

RM 13–NU: Sport Nutrition Investigation: Myth or Fact?

NOTE TO TEACHER

Reword some of the Myth statements into Fact statements and remove the word *Myth* from each card, as students have to determine whether each statement is a myth or a fact.

Myth:

**Everyone needs to take vitamin pills.
It's OK to take vitamin supplements,
as they are natural substances.**

Fact: Vitamin and mineral supplementation is generally not required for individuals who are on a balanced eating plan, which means they are consuming the recommended number of servings from each of the four food groups, as outlined in *Eating Well with Canada's Food Guide* (Health Canada). Individuals who think they may need to take supplements should do so under the direction of a medical doctor, registered dietician, or nutritionist. Consumers also need to know and understand that not all natural substances are safe and/or legal (e.g., marijuana).

Reference

Health Canada. *Eating Well with Canada's Food Guide*. Ottawa, ON: Health Canada, 2007. Available online at <www.hc-sc.gc.ca/fn-an/food-guide-aliment/index_e.html>.

Myth:

**As long as I eat, it doesn't matter
when I eat.**

Fact: Proper post-exercise nutrition allows muscles to recover more quickly and allows the participant to be ready to exercise/perform again within hours. During exercise, the glycogen stored in muscles is depleted. The amount of depletion will depend on factors such as the amount of glycogen available and the intensity and duration of the exercise.

The critical time following exercise is the first 30 minutes to two hours. During this time, physical activity participants need to

- consume foods with a high-glycemic index (simple carbohydrates), as the muscles are in a state when they will more readily absorb these nutrients
- consume proteins and fats

In addition to ensuring proper food intake, rehydration or drinking of fluids is also critical during post-exercise recovery. Participants who do not have “an appetite” immediately following exercise could consider drinking chocolate milk or sports drinks.

Continued

RM 13–NU: Sport Nutrition Investigation: Myth or Fact? *(Continued)*

<p>Myth:</p> <p>Drink eight glasses of water per day.</p>	<p>Fact: While the notion of needing to drink eight glasses of water per day is a myth, the need for proper and adequate hydration is a fact. During the course of a normal day, the body loses fluid through sweating, breathing, urinating, and environmental factors (e.g., air temperature, humidity). This fluid must be replaced.</p> <p>Maintaining proper fluid levels helps the body to</p> <ul style="list-style-type: none">▪ transport nutrients and eliminate waste▪ lubricate joints and tissues▪ facilitate digestion▪ regulate core temperature through sweating <p>Individuals can replenish their fluid loss by rehydrating with drinking water, sports drinks, soups, teas, milk, juice, or coffee, or eating watery fruit and vegetables. The amount of fluid that needs to be replaced will depend on how much fluid was lost.</p>
---	---

<p>Myth:</p> <p>Drinking water during exercise causes stomach upset and slows performance.</p>	<p>Fact: Consuming water or other fluids is essential while exercising, as increased activity rates will increase the rate of fluid loss through sweating and increased respiration rates. While exercising, it is better to consume small amounts of water or sports drinks frequently than to gulp large volumes infrequently or not drinking at all.</p> <p>Dehydration can have a significant impact on performance. Excessive dehydration may cause an uncontrollable increase in core body temperature, which may lead to heat exhaustion or heat stroke.</p>
--	--

Continued

RM 13–NU: Sport Nutrition Investigation: Myth or Fact? *(Continued)*

<p>Myth:</p> <p>Meal-replacement options (e.g., protein shakes, power bars) are not as good as a home-cooked meal.</p>	<p>Fact: Meal-replacement options are never as nutritious as home-cooked meals that are part of a balanced eating plan. However, meal-replacement options, such as protein shakes, power bars, and so on, can be convenient for on-the-go situations, and are safer than perishables if food cannot be kept at a safe temperature.</p>
--	---

<p>Myth:</p> <p>I don't like eating meat and am fine just taking an iron supplement.</p>	<p>Fact: Supplementation cannot and should not replace a balanced eating plan. If a medical doctor, registered dietician, or nutritionist determines that there is a vitamin/mineral deficiency that cannot be corrected within an individual's balanced eating plan, then supplementation may be appropriate. It is generally understood that iron supplements from plant sources need to be taken with vitamin C for effective absorption.</p>
--	---

Continued

RM 13–NU: Sport Nutrition Investigation: Myth or Fact? *(Continued)*

Myth:

It doesn't really matter what you eat during physical training and competition.

Fact: If you want to introduce new foods or drinks as part of your physical activity/sport nutrition plan, try them out during a training session first to know how the body will respond.

During physical activity, carbohydrates and fluid are essential to success. Participants also need to match their food intake to their energy expenditure in order to maintain a healthy body weight.

Myth:

Energy drinks are harmful to your health and detrimental to your performance.

Fact: Energy drinks are not necessarily bad. A major ingredient in energy drinks is caffeine, which has both pros and cons, although the cons outweigh the pros.

- *Pro:* Because caffeine is a stimulant, it can result in short-term mental alertness.
- *Cons:* For some people, caffeine can lead to increased heart rate, higher pulse rate, increased sweating, and dehydration. All these factors are performance degrading. Other known side effects of caffeine consumption that may affect performance are disrupted sleep patterns, nausea/vomiting, diarrhea, and irritability.

Energy drinks are also of concern due to other products in them. Some energy drinks are artificially sweetened, and therefore do not contain much sugar. The added vitamins, minerals, and herbal products are of most concern. While these may be "natural," they may not be appropriate for participants.

If you have to depend on an energy drink for a quick rush, perhaps you need to ask:

- Are you over-training?
- Are you eating enough at the right times?
- Are you getting enough rest?

Continued

RM 13–NU: Sport Nutrition Investigation: Myth or Fact? (*Continued*)

Myth:

The ideal ratio of nutrients is 40% complex carbohydrates (CHOs), 30% protein, and 30% fat.

Fact: For regular physical activity and sport participation that adheres to *Canada's Physical Activity Guide* (Public Health Agency of Canada), participants would need a higher percentage of nutrients from carbohydrates, as they are the primary source of energy. Some participants may need up to 60% carbohydrate intake to meet their energy needs.

References

Public Health Agency of Canada. *Canada's Physical Activity Guide for Youth*. Ottawa, ON: Public Health Agency of Canada, 2002.

---. *Canada's Physical Activity Guide to Healthy Active Living*. Ottawa, ON: Public Health Agency of Canada, 2004.

These guides are available online at <www.phac-aspc.gc.ca/pau-uap/fitness/downloads.html>.

Myth:

Use of diet pills and laxatives is an effective way to lose weight.

Fact: Rapid weight loss can be detrimental to physical performance and, more importantly, to overall health. Rapid weight loss through the use of diet pills, laxatives, and saunas is a serious concern for weight-class sports, such as boxing, tae kwon do, body building, wrestling, ballet, and gymnastics. It is also a concern for females who have had negative comments made about their bodies, or who may feel they would be more athletic if they lost weight.

All individuals, including athletes, need to maintain a balanced eating plan. Participants in weight-class sports may have to compete in a higher weight class to avoid subjecting themselves to rapid weight loss.

Continued

RM 13–NU: Sport Nutrition Investigation: Myth or Fact? *(Continued)*

<p>Myth:</p> <p>The more protein and protein supplements you consume, the more muscle you will gain or maintain.</p>	<p>Fact: Muscles have a limited ability to absorb amino acids that are derived from protein. Once this limit has been reached, excess protein will be stored as body fat, as will all excess calories.</p>
--	---

<p>Myth:</p> <p>Muscle cramps are caused by inadequate salt intake.</p>	<p>Fact: Generally, muscle cramps are caused by an excess of fluid loss through sweating, not inadequate salt intake.</p> <p>While we need sodium to keep the body running normally (e.g., to maintain fluid balance, regulate nerve impulses and muscle function), too much sodium is associated with high blood pressure and increased risk of heart disease and stroke. High sodium intake also causes the body to lose calcium and can have an impact on bone health.</p> <p>Most sodium comes from processed/prepared food, not the salt shaker on the table. As little as 10% of our daily sodium intake comes from the salt shaker, while over 75% comes from the salt added to food during processing.</p>
---	---

Continued

RM 13–NU: Sport Nutrition Investigation: Myth or Fact? *(Continued)*

<p>Myth:</p> <p>Special supplements, such as amino acids, bee pollen, ginseng, and brewer’s yeast, improve athletic performance.</p>	<p>Fact: Taking special supplements, such as amino acids, bee pollen, ginseng, and brewer’s yeast, cannot replace a balanced eating program. There is no evidence to indicate that ingesting any of these substances will improve athletic performance. Furthermore, taking any of these special supplements can be quite expensive.</p>
--	---

<p>Myth:</p> <p>Skipping breakfast before a morning workout will help you burn more fat.</p>	<p>Fact: To get the most out of a morning workout, you need to eat a proper pre-exercise meal at the proper time so that your body can digest the food and your muscles can absorb the nutrients. In the case of a pre-breakfast morning workout, you may not have eaten in 8 to 12 hours. By not eating prior to a workout, your muscles will deplete their energy stores more quickly, thereby leaving you without the energy you need to finish your workout, or your intensity will drop to a level below your expectations/goals. Furthermore, once you do eat, you may over-consume due to feeling hungry.</p>
--	---

Continued

RM 13–NU: Sport Nutrition Investigation: Myth or Fact? *(Continued)*

Myth:

Carbo-loading (also known as the “pasta feed”) the night before a big race is effective.

Fact: Carbohydrates are converted to and stored in muscles as glycogen. While consuming carbohydrates the night before a long run is helpful, there is a limit to how much glycogen can be stored within muscles. It is more helpful to carbo-load in the days before an endurance activity.

Myth:

Caffeine causes dehydration during endurance sports and should be avoided.

Fact: For regular users, caffeine has actually been shown not to be a diuretic in most people. For infrequent users of caffeine, however, some of the known side-effects (e.g., nausea, diarrhea, frequent urination) lead to excess fluid loss before the endurance event or performance even begins.

Continued

RM 13–NU: Sport Nutrition Investigation: Myth or Fact? *(Continued)*

<p>Myth:</p> <p>Ingesting sugar, honey, soft drinks, or any other sweets will provide the required energy just before athletic competition.</p>	<p>Fact: These sweet foods will provide quick, short-term energy, as they are easily absorbed for use by the muscles. Depending on the length of the physical activity, however, these quick sources of energy may not provide enough energy for continued/sustained participation. It would be best to consume complex carbohydrates, some protein, and a little fat a few hours before physical activity participation, and simple carbohydrates just before participation.</p>
---	--

<p>Myth:</p> <p>Vitamins and minerals give athletes extra energy.</p>	<p>Fact: By themselves, vitamins and minerals are not an energy supply. What minerals and vitamins do is help release the chemical energy found in food that is ingested as part of a balanced eating plan.</p>
---	--

Continued

RM 13–NU: Sport Nutrition Investigation: Myth or Fact? (*Continued*)

Myth:

It doesn't matter what you drink during activity as long as you are consuming fluids.

Fact: Water is the best method for fluid replacement during activity. When exercising in hot temperatures, however, participants need to be aware of excessive sweating. Also, water may not be sufficient in situations where participants are not able to eat during training/competition lasting longer (in general) than 90 minutes. In these situations, sports drinks can be useful. Avoid fluids with high caffeine levels or alcohol, as these may act as diuretics or depressants.

Myth:

Energy drinks and sports drinks are the same.

Fact: Energy drinks and sports drinks are very different.

- *Energy drinks* are carbonated, which affects fluid absorption. They also have high levels of caffeine.
- *Sports drinks* are scientifically developed to assist physical activity participants/athletes with fluid and electrolyte replacement.

Continued

RM 13–NU: Sport Nutrition Investigation: Myth or Fact? *(Continued)*

<p>Myth:</p> <p>Sports drink consumption during exercise contributes to weight gain.</p>	<p>Fact: Regardless of the source of the calories, if energy input is greater than energy output, there will be weight gain.</p>
--	---

<p>Myth:</p> <p>Sports drinks are high in sugar and calories.</p>	<p>Fact: By comparing the sugar and calories of sports drinks and fruit juice or regular pop (e.g., using the Nutrition Facts labels), you would find that sports drinks have approximately half the sugar and calories of the other drinks.</p>
---	---

Continued

RM 13–NU: Sport Nutrition Investigation: Myth or Fact? *(Continued)*

<p>Myth:</p> <p>Sports drinks are meant only for events lasting more than 60 minutes.</p>	<p>Fact: Some athletes are very heavy sweaters and lose fluid and electrolytes at a higher rate than others. In these situations, sports drinks can be helpful even if the activity is 60 minutes or less in duration.</p>
---	---

<p>Myth:</p> <p>Sports drinks have too much salt.</p>	<p>Fact: Sports drinks have sodium levels similar to those of everyday foods such as milk, bread, and some breakfast cereals. Sodium plays an important role in fluid absorption. Consuming foods with sodium during a physical activity is not always possible or practical; therefore, consuming sports drinks provides a suitable alternative.</p>
---	--

Continued

RM 13–NU: Sport Nutrition Investigation: Myth or Fact? *(Continued)*

Myth:

Only strength athletes need to worry about eating enough protein.

Fact: Athletes need consistent, quality training, a balanced eating plan, and adequate rest. By missing one of these three, they won't be the best they can be, regardless of the type of physical activity participants or athletes they are (e.g., strength, power, endurance).

Myth:

There's only one "right way" to fuel the body for maximum performance.

Fact: No single sport nutrition plan will work for everyone. All individuals are unique with respect to how their bodies respond to certain food intake and exercise.

Continued

