

## Sports Nutrition: Fueling Top Performance



Jennifer Podovennikoff  
BSc, RD, IOC Dip. Sports Nutr. (yr.1)



### ■ 5 Nutrition Areas to Consider with your athletes:

- A. Nutrition Foundations
- B. Daily Training and Recovery
- C. Competition Nutrition/Traveling on the Road
- D. Body Composition Changes of Individuals
- E. Supplements

### A. Nutrition Foundations

- What is the current nutrition condition of your athletes?
- Take the assessment questionnaire
  - \* developed by SportMedBC Total Sport Nutrition Program – Jennifer Gibson RD/Sport Dietitian
  - Are there specific areas that keep coming up with your athletes?

### B. Fueling Training

- How do we get athletes to understand about the importance of how they fuel and hydrate before, during and after training?
- Why is this so important?



### High Volume Training

- Depletion of muscle glycogen
- Micro tearing of muscle tissue
- Sweating out body fluids and electrolytes
- Increased metabolic stress and free radical production

### Nutrition for daily training

- Promote training adaptations
- Proper repair of muscle tissue
- Restore muscle glycogen
- Protect your immune system
- Hydration of body and tissues
- Maintain a healthy body for the entire season

## Pre-training Nutrition/Hydration

- About 0.8-1.0g/kg carbs, 10-20g protein
- High carbohydrate (fruit, starch and milk), moderate protein (lean meat, milk), low fat foods
- 500ml – 1L of fluids 2-3 hours before, which allows time to void prior to training

1.5-3 hours before to top up glycogen stores for energy + amino acids for muscle repair

## During Training Hydration

- A few factors to consider:
  - Type of exercise (Intensity? Duration?)
  - Environment (indoor vs. outdoor)
  - Individual sweat rates
  - Pre-hydration state (time of day)
- General guidelines:
  - 3-4 gulps of fluid every 15-20 minutes
  - Add electrolytes if needed

## Post Training Nutrition

- Recovery drinking and eating starts at the gym or on the car ride home
- 1g/kg carbs + 10-20g protein + fluids
- Approx 1-3L fluid over the next few hours
- Sport drink can help replenish both carbs and fluids + some electrolytes
- Nausea? No appetite?
- Athlete can take liquid calories over solid (meal replacement shake/smoothie with carbs, protein + fluids)

## Making it Happen

- Setting up a nutrition and hydration station in the change room
- Making rules for the athletes about pre/post fueling and recovery – set up some basic guidelines

## Real Food Examples

- Training Foods that Work
  - Dried cereals, low fat granola bars, fig newtons, low fat oatmeal cookies, graham crackers
  - Sandwich on whole wheat bread with peanut butter/jam, or turkey, or tuna
  - Fruit like bananas, orange, apples, dried fruit, fruit juice, fruit bars
  - Sports bars – Clif, PowerBar, Eleva8Me!
  - Chocolate milk, milk or yogurt

## Making it Happen

- Hydration testing – how do you know if you've had enough fluids to drink to maintain adequate hydration?
  - Pre and post sport weights – avoid more than 2% body weight loss

## C. Competition + Traveling

- Common nutrition issues:
  - Food borne illness
  - Getting sick
  - Dehydration due to air travel, climate changes
  - Lose control of where you are eating
  - Poor nutrition planning = under-fueled athletes!

## Making it Happen

- Team food bag
- Where will you be staying and how will you be fed?
- Ask for menus from hotels/restaurants
- Set guidelines for athletes and team meals
- Access to grocery store? Set a team shopping trip as soon as you arrive
- Logistic details that may impact nutrition

## Making it Happen

- Athletes travel checklist
  - Meal replacement bars/powders
  - Granola bars (Nature Valley, Kashi)
  - Fruit bars
  - Cereal (All Bran Buds, Nature Valley, High Fibre Crisp, Vector)
  - Trail mix
  - Peanut butter, Nutella
  - Sport Drink Powder
  - Constipation solution (Prunes, Benefibre, All Bran Buds)
  - Multivitamins and vitamin C tablets (500mg tablets)
  - Hand sanitizer
  - Water bottle (refillable)

## Travel Days

- Set your watch to the new time zone and start eating according to that time line
- Wash your hands – a lot!
- Drink 1 cup of fluid per hour of travel
- If an endurance sport, start small carb load – add 1 extra high carb choice per meal
  - 1 fruit leather bar                   - meal replacement bar
  - 1 cup of jelly candy                 - 2-4 oatmeal cookies
  - 1 cup of extra juice                 - dried fruit

## D. Body Composition

- Weight management considerations
  - Rationale for weight change? Realistic goals are essential.
  - When is the best time for success?
  - Athlete sensitivity and motivation – delivery of the message
  - Have objective measures to track
  - Engage the services of a qualified professional – a registered dietitian

## Weight Loss Management

- High pressure situation
- Realistic goals + realistic timeline
- Decrease energy intake 10-20% of normal intake
- Decrease fat intake but not below 15%
- Balance meals at regular times
- Journaling helps

## Weight Gain Management

- Bigger is not always better
- To add 1 lb of muscle in a week:
  - Body needs 10-14 g of additional protein per day
  - Body can only add 2 lb of muscle a week
  - Increase daily calorie intake by 500 kcal/day
  - Strength training
    - Breakfast - Snack
    - Snack - Dinner
    - Lunch - Snack (extra 500)

## Eating Disorders

- Be aware! Act!
- Know the signs and symptoms
- Be aware of what you are saying
- Seek help if you are suspicious that there might be a problem

## E. Supplements

- Supplements
  - Micronutrients, vitamins and minerals
  - Sport foods and meal replacements
  - Performance enhancement

## Supplements

- Find out who is taking what
- Some nutritional supplements or herbal products may contain banned substances
  - NSF Certified for Sport
  - Infit nutrition – [www.fuelingcanada.com](http://www.fuelingcanada.com)
- Speak to someone about their safety
  - [www.cces.com](http://www.cces.com)
  - [www.didglobal.com](http://www.didglobal.com)

## Nutrition Programming

- | ■ Nutrition Area   | ■ Nutrition intervention to consider with the RD  |
|--|---|
| <ul style="list-style-type: none"> <li>■ Basic shopping and planning skills</li> <li>■ Optimizing daily training and recovery</li> <li>■ Supplements</li> <li>■ High nutrition risk traveling</li> <li>■ Individuals needing to achieve specific physique goals</li> </ul> | <ul style="list-style-type: none"> <li>■ Grocery shopping tour with label reading</li> <li>■ Basic meal prep and planning workshop</li> <li>■ Nutrition/hydration protocol for pre/during/post training</li> <li>■ Regular hydration testing in different temperatures</li> <li>■ Pre/during/post food and fluid station at training/competition venues</li> <li>■ Athlete supplement inventory to assess team use</li> <li>■ Ongoing evaluation, communication and education about supplements</li> <li>■ Evaluate potential risks and nutrition issues</li> <li>■ Work out meal planning/logistics ahead of time</li> <li>■ Consider taking sport nutrition professional with the team</li> <li>■ Athlete will work individually with RD and other training members</li> <li>■ Coach to communicate desired outcomes and to allow healthy and realistic time frame for changes</li> </ul> |

## Meals/Snacks

- Quality Starches
  - High fibre breads, cereals, pasta, rice, oatmeal
  - Sweet potatoes, corn, beans, lentils, peas, carrots
    - \*breakfast, lunch, dinner
- Lean Protein
  - Chicken, pork, lean beef, tofu, turkey, tuna, eggs
  - Skim milk, soy products
  - Whey protein powder
    - \*breakfast, lunch, dinner, snacks
- Antioxidants
  - Fresh/dried fruit, variety of vegetables, juice
    - \*breakfast, lunch, dinner, snacks
- Mono + Omega fats
  - Fatty fish, fortified omega 3, nuts, olives, avocado, olive oil
    - \*snacks, core meals

---

## Final Words

- Become a food coach!
- Send the message to your athletes:
  - Food fuels performance!

“A proper diet can’t make an average athlete elite,  
but a poor diet can make an elite athlete average.”  
Dr. David Costill

---