

NUTRITION OVERVIEW:

Exercise requires energy, so it's important for you to have a basic understanding how the three main food nutrients help you to perform exercise at both low and high intensities. Without this basic knowledge, your performance may suffer.

Carbohydrates

We all know the importance of carbohydrates (CHOs). They act as the primary fuel source during high-intensity exercise, supply glucose for the production of glycogen, and help prevent fatigue. You need between 60-70% of your calories from CHOs. The best sources of CHOs are nutrient dense foods such as whole grains, rice, potatoes, oats, corn, fruits, and vegetables. By eating enough of these foods, you will be providing your body with plenty of fuel. Think of your body like an Indy car engine... if it's not fueled completely with the high octane fuel (complex carbohydrates), it's not going to perform at it's peak!

Protein

Besides providing amino acids and nitrogen for the synthesis of various cells, tissues, and structures of the body, protein also helps support immune function. You **DO NOT** need extra or large amounts of protein! A meal plan based on 15-22% of total calories from protein is recommended. It is important to note the risks of excess protein, such as a 30% protein diet. Not only is the breakdown of all that protein a huge strain on the kidneys and liver, especially if adequate fluids are not consumed, but there is also a risk of developing kidney stones or gout. The source of your protein is also a crucial factor. It's best to get your protein from foods that have all the essential amino acids. These foods include beef, fish, chicken, turkey, milk, eggs, and cheese. These sources are high biological value, meaning our bodies absorb these proteins more efficiently.

Fat

Fat is an essential nutrient for every cell in our body. We must have it in order to survive. Fat is also a significant fuel during endurance exercise, but is not readily converted and utilized for fuel during sprint type sports like hockey. There are two types of fat, saturated and unsaturated. Saturated fat is found in foods derived from animal sources and has been found to be more of a culprit in increasing blood cholesterol than consuming cholesterol itself. The unsaturated fats also have two categories: polyunsaturated and monounsaturated. Lean towards the monounsaturated fats, such as olive and canola oils and avocado. Next best choices are the polyunsaturated fats, such as soybean, safflower, corn, and sesame seed oil. Most saturated fats are easy to spot... they're the ones that are solid at room temperature. The exceptions are the saturated fats from tropical oils (palm and coconut), and hydrogenated fats. Your daily meal plan should be between 20-25% of calories from fat.

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SPORTS NUTRITION

Pre-Exercise/Game Meal

Your performance may suffer if you don't eat before your practices or games. If you avoid eating a pre-exercise or game meal, your liver glycogen stores (main source stored energy) can be decreased by as much as 80% depending on whether you practice/play in the morning or later in the day.

During exercise athletes primarily rely on pre-existing energy stores. If your pre-event meal is eaten at the proper time then your energy stores will be full and this will optimize performance. Pre-event snacks within 1 hour of game or practice will be beneficial when you play longer than 60 minutes.

Here are some guidelines for when to fuel prior to your event:

Hours before event	Meal type	Calories
3-5 hours	large meal	300-500
2-3 hours	small meal	200-300
1-2 hours	liquid meal	100-200
0.5-1 hour	snack	50-100

Some sample snacks are listed below.

Snacks
Bagel
Banana
Energy Bars
Dried Fruit
Fig Newton's
Fruit
Graham Crackers
Raisins
Wheat bread
Yogurt
Dry ready-to-eat cereal

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Sample Pre Game Meals/Snacks

1 Hour Before Competition (choose one)

pretzels
bagel
whole wheat toast with butter or margarine
energy bar

2 Hours Before Competition

dry cereal with fruit
whole wheat sandwich with lean meat
bagel with small amount of peanut butter or cream cheese
baked potato with small amount of butter and cheese

Mini Meal more than 3 Hours Before Competition

(This should settle hunger, aid in game concentration and provide immediate energy)
1 1/2 cups pasta with tomato sauce, vegetable and fresh fruit
1 whole sandwich with lean protein source, a piece of fruit, lowfat yogurt
3-4 ounces baked chicken or fish, 1 cup rice, fresh fruit

Sample Practice Day Menu Plan

(Approximately 3,500 calories; 60% carbs; 20% protein; 20% fat)

Breakfast:

- 2 cups cereal
- 1 banana
- 2 slices wheat toast
- 2 tsp. butter on toast
- 1 cup 2% lowfat milk
- 1 cup orange juice

Morning Snack 30-60 minutes before practice:

- 1 PowerBar (3 starch and 1 protein exchanges)
- 1 bagel

Within 20 minutes after finishing practice:

- 12 oz. Gatorload

Lunch:

- 3 oz. Chicken, fish or lean meat
- 1.5 cups mashed potatoes prepared with butter and milk
- .5 cup cooked vegetable (ex. Broccoli)

Afternoon Snack:

- 2 slices wheat bread
- 3 oz. Turkey, ham or other lean deli meat
- mustard
- lettuce, tomato and any other veggies

Dinner:

- 2 cups pasta
- .5 cup pasta sauce with meat
- .5 cup cooked vegetables
- 1 cup green salad with 2 tablespoons dressing
- .5 cup sorbet

Evening Snack:

- 1 cup lowfat yogurt

Sample Game Day Menu Plan
(Approximately 3,500 calories; 60% carbs; 20% protein; 20% fat)

Breakfast: 60 minutes before morning pre-game skate

- 2 cups cereal
- 1 banana
- 1 cup 2% lowfat milk
- 1 cup orange juice

Snack: immediately after morning skate

- Energy bar
- 32 oz. Gatorade (throughout skate and after)

Lunch:

- 3 oz. Chicken, fish or lean meat
- 2 cups pasta
- .5 cups pasta sauce
- 1 cup salad with 2 tablespoons dressing

Afternoon Snack:

- 1 bagel
- 1 tbsp. Peanut butter

Before Warm up skate:

- PowerBar/energy bar

During game:

- 2 packets power gel
- 32+ oz. Gatorade and water throughout game

After game:

- 12 oz. Gatorload

Dinner:

- 8 oz. fish, lean beef or chicken
- 1.5 cups rice
- .5 cup cooked vegetables
- 1 cup cut fruit or whole fruit

These are just sample menus... please contact me if you want customized menus based on your calorie needs: Lachael Prouty, MPH, RD – 619.252.1575.

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Visual Portion Sizes

Visualize reasonable portions. Become familiar with how much is enough. Make associations with common objects to help you remember how much of a particular food to eat. Take a look at these common references for various portion sizes.

What is a recommended portion?	What does it look like?
3 to 4 ounce serving of meat or fish	A deck of cards or a computer mouse
1 cup of cooked vegetables	A baseball, or fist
1 medium fruit (apple, orange)	A tennis ball
1 ounce of bread	A sandwich-size slice
1 ounce of cheese	A wine cork
1 serving of butter or oil	Your thumbnail
1 teaspoon of butter	Two-thirds of a standard pat

Keep in mind a serving of steak in a restaurant can range from 8-20 ounces... that can be up to 3 times the amount you need and can add an extra 90 grams of fat to your meal.

Remember: Lower fat and protein, higher carbs - this will help fuel your body for peak performance!

Fluids

Water is essential for many functions in the body. Water plays an important role in athletic performance by maintaining blood volume, which is necessary for cardiovascular function and regulating body temperature. Although you may drink fluids on a regular basis during practice or games, one thing to always remember is that thirst is not a good indicator to prevent dehydration. By the time you "feel" thirsty, you are already about 1% dehydrated. Physical performance can be impaired with body water losses around 3-4%. Athletes can lose up to 3 Liters (6.6 lbs.) of water through sweat during one hour of exercise, so drinking fluids regularly and often is very important! See fact sheet on fluids or contact Lachael for more information.

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