be sure to:
 1. Show the video or slide presentation
 2. Pass out the Participant's Manual
 3. Review the Key Concept
- Review optional activities at the end of this manual
- Draw from your own experience as an example when appropriate.
- Create your own activities

BEFORE BEGINNING:

- Have Module 6 manuals ready to pass out.
- Determine whether presenting video or slide show.
- Have video (TV & VCR) or slide equipment (slide projector with slide set) set up to run.
- Have Handouts (Pre-Test, Managing Nutritional Problems In Harsh Environments, Name That Snack, Dehydration) duplicated and ready.

MATERIALS:

- Clock or watch
- Writing Surface (blackboard, flip chart, or overhead projector)
- Appropriate writing implement (chalk or magic marker)
- Handouts(Pre-Test, Managing Nutritional Problems In Harsh Environments, Name That Snack, Dehydration)
- Pencils
- Participant's **Manual 6: High Caliber Nutrition In The Field**

WRITE ON THE BOARD:

- PERFORMANCE POWER...THE NUTRITION CONNECTION
- Module 6: High Caliber Nutrition In The Field
- Key Concepts and Objectives (page 6-2)
- (Your Name)



INSTRUCTOR'S MANUAL

MODULE 6: HIGH CALIBER NUTRITION IN THE FIELD

INTRODUCTION

MODULE 5: NUTRITIONAL SUPPLEMENTS REVIEW

WELCOME/PARAPHRASE

"Welcome. My name is _____. This is our last module in Performance Nutrition. This is the module that puts everything we know about performance and nutrition to the test because today we are going to talk about field training.

OVERVIEW/PARAPHRASE

"Nutritional fitness allows you to maximize your mental, emotional and physical performance. This program is all about the vital role nutrition plays in performance and the similarity between athletic training and military training. Today in **Module 6: High Caliber Nutrition In The Field**, we will learn how important nutrition is to performance in the field.

In the last module we learned about nutritional supplements and what they can and cannot do for us. We explored popular misconceptions and how to learn the truth about nutritional supplements."

REVIEW

"The important concepts of Module 5 are:"

You can refer to Module 5 in Participant's Manual

KEY CONCEPT: Misleading nutritional information, including the marketing of ergogenic aids and nutritional supplements, creates a false idea of what leads to good nutrition and performance. This may promote unsound dietary practices that hinder performance and pose a health risk.

Remember:

- ▲ You can get all of the nutrients you need for performance and health by eating a variety of foods and drinking water.
- ▲ Balance food intake and physical activity.
- ▲ Because a little of something is good doesn't mean a lot is better. Don't overdo any nutrient or nutritional supplement. Excess won't help your performance. Excess could harm performance and health.
- ▲ No quick fix, magic potion or home remedy will significantly improve your performance without a performance diet and training.
- ▲ If you want to use nutritional supplements, use those that are considered safe or effective because they've been proven through scientific investigation.
- ▲ If you have questions about nutritional supplements, consult your physician or a registered dietitian.
- ▲ If you want to improve performance and health, you have to practice it every day, not just before a PT test or when it is convenient.
- ▲ Don't use nutritional supplements in place of food.

ASK

"Does anyone have anything to share regarding supplements, etc.?"

How about overall? Are you seeing changes in your performance?"

Okay, now let's learn some more."



PRE-TEST



PARTICIPANT'S
WRITTEN ACTIVITY



DISTRIBUTES
MATERIALS



DISTRIBUTES
MATERIALS

KEY CONCEPT/ OBJECTIVES

Hand Out Pre-Test

“Let’s go over the directions for completing the pre-test. Read each question or statement. Select what you believe is the best answer from the choices listed below it. Write the letter for your answer in the box next to the question number. You have five minutes to complete the pre-test. When I call time, please put your pencils down and I’ll collect the tests.

Is everyone ready? We’ll begin now.”

Testing Time: 5 minutes
Call time after minute 5

DIRECT

“Please put your pencils down and hand me your tests.”

Collect Pre-Tests

Pass Out **Participant’s Manual: Module 6: High Caliber Nutrition
In the Field**

STATE

“Now that you’ve taken the pre-test, I’d like to state our objectives for this training.”

HAVE KEY CONCEPT AND OBJECTIVES POSTED.

EXPLAIN

“The Key Concept of this module is:”

KEY CONCEPT: Adequate nutritional intake is important during field training exercises to support physical and mental performance.

OBJECTIVES: After completing this module you should be able to:

- ▲ Recognize the importance of adequate food and fluid intake during field operations.
- ▲ Identify appropriate food and fluid choices during field operations.
- ▲ Identify and manage key nutritional issues when training in hot, cold and high altitude environments.



ASK

“What are some of the challenges to eating the way you would like to in the field?”

Possible Responses:

- ▲ Lack of time; on the move
- ▲ Lack of appetite
- ▲ Scarce food availability

STATE

“During this session, we’ll be watching a video/slide presentation that will introduce us to the concepts of **High Caliber Nutrition in the Field**. This video/slide show will point out some basic nutrition concepts for performance in the field. Look for information regarding these key points (point to Objectives on the board):

Presentation Key Points:

- ▲ The importance of adequate food and fluid intake during field operations
- ▲ How to make appropriate food and fluid choices during field operations
- ▲ Key nutritional issues when training in hot, cold or high altitude conditions

Show Video/Slide Show
Time: 17 minutes

REVIEW

“Performance Nutrition makes the comparison between military and athletic training. In your Participant’s Manual on page 6-2, there’s a chart “Calories Burned Per Minute,” which compares military activities to athletic activities.”

Briefly highlight relevant activities



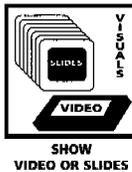
ASK

“Throughout this program similarities have been drawn between athletes in training and military personnel in training. Many military activities are as demanding as athletic activities. This chart makes this point. But what are the differences between these two groups?”

Possible Responses:

- ▲ **Duration:** These games/sports are only played for certain periods of time. (But remember that the training for these events can be prolonged)
- ▲ **Importance:** Lives depend on our performance.
- ▲ **Flexibility:** We are required to master a greater variety of skills.
- ▲ **Endurance:** The stress on our physical, emotional and mental facilities is greater, more sustained and intense.
- ▲ **Weight:** Added loads of 50 pounds or more adds to the strenuous work.

VIDEO/SLIDE PRESENTATION INTRODUCTION





SUMMARIZE

“And what we do is much more important. And our job is never called off because of rain!”

ASK

“Why is deployment a bad time to lose weight?”

Answer:

- ▲ The loss of weight means the loss of water and muscle strength which causes fatigue and impairs performance.



ASK

“Why is Performance Nutrition a Force Multiplier?” (Point to words on the board.)

Answer:

- ▲ Performance Nutrition maximizes your capacities. It helps you:
 - Maintain your strength and stamina
 - Keep mentally alert
 - Achieve peak performance

STATE

“Field training and combat may be the most physically demanding work you do in the military. You need food and water to give you energy and to keep you alert for the long hours, strenuous work and extreme environmental conditions encountered in field training. In fact, eating and drinking can be critical to your performance in the field. *Performance Nutrition is a Force Multiplier!*”

Studies show that troops in the field and in combat eat 20 to 40% less than they need. I’m going to read you some reasons people give as to why they don’t eat properly or enough. Many of these are the same reasons you gave. Think of a response to their objections.”

ASK

“Okay now, how would you respond to this objection, – there is no time to eat?”

Possible Responses:

- ▲ Got to make the time. No food, no energy, no performance.
- ▲ Eat every time you have the chance.
- ▲ Carry high-carbohydrate pogy bait or dry snacks to eat on the move.

**ACTIVITY:
RESPOND TO
THESE
STATEMENTS!**





INSTRUCTOR ASKS
QUESTIONS

ASK

“Okay now, how would you respond to the statement, I want to lose weight?”

POSSIBLE RESPONSES:

- ▲ Bad timing! You are more active with less rest and more performance expectations. Now is when you need your energy.
- ▲ You will lose strength.
- ▲ The weight you lose will be muscle and other important tissues



INSTRUCTOR ASKS
QUESTIONS

ASK

“Okay now, how would you respond to the statement. ‘I don’t like the food?’”

POSSIBLE RESPONSES:

- ▲ Eat some of each component to get a balance of nutrients.
- ▲ Eat the high carbohydrate items first.
- ▲ Save unopened dry snack items to eat when you are on the move.
- ▲ Some “easy on the stomach” high-carbo snacks include: crackers, cookie bars, granola bars, canned fruit, hot chocolate, instant noodles.



INSTRUCTOR ASKS
QUESTIONS

ASK

“Okay now, how would you respond to the statement, ‘I’m too tired to eat. or I’d rather sleep?’”

POSSIBLE RESPONSES:

- ▲ Eat anyway. To get energy you need food.
- ▲ Eat a quick snack instead of a meal.
- ▲ Increased activity has increased your food/energy requirements.
- ▲ Good nutrition will help you tolerate lack of sleep.
- ▲ Good possibility that your lack of energy results from not enough carbohydrates (too many fats) and fluids.



INSTRUCTOR ASKS
QUESTIONS

ASK

Your response to, ‘Too hot to eat’ or ‘Too nervous to eat, would be which?’”

Possible Responses:

- ▲ Must eat anyway. Try bland carbohydrate foods or calorie containing fluids.
- ▲ Inadequate nutrition will worsen this situation.
- ▲ Eat smaller amounts throughout the day.



“ASK

“What about the statement, ‘If I reduce my liquid intake, I will go to the bathroom less frequently?’.”

Possible Responses:

- ▲ You cannot condition your body to need less fluids. If your body gets less than it needs, you suffer.
- ▲ Not drinking will dehydrate you. Dehydration leads to heat exhaustion and/or stroke. Severe dehydration can kill you.
- ▲ Not urinating enough can lead to urinary tract infections. Fluids are needed to flush the kidneys.
- ▲ Dehydration causes weakness and fatigue that impairs performance.

Pass Out Handout #6-1, Managing Nutritional Problems In Harsh Environments

DIRECT

“Here is a quiz on **Managing Nutritional Problems in Harsh Environments**. I will read these True or False statements out loud. On your handout, circle the correct answer. After, we will discuss why these statements are true or false.”

Read the questions to the class.
Pause in between questions.

ASK

“Number 1: True or False? Hot weather decreases a persons calorie requirements.

Number 2: True or False? Your body’s thirst mechanism tells you whether or not you’re drinking enough fluids.

Number 3: True or False? High-fat, high-protein foods provide important benefits in cold environments.

Number 4: True or False? It is important to have hot foods and beverages in cold environments.

Number 5: True or False? Cocoa is a better pick-me-up than coffee in cold weather.

Number 6: True or False? High-protein foods will lessen the symptoms of AMS at altitude.

Number 7: True or False? Ddehydration is rarely a problem at altitude.

Number 8: True or False? High-carbohydrate foods provide important benefits in all environments.”



ACTIVITY: MANAGING NUTRITIONAL PROBLEMS IN HARSH ENVIRONMENTS



STATE

“Okay, let’s go over the answers and most importantly the reasons why these statements are either true or false.”

#1 ANSWER: FALSE.

- ▲ Hot weather *increases* a person’s calorie requirements. Although appetite decreases in hot weather, the amount of calories required actually increases slightly.

#2 ANSWER: FALSE.

- ▲ Your body’s thirst mechanism *does not* tell you whether or not you’re drinking enough fluids. Thirst alone is not a good indicator of adequate fluid intake because it is dulled by exercise and at environmental extremes. A better way to check for dehydration is to monitor the color of one’s urine. It’s pale yellow when hydration is adequate.

#3 ANSWER: FALSE.

- ▲ High-fat, high-protein foods *do not* provide important benefits in cold environments. Carbohydrates are the preferred foods in cold environments. High-fat, high-protein foods can displace carbohydrates in a person’s diet.

#4 ANSWER: TRUE.

- ▲ It is important to have hot foods and beverages in cold environments. Warm food tastes better and helps maintain body temperature and comfort in the cold.

#5 ANSWER: TRUE.

- ▲ Cocoa is a better pick-me-up than coffee in cold weather. Cocoa is lower in caffeine than coffee and provides needed carbohydrates.

#6 ANSWER: FALSE.

- ▲ High-protein foods *may increase* the symptoms of AMS at altitude. High-carbohydrate foods, not high-protein foods, may reduce the onset and severity of AMS at altitude.

#7 ANSWER: FALSE.

- ▲ Dehydration is *often* a problem at altitude. Dehydration is a common problem at altitude because dry cold air causes water losses from the lungs, urination increases due to diuretic effects of cold and altitude, people suffer the symptoms of AMS or diarrhea, and the normal thirst mechanism is dulled.

#8 ANSWER: TRUE.

- ▲ High-carbohydrate foods provide important benefits in all environments. These foods serve as a fast fuel source, replace muscle glycogen stores, and spare protein reserves.

ACTIVITY: DEHYDRATION



DISTRIBUTES
MATERIALS



PARTICIPANT'S
WRITTEN ACTIVITY

Pass Out Handout #6-2: Dehydration

DIRECT

“On Handout #6-2 there is a list of dehydration symptoms and three stages of dehydration; Mild Dehydration, Moderate Dehydration and Severe Dehydration. Each symptom has an effect on your performance. Select the correct stage for each symptom.”

Time: 2-3 minutes

REVIEW

“This information is critical, with it you can assess your health and maintain your strength. Correct your answers on your handout.”

Go Over Answers.
Participants correct their work.

Dehydration Symptoms	1ST STAGE	2ND STAGE	3RD STAGE
	1-5%	Body Weight Loss 6-10%	11-20%
Thirst	✓		
Dizziness		✓	
Delirium			✓
Kidney failure			✓
Dim vision			✓
Minimized physical capacity	✓		
Loss of appetite	✓		
Headache		✓	
Hard to breathe		✓	
Impatience	✓		
Sleepiness	✓		
Vague discomfort	✓		
Muscle spasm			✓
Swollen tongue			✓
Tingling in limbs		✓	
Can't swallow			✓
Flushed skin	✓		
No saliva		✓	
Deafness			✓
Slurred speech		✓	
Shriveled skin			✓
Increase pulse rate	✓		
Inability to walk		✓	
Painful urination			✓
Nausea	✓		
Numb skin			✓
Dark yellow or brown urine	✓		
Death			✓

**OPTIONAL
ACTIVITY: FOOD
SAFETY IN THE
FIELD**



STATE

“Contamination of food and drink is something else which can seriously hurt you. Contamination can occur anywhere and particularly in hot climates where bacteria breed quickly.”

ASK

“How do you purify water, ice or snow?”

Answer:

- ▲ Sterilizer tablets
- ▲ Filter
- ▲ Boil for at least 10 minutes.

ASK

“How long are wet-packed rations (entree, fruit) good for?”

Answer:

- ▲ Two hours in moderate temperatures, immediately in hot climates

ASK

“How long are dry components good for?”

Answer:

- ▲ After two days.

**ACTIVITY: NAME
THAT SNACK**



DIRECT

“When snacking, it’s important to choose lowfat, high-carbohydrate foods. On your handout identify which snacks are high-fat and which are lowfat. For example: Most crackers are lowfat.”

Answers:

LOWFAT SNACKS

- crackers
- instant noodles
- cereal
- pudding
- cookie bars
- fruit newtons
- ration granola bars
- bread
- rice
- potatoes
- bagels
- juice
- canned fruit
- hot chocolate

HIGH-FAT SNACKS

- sausage
- jerky
- nuts
- candy bars
- cheese
- doughnuts
- snack cakes

DIRECT

“Now let’s go over the answers. Which snacks are lowfat ... which are high-fat?”

Have Participants Respond



OPTIONAL ACTIVITY

PRE-TEST REVIEW

MODULE REVIEW

WRAP UP

SUMMARY

“Remember, in order to optimize performance, a balance of nutrients is needed: carbohydrate, protein, fat, vitamins, minerals and water. These nutrients are found in the foods we eat. A performance diet will delay fatigue, increase endurance, improve concentration, help prevent disease, increase confidence and make you look and feel better. It is a Force Multiplier!”

- ▲ Instead of reviewing the Pre-test, re-administer the same test to evaluate how much the class learned during this session and to identify topics to be further discussed at the next session.

STATE

“Now let’s look at the pre-test and review the correct answers.”

Read questions and provide correct answers.
Field questions.
Note questions you cannot answer for next class.

EXPLAIN

“There’s valuable information in your participant’s manual. There’s detailed information about how to maintain optimal nutrition in the field.”

REVIEW

PERFORMANCE TIPS:

- ▲ Nutrition can affect your performance during field exercises.
- ▲ In the field, you may work as hard as an athlete in training.
- ▲ To maintain top performance in the field, you should eat like an athlete.
- ▲ If you burn more energy in field training than you do in garrison, you need to increase your calorie intake.
- ▲ A performance diet is high in carbohydrate, adequate in protein and low in fat. It has a variety of foods to provide vitamins and minerals.
- ▲ Eat some of each ration component for a balanced performance diet.
- ▲ Be aware of special nutrition needs in extreme environments.

WRAP UP

“By practicing Performance Nutrition while in garrison you are preparing yourself for optimum performance while in extreme and intense field operations. You will also become more familiar with your nutritional requirement and caloric needs.

I hope you have not only learned from these sessions but will continue to educate yourselves by using your manual and other resources.

Thank you for your time and attention.”

HAND OUT #6-1

MANAGING NUTRITIONAL PROBLEMS IN HARSH ENVIRONMENTS

DIRECTIONS:

Decide if each of the following statements is true or false.
Turn your paper over when finished.

- T or F 1. Hot weather decreases a person's calorie requirements.
- T or F 2. Your body's thirst mechanism tells you whether or not you're drinking enough fluids.
- T or F 3. High-fat, high-protein foods provide important benefits in cold environments.
- T or F 4. It is important to have hot foods and beverages in cold environments.
- T or F 5. Cocoa is a better pick-me-up than coffee in cold weather.
- T or F 6. Your body's thirst mechanism tells you whether or not you are thirsty.
- T or F 7. Dehydration is rarely a problem at altitude.
- T or F 8. High-carbohydrate foods provide important benefits in all environments.

HAND OUT #6-2
NAME THAT SNACK

DIRECTIONS: Circle all the lowfat choices.

most crackers

jerky

rice

cheese

pudding

bagels

fruit newtons

sausage

instant noodles

candy bars

potatoes

snack cakes

cookie bars

canned fruit

bread

nuts

cereal

doughnuts

hot chocolate

ration granola bars

juice

HAND OUT #6-3
DEHYDRATION

DIRECTIONS:

Each symptom on the left is a sign of dehydration. Choose the stage at which each symptom is seen; 1st stage (1-5% body weight loss, 2nd Stage; 6-10% body weight loss or the 3rd Stage; 11-20% body weight loss.) The first symptom is done for you.

Dehydration Symptoms	1ST STAGE	2ND STAGE	3RD STAGE
	1-5%	Body Weight Loss 6-10%	11-20%
Thirst	✓		
Dizziness			
Delirium			
Kidney failure			
Dim vision			
Minimized physical capacity			
Loss of appetite			
Headache			
Hard to breathe			
Impatience			
Sleepiness			
Vague discomfort			
Muscle spasm			
Swollen tongue			
Tingling in limbs			
Can't swallow			
Flushed skin			
No saliva			
Deafness			
Slurred speech			
Shriveled skin			
Increase pulse rate			
Inability to walk			
Painful urination			
Nausea			
Numb skin			
Dark yellow or brown urine			
Death			

HAND OUT #6-4

MODULE 6

PRE-TEST

DIRECTIONS

Read each question or statement. Select what you believe is the best answer from the choices listed below it. Write the letter for your answer in the box next to the question number. You have five minutes to complete the pre-test. When time is called, please put your pencils down and I'll collect the tests.

1. Comparing energy requirements during field training with that of competitive athletes:
- A) Field training burns just slightly less calories, because in spite of the intensity, field training does not occur throughout the whole year.
 - B) Both burn about the same amount of energy.
 - C) Field training probably burns more because of longer hours per day and the extra weight carried.
2. The comparison between military training and athletic training is a good one because:
- A) Both groups need training, conditioning and motivation to perform their best.
 - B) Both groups are made up of a greater percentage of men.
 - C) Both groups have events, scheduled and unscheduled, to perform.
 - D) Both groups consist of team efforts resulting in a loser and a winner.
3. During field training, it is a good time to:
- A) Lose weight.
 - B) Ignore nutrition needs, since the food isn't very good, and I've paid attention to nutrition when in garrison.
 - C) Continue to concentrate on performance nutrition, since I'm in a physically demanding situation.
4. The reason military rations make good performance meals is:
- A) They are made from vitamin and mineral enriched synthetic foods which are convenient to eat.
 - B) They are real, high-fat foods.
 - C) They are real, carbohydrate-containing foods, in convenient, easy to use packages.
 - D) They are synthetic, high-fat foods.
5. Water is your most critical performance nutrient, but now that you are in field training:
- A) You should continue to keep well hydrated and increase fluid intake.
 - B) You should reduce fluid intake to condition your body to go without fluid and eliminate frequent urination.
 - C) You should increase fluid intake but avoid cool fluids.
 - D) You should increase fluid intake and take salt tablets.
6. High carbohydrate foods should be:
- A) Eaten frequently, but the percentage reduced to condition the body to possible diet restrictions.
 - B) Eaten only while at rest; carbohydrates eaten while on maneuvers will be stored as fat and slow you down.
 - C) Reduced and proteins increased.
 - D) Eaten frequently.
7. Military personnel are at risk of becoming dehydrated.
- A) Frequently in hot climates, less frequently in cold climates and high altitudes.
 - B) Frequently in hot climates and high altitudes, less frequently in cold climates.
 - C) Frequently in hot climates, cold climates and high altitudes.
 - D) Frequently in high altitudes, less frequently in cold climates and hot climates.

ANSWERS TO MODULE 6 PRE-TEST

- C** 1. Comparing energy requirements during field training with that of competitive athletes:
- A) Field training burns just slightly less calories, because in spite of the intensity, field training does not occur throughout the whole year.
 - B) Both burn about the same amount of energy.
 - C) Field training probably burns more because of longer hours per day and the extra weight carried.
- A** 2. The comparison between military training and athletic training is a good one because:
- A) Both groups need training, conditioning and motivation to perform their best.
 - B) Both groups are made up of a greater percentage of men.
 - C) Both groups have events, scheduled and unscheduled, to perform.
 - D) Both groups consist of team efforts resulting in a loser and a winner.
- C** 3. During field training, it is a good time to:
- A) Lose weight.
 - B) Ignore nutrition needs, since the food isn't very good, and I've paid attention to nutrition when in garrison.
 - C) Continue to concentrate on performance nutrition, since I'm in a physically demanding situation.
- C** 4. The reason military rations make good performance meals is:
- A) They are made from vitamin and mineral enriched synthetic foods which are convenient to eat.
 - B) They are real, high-fat foods.
 - C) They are real, carbohydrate-containing foods, in convenient, easy to use packages.
 - D) They are synthetic, high-fat foods.
- A** 5. Water is your most critical performance nutrient, but now that you are in field training:
- A) You should continue to keep well hydrated and increase fluid intake.
 - B) You should reduce fluid intake to condition your body to go without fluid and eliminate frequent urination.
 - C) You should increase fluid intake but avoid cool fluids.
 - D) You should increase fluid intake and take salt tablets.
- D** 6. High carbohydrate foods should be:
- A) Eaten frequently, but the percentage reduced to condition the body to possible diet restrictions.
 - B) Eaten only while at rest; carbohydrates eaten while on maneuvers will be stored as fat and slow you down.
 - C) Reduced and proteins increased.
 - D) Eaten frequently.
- C** 7. Military personnel are at risk of becoming dehydrated.
- A) Frequently in hot climates, less frequently in cold climates and high altitudes.
 - B) Frequently in hot climates and high altitudes, less frequently in cold climates.
 - C) Frequently in hot climates, cold climates and high altitudes.
 - D) Frequently in high altitudes, less frequently in cold climates and hot climates.