

FUELING FOR A  
NEW  
GENERATION  
OF SPORT



canfitpro | EDMONTON  
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 12 years of personal training experience at World Health.  
 7 years working as a nutrition coach, presenting to fitness professionals and the general public.  
 Online coach.  
 Competitive Obstacle Course Racer and Trail Runner.

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**Changes in Sport**

More competitive.  
 Most athletes have a coach for every element of their training.  
 Higher standard of training.  
 Sports physiology and nutrition science has advanced.  
 New sports have emerged with high energy demands and commitments have emerged.



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**Putting the Work In**

Training for any sport is all about the delicate balance of doing just the right amount that your body can currently handle and not doing too much. Recovery and nutrition supports your efforts, but if you don't find the right balance no amount of recovery, "superfoods", or supplements will perform miracles.

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**Recovery**

Your body is not adapting to training during training. It's adapting while your body is in rest and digest mode. In today's world of constant bombardment of information and stimulation, recovery is best achieved by simplifying your life, eating adequate calories and focusing on how you can get the best quality 7-9 hour sleep window.

The basics will always have a greater effect on recovery than supplements or modalities like cryo chambers.

Relaxing activities for some may extend beyond restorative yoga. What are some other activity examples that can encourage your body to enter rest and digest mode?



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**Adequate Calories**

Athletes often don't eat enough calories to fuel their activity. More common in larger athletes and females trying to achieve a certain body image.

Calorie restriction is ok for short periods a time but can become a problem if it happens too frequently.

What should you do when you think an athlete has an eating disorder?

The first step to help an athlete build awareness around how much food they are consuming is to get them to track for at least 7 days. A simple calculation to determine a caloric range is times the athlete's body weight by 15 and 16.

For athletes who don't need to lose weight at the moment. Getting adequate calories in is first more important than focusing on hitting certain macro nutrient numbers. When the fire is hot anything will burn.

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**Hydration**

The new recommendations on water is to listen to your thirst. Overhydrating (hyponatremia) is an issue athletes face when too much water can cause them to dilute the minerals in their body.

Managing body heat is often more of a concern. It is important an athlete learns how to control their body heat by managing their heat rate, splashing water on their body, using ice, ect.

Most hydration should take place the days leading up to an event. Drink as needed during activity.

Electrolytes are only important in longer efforts (thr-). Our bodies gets an adequate amount from food and it only starts to be a concern as the athlete starts sweating excessively.

Drier climates, elevation, heat, medications and intensity will determine the level of intake needed.



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**Help your athletes develop a strategy:**

Rim to Rim to Rim in the Grand Canyon Trail Run

6 gels, 2 Sunrype Energy Bar, 1 Sunrype fruit bar, 3 Larabars, 15 Oreos, 2 Poptarts, 2 almond butter and jam wraps, 3 servings of electrolytes, 1 salt pill, 2 advil, 2 caffeine pills, and about 10 litres of water.

Goal ~60g of carbs per hour of activity.

Keeping my heart rate in my aerobic zone helped me to preserve muscle glycogen throughout the run and utilize both fat and glucose.

Weight loss or longevity nutrition is very different than performance nutrition.

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**Coaching**

Athletic clients generally don't need to be guided on how to work harder, they need direction with their training plan and to be told when to rest.

In terms of nutrition they need to have individual and/or an application that makes them more aware of their diet. Awareness makes all the difference.

Awareness and habits should develop pre-season because if an athlete has a lot on their plate its good to be able to take a break on tracking and worrying about everything they eat. Habits allow more flexibility.



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**Daily carbohydrate intake g/kg, g/lb**

Low Skill-based or general activities 3–5g/kg, 1.4–2.3g/lb

Moderate Exercise program (1 hr) 5–7g/kg, 2.3–3.2g/lb

High Endurance program (1–3 hr) 6–10 g/kg, 2.7–4.5g/lb

Very high Extreme commitment (4–5+ hr) 8–12 g/kg, 3.6–5.4g/lb

Strength athletes Resistance training (weightlifting, bodybuilding, etc.) 4–7 g/kg, 1.8–3.2g/lb

*Adapted from Thomas et al. J Acad Nutr Diet. 2016 Mar; 116(3): 501–28*

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**Protein**

Highly active and attempting weight loss 1.5–2.2 g/kg (0.68–1.00 g/lb)

Highly active 1.2–2.0 g/kg (0.54–0.91 g/lb)

Attempting weight loss 1.0–2.2 g/kg (0.45–1.00 g/lb)

Sedentary 0.8–1.2 g/kg (0.36–0.54 g/lb)

*Adapted from Thomas et al. J Acad Nutr Diet. 2016 Mar; 116(3): 501–28*



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**Where to Start With Macro Nutrients**

If the athlete is performing and recovering well, you may not need to make changes in their macro nutrient recommendations.

If you increase an athletes macro nutrients even by a small margin and it's not close to your calculation it may still be an improvement. Small increases at a time. Reassess after a week or 2.

Take notes on what the athlete ate before his/her best competition. This is a good guideline of what they should do next time.

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**Fats**

Can make up the remainder of the caloric requirements. Fats are important for recovery and can be used a fuel source. >20% of total daily intake is ideal.

Focus on getting a variety of different fats. If you look at an athletes diary and notice the majority of their fat is coming from one source, teach them how to balance their intake.



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**Lower Fat Diets**

Can be beneficial in long duration low intensity activities, as fats pack a bigger punch per calorie.

Zero solid evidence showing a benefit in any activities where the intensity exceeds 60% V02 max.

Some benefit may be seen in the off season for athletes with many years of competitive experience.

Low carb diets can increase inflammation in the body while the athlete is trying to recover.

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**Nutrient Timing**

The most important nutrient timing factor to keep in mind is that it may take upwards of 24 hours to replenish muscle glycogen. Therefore if you have an event later in the day or the next day, or you are on a heavy training schedule it helps to start replenishing during and immediately after activity with multiple source carbohydrates as they all take different pathways in your body.

Protein is best spread throughout the day, but muscle mass will likely not decrease if you are fitting your requirements in a 24-48 hour period, you have good digestive health, you are not over training, or training too lightly.

Eat smaller carbohydrate focused meals close to activity. No heavy meals 2-3 hours prior.



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**Supplements**

*In order of usefulness:*

- Vitamin D
- Magnesium
- Caffeine
- Protein powders
- Fish oil
- Creatine

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**Resources**

<https://jissn.biomedcentral.com/articles/10.1186/s12970-018-0256-5>

<https://jissn.biomedcentral.com/articles/10.1186/s12970-018-0242-y>

[https://journals.hww.com/acsms-masse/Fulltext/2016/03000/Nutrition\\_and\\_Athletic\\_Performance\\_25.aspx](https://journals.hww.com/acsms-masse/Fulltext/2016/03000/Nutrition_and_Athletic_Performance_25.aspx)

[www.examine.com](http://www.examine.com)

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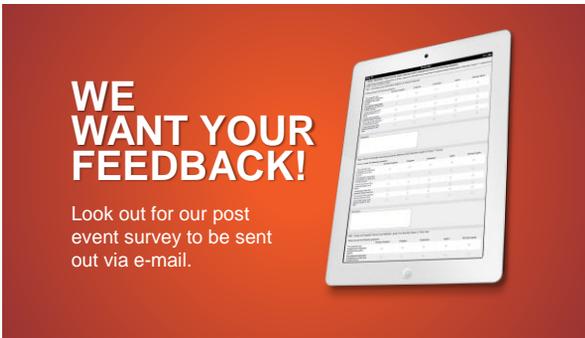
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