

BASICS OF NUTRITION PHYSIOLOGY

TASK 1:

TRUE OR FALSE?

1. Serving size and portion size are the same thing.
2. Good sources of complex carbohydrates include fruits, vegetables, whole grains and legumes.
3. A package labeled “reduced calorie” means that it’s low in calories.
4. Fruits and vegetables are the best sources of iron.
5. Foods no longer contain trans fats.
6. Vitamin D comes from bananas and other tropical fruit.
7. RDA means required dietary amount.
8. Avoid shrimp if you are on a low cholesterol diet.
9. Nuts lower cholesterol.
10. The recommended serving size for chicken, fish or meat is about the size of a deck of playing cards.

TASK 2: Reading

FOOD AS ENERGY

Before you read: Vocabulary

- endurance - the act, quality, or power of resisting hardship or stress
- malnutrition - poor nutrition because of an insufficient or poorly balanced diet or faulty digestion or utilization of foods.
- vigorous - marked by or done with force and energy
- expenditures – amounts used

All physical activity requires energy, and that energy is provided by the food we eat.

All foods are composed of three nutritional building blocks - carbohydrates, fats, and protein - plus water and fiber (indigestible and without any food value). Carbohydrates contain 4.1 calories per gram and are the primary energy source for most cyclists as well as athletes involved in short, maximum performance events. Fats are more important as an energy source for slower, endurance

events. Protein, is used in maintaining and repairing cells, and is rarely an energy source for physical activity except in certain unique situations (such as malnutrition).

Some foods contain more energy per ounce (or gram) than others. Not only does the fiber content (a filler with little or no Caloric value) of foods vary, the energy contained in equal weights of the pure basic building blocks - carbohydrate, fat, and protein - is not equivalent. In the nutritional literature, the energy content of any food is, by convention, expressed in Calories (note the capital "C") as opposed to the use of calories (small "c") or kilojoules (kj) in the scientific literature. The energy of one nutritional Calorie is equal to a kilocalorie (1000 calories - lower case "c") or 4.18 kilojoules.

Carbohydrates and protein each contain a little more than 4 Calories of energy per gram while a gram of fat has more than double the energy value at 9 Calories per gram.

Carbohydrate calories supply the majority of the energy for muscles during vigorous activity. Fats are important for less strenuous, endurance type activities. Proteins are, in general, not an energy source for muscle activity.

Carbohydrate is provided to the muscle cell from 1) food you are eating or 2) stored carbohydrate in the form of glycogen in muscle and liver cells. Thus, using carbohydrate supplements for events expected to last more than 2 hours is a smart strategy to maximize your performance. It is best to begin these carbohydrates at the start of the event as they are much less effective when one is trying to catch up after the bonk has occurred.

Fats provide over 50% of the Calories expended during moderate exercise (less than 50% VO₂ max.) even when adequate carbohydrates (glycogen) are available. As the level of exercise increases towards 100% VO₂ max., the proportion of the total energy expenditures covered by fat metabolism decreases. And in maximum performance events, where metabolism becomes anaerobic (greater than 100% VO₂ max.), fat metabolism ceases and only carbohydrates are useful to the muscle cell as an energy source.

Protein the third building block of food, is a maintenance material used to repair muscle (and other) cell injuries - including the microtrauma that occurs with exercise.

<http://www.cptips.com/nutrtn.htm>

After you read:

Name the three building blocks of food and their functions.

Which building block

- is used to repair muscle
- is helpful during moderate exercise
- supplies energy during vigorous activity

TASK 3: Video

Video: <http://www.youtube.com/watch?v=TjVyd7XhqNw&feature=related>

Watch the interview with a surfing champion, Kelly Slater and answer the following question.

Which are the key products for the nutrition of a sportsman? What is the most important issue for any athlete?

What phenomenon is called an “epidemic” in the USA? What are the factors which contribute to it?

TASK 4: Food - vocabulary

Match words from the box with the words below to create meaningful phrases.

diet	fruit	eating	meal	salad	food	meat	weight
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lose / reduce/ put on / gain _____

a balanced / a healthy / an adequate/ a special / a poor/ a slimming/ a weight-loss _____

healthy / nutritious / organic / fresh / junk / fast/ convenience / GM _____

a light / a heavy / a big / a nourishing / a lovely / our main _____

ripe / tropical / rotten / tinned _____

white / red/ lean / fatty / raw / bad / frozen _____

a potato / a green / a fruit / a side _____

comfort / binge / _____ / disorder

TASK 5: Reading and speaking - OBESITY

Reading - Fill in the gaps:

Overweight and obesity are defined as abnormal or excessive fat accumulation that presents a risk to health. A crude population measure of obesity is the body mass. A person with a BMI of ____ or more is generally considered obese. A person with a BMI equal to or more than ____ is considered overweight.

Overweight and obesity are major risk factors for a number of chronic diseases, including _____, cardiovascular diseases and cancer. Once considered a problem only in high income countries, overweight and obesity are now dramatically on the rise in low- and middle-income countries, particularly in urban settings.

Discuss:

What causes obesity and overweight?

Explain the role of these factors:

increasing urbanization, marketing, education, nature of many forms of work, new modes of transportation, food processing, poverty...

HEALTHY AT EVERY SIZE – NEW HOPE FOR OBESE PEOPLE?

Complete the text with suitable words from the list:

become gain hunger improvements lasting weight cycle

The “Every Size” strategy, a health-centered rather than _____-centered program, may help chronic dieters reshape their thinking, shed unhealthy habits, adopt new patterns of eating, _____ more physically active, and increase their self-esteem.

“Chronic dieters are those who either have failed at a sequence of diets, or, after successfully losing weight, _____ back the pounds and start the dieting _____ all over again,” explains physiologist Marta D. Van Loan. “For obese folks who can’t find a healthful weight-loss regimen that gives them _____ results, this alternative to conventional dieting may offer greater and more sustainable _____ to several key indicators of their health.”

Every Size clients learn how to build their self-esteem; recognize and follow the body’s natural, internal cues to _____ and satiety (a feeling of fullness); make healthy choices at mealtimes and in between; and enjoy some form of physical activity—an approach that’s different from exercising mainly to lose weight.

Question: Do you think this strategy will have better results than traditional weight-loss programmes?

TASK 6: Key recommendations

(Guidelines on the Identification, Evaluation and Treatment of Overweight and Obesity in Adults)

Finish the sentences:

1. Use the BMI to assess...
2. The waist circumference should be used to...
3. The initial goal of weight-loss therapy should be to reduce body weight by about...
4. Physical activity should be part of a comprehensive weight loss therapy and weight control program because it...
5. Weight loss should be about ... per week for a period of ...
6. Weight-loss and weight-maintenance therapy should employ the combination of...
7. After successful weight loss, the likelihood of weight-loss maintenance is enhanced by a program consisting of...