EATING TO IMPROVE BODY COMPOSITION

There is a limit to the number of calories the body can properly process at one time. So, while meals are important in providing the fuel (carbohydrate and protein) you need to satisfy your muscle and nervous system needs, very large meals often result in too many calories being converted to fat instead of stored as “glycogen.” Not only do skaters need a consistent supply of glycogen to support their on-and off-ice training, excess fat retained as a result of frequent large meals can negatively impact body composition.

You can store more fuel more properly by eating smaller meals more frequently:

- The largest meal you should eat at any time should not exceed the size of your “gas tank”, which is between 600 to 800 calories depending on your body size.
- To adjust meal size, try eating half of your regular meal at mealtime and the other half 3 hours later.
- During physical activity, you can sustain or even improve your muscle mass by sipping on a carbohydrate containing sports beverage every 10 to 15 minutes. You don’t need much, but even a sip or two at fixed time intervals will help keep your brain in the game and help to avoid the breakdown of muscle.

NOT EATING ENOUGH AT THE RIGHT TIMES?

When exercise occurs regularly without sufficient energy intake to support both it and the recovery process, the body adapts by lowering metabolic rate and efficiency (i.e. storage processes). When normal energy intake resumes, weight gain or an increase in body fat often results, and the skater reduces energy intake even more in an attempt to maintain desired weight and body composition. As this cycle continues, metabolic rate and efficiency decline, making both healthy body weight and composition difficult to maintain. Frequent energy (calorie) inadequacies can create chronic “control” weight problems. Eventually, even disordered eating can ensue.

Inadequate Energy Intake Can Result In:

- Loss of metabolic (muscle) mass.
- Lower metabolic rate (lower ability to ‘burn’ calories).
- Poor performance (less muscle with which to do needed power skills).
- Lower endurance (it take energy to fuel muscles to do the needed work).
- Poor recovery (muscles take longer to return to a ‘working’ state).
- Higher injury risk (the central nervous system needs energy too, and if your brain is not well fueled it can’t control your muscles well).

The bottom line is that eating smaller meals more frequently each day can help athletes sustain muscle while reducing body fat and help skaters achieve the healthiest balance between body weight and body composition and support performance.

Use the Weight and Composition Buddy System

Taking weight as a measure of whether your body is changing in the right way can be misleading. Measuring body weight does not help you understand if you are changing the right body tissues. Imagine working hard to increase your muscle mass and, in the process, you lose some fat mass. The all important ‘strength-to-weight ratio will improve, and you’ll have a smaller body profile so you can perform better. If all you measure is your weight, then it will appear as if the training program is making your weight go up, causing you to lower your caloric intake. To help you understand if your body is changing in the right way (more muscle and less fat), always use the same body weight and body composition measurement equipment and measure only often enough to assess whether changes are consistent with what your training program intended. Remember: Having adequate muscle mass makes it easier to train and to eat without gaining body fat.

©2009 U.S. Figure Skating
Matching Nutrition Strategy With Training Strategy: 
A Formula For Success!

Figure skating requires a great deal of power and skill, and enough endurance to finish strong in a long program. The intensity of today's training and competition requires a nutrition strategy that can optimize muscular and central nervous system fuel to assure that skaters can perform at their conditioned best. The right nutrition plan can help you achieve your competitive goals.

Most skaters know exactly when they need to be at the rink to work with their coach and practice their skills and programs, but few have the same level of planning when it comes to knowing exactly what to eat and drink and when.

Strategically matching when, what, and how much you eat and drink with your on- and off-ice training schedule can help bring competitive success by:

- Assuring optimal mental acuity during training.
- Improving availability of energy nutrients to hard working muscles.
- Sustaining blood volume to maintain sweat rates, nutrient delivery, and metabolic by-product removal from working muscles.
- Improving vitamin and mineral availability to maintain resistance to disease and sustain energy metabolism.
- Reducing muscle soreness and injuries to help you train more effectively.

This series of nutrition handouts is designed to help skaters understand what it takes to match their nutrition habits with their training schedules and ultimately achieve competitive success.


For sample diets that incorporate a typical training-day schedule, try:
[http://www.foodandsport.com/Figure_skater_2500_final.pdf](http://www.foodandsport.com/Figure_skater_2500_final.pdf) (for smaller skaters)
[http://www.foodandsport.com/Figure_skater_3500.pdf](http://www.foodandsport.com/Figure_skater_3500.pdf) (for bigger skaters)

Substitute food lists for these diet plans can be found on the following URL:

This handout is sponsored by the U.S. Figure Skating Sports Sciences & Medicine Committee and was made possible with the expertise and assistance of Dan Benardot, PhD, DHC, RD, LD, FACSM and Lisa Sheehan-Smith, EdD, RD, LDN.

Additional resources used for this publication:


U.S. Figure Skating is the official governing body for the sport of figure skating in the United States, recognized as such by both the United States Olympic Committee (USOC) and the International Skating Union (ISU). As the governing body, U.S. Figure Skating's mission is to provide programs to encourage participation and achievement in the sport of figure skating.