Sports Nutrition For Figure Skaters

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Acrobat and Combat Portfolio

Why Nutrition?

- Nutrition is arguably the most overlooked aspect in training by athletes
- Work *with* your body instead of *against* it
- Food is fuel, use it to your advantage
- Serious athletes have nutrition plans!
Objectives

- The principles of everyday eating
- Nutrition throughout training year
  - Preparation phase
    - Weight Goals
  - Competition phase
    - Recovery, Hydration & Travel
  - Transition Phase
- Putting it Together

“Everyday” Nutrition

- What athletes eat and drink on a daily basis will affect:
  - Normal growth and development
  - Immune system
  - Quality of workouts
  - Recovery from workouts and competitions
    - Ability of tissue to adapt, grow, and repair
    - Ability to store and utilize energy stores within muscles (for endurance and power)
Growth and Development

Until athletes reach adult height, normal growth and development only occurs with adequate energy intake (calories.)

Adequate calories and micronutrients are needed for both performance and growth!
Growing Up

- Experience rapid, irregular physical growth
- Undergo bodily changes that may cause awkward, uncoordinated movements
- Tend to be self-conscious, lacking in self-esteem, and highly sensitive to personal criticism
- They may adopt poor health habits
- In their search for self, model behavior after older, esteemed athletes or non-parent adults

Genetics and individuality
Special Concerns for Figure Skaters

- **Calcium**
  - 9–18 years 1300 mg/day
  - 19–50 years 1000 mg/day
  - 51+ years 1200 mg/day

- **Vitamin D** (Indoor activity concern)
  - U.S. Dietary Reference: 200 IU/day

- **Iron**
  - The Dietary Reference for iron varies considerably based on age, gender, and source of dietary iron
  - (30% increase for menstruating women)

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Foods containing

<table>
<thead>
<tr>
<th>Foods</th>
<th>Heme Iron</th>
<th>Non-Heme Iron</th>
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- 250 mg calcium
- 290 mg calcium
- 125 mg calcium
- 160 mg calcium
- 300 mg calcium
- 20 IU Vit. D
- 360 IU Vit. D
- 250 IU Vit. D
- 200 IU Vit. D
Special Concerns for Figure Skaters

- Excessive training load or sudden increase in training load
- Type of Sport
- Late age for first period, or hard training started before first period
- Excessive training load or sudden increase in training load
- History of menstrual irregularities before taking up training
- Amenorrhea
- Body Fat below body’s natural or sudden loss of body fat
- Loss of body fat from important body sites (buttocks, thighs)
- Very restricted diet (low kcal, or poor vegetarian diet)
- Emotional Stress

Carbohydrates

- Primary energy source for high-intensity activity
- Nutrient-dense carbohydrates provide:
  - Vitamins & minerals
  - Antioxidants & phytochemicals
    - Contribute to healthy immune system
  - Fiber
    - Helps control appetite
    - Helps stabilize insulin levels
    - Helps resist chronic diseases
Plentiful Carbohydrates

A variety of foods fall into the “carbohydrate rich” category:

- Pasta(s)
- Fruit
- Vegetables
- Bread, cereals etc

Nutritional Value of Carbohydrates

<table>
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<tr>
<th>Refined Carbohydrates</th>
<th>Wholesome Carbohydrates</th>
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<tbody>
<tr>
<td>- Sugar</td>
<td>- Fruit, canned fruit, dried fruit</td>
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<tr>
<td>- Honey, Jelly</td>
<td>- Canned Fruit</td>
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<tr>
<td>- Syrups,</td>
<td>- Milk, yogurt</td>
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<tr>
<td>- Soda drinks</td>
<td>- Smoothie</td>
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<td>- Sports drinks</td>
<td>- Boost</td>
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<tr>
<td>- Sweets, chocolates</td>
<td>- Low fat cakes, biscuits, desserts (scones, pancakes, special recipes)</td>
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<tr>
<td>- High-fat cakes, pastries, biscuits</td>
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<td>and desserts</td>
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<tr>
<td>- Pastry</td>
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<td>- Chips</td>
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- Breads, some muffins, bagels
- Pizza base
- Some breakfast cereals (oatmeal etc)
- Pasta and Noodles
- Legumes (lentils, baked beans)
- Starchy Vegetables
- Rice and other grains

Simple CHO
Complex CHO
Fat

- Dietary fats
  - Supplies energy to the body
  - Needed for structure of cells, hormone production, etc
  - Regulates metabolic processes
  - Transports fat-soluble vitamins A, D, E & K through the body
  - Contributes to healthy immune system

Food Fats

- **Saturated Fats**
  - Found in animal and some plant products
  - **Trans Fat**
    - Partially Hydrogenated;
    - Commercially made;
    - Act as saturated fat

- **Unsaturated Fats**
  - **Monounsaturated**
  - **Polyunsaturated**
    - **Omega-3**
      - Oily Fish
      - Flaxseed
      - Canola oil
      - Leafy greens
    - **Omega-6**
      - Corn
      - Safflower
      - Soybeans
      - Sunflower
      - Cottonseed

- Olive, Peanut oils, many nuts, avocado
Protein

- Provides building blocks for muscle
  - Growth
  - Maintenance
  - Repair

- Contributes to healthy immune system

- May help with appetite control

Protein choices

Choose more of proteins high in omega-3 & monounsaturated fats
- Fish & Seafood
- Lean meats
- Legumes/Beans
- Low-fat Dairy
- Tofu
- Nuts

Choose less of proteins high in saturated & trans fats
- Processed and fatty meats
- Low-fat Dairy
- Tofu
- Nuts
Timing of Meals?

Hints for Meal Timing

- Spreading same food intake out over 5-6 meals and snacks rather than 3 large meals
  - More even blood glucose levels
  - Lower blood fat levels
  - Stimulation of metabolic rate
  - Reduces “hunger spots” when on a lower energy diet
Nutrition Throughout Training Year

Pre-Season / Preparation Phase

- If weight loss is desired…..
  - This is the ideal time in the training year where significant weight loss won’t affect performance!

- Increased Volume, Decreased Intensity makes Prep (Base) Phase ideal for weight loss
  - Decreased intensity workouts won’t suffer as much from calorie deficit
Competition Nutrition

Areas to focus on:
- Recovery Nutrition
- Hydration
- Travel

Recovery Nutrition

- Immediately (within 30-60 minutes) after workouts
  - Especially when doing >1 workout per day
- Conditions within the body post-workout are optimal for recover if the proper nutrients are provided
- Consuming carbohydrate & protein right after workout / event will:
  - Restore fuel in muscle (glycogen)
  - Increase synthesis of muscle protein
Recovery Foods

- **Quick, Low-fat and Nutritious**
  - Liquid Meal Supplement (Boost, Mix 1, Carnation Instant Breakfast, low-fat chocolate milk)
  - Homemade fruit smoothie (add a scoop of protein)
  - Vegetable Soup with a roll
  - Lean meat sandwich
  - Low fat yogurt with granola
  - Fruit salad with yogurt
  - Peanut butter and jelly sandwich
  - Bowl of cereal with low-fat milk
  - Apple and string cheese

Hydration Status

- Fluid intake throughout the day
- Physical activity
  - Intensity & duration
  - Environmental Factors
    - Heat
    - Cold
    - Altitude
    - Humidity
Keeping Up with Hydration Status

- Monitor urine color (should be a light straw color)
- Focus on fluids all day
  - Especially during workouts and practice
  - Plan ahead for airline travel!
  - Consume at least 8-16 oz fluid per hour of airline travel

What to Drink?

- Fitness Water
- Energy Drinks
- Sport Drinks
Teaching proper fueling to athletes will provide them with a performance edge over their competitors.

Don’t Miss Out!!!