



# WORKSHOP 03: Nutrition I

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By Laura Chatham

Marth 12<sup>th</sup>, 2026



SUSTAIN ATHLETICS

# Land Acknowledgement

*As Sustain Athletics, we respectfully acknowledge that we are guests on the lands upon which we live and run—wherever this is and whoever we are.*

*Much of this land remains the unceded and traditional territories of Indigenous Peoples.<sup>2</sup>*

*We encourage our athletes to investigate their unique local history and culture.*

*Sustain Athletics is largely based on the beautiful lands of the [Skwxwú7mesh \(Squamish\)](#), [səlilwataʔ \(Tsleil-Waututh\)](#) and [Syilx Okanagan Nations](#).*



Skwxwú7mesh  
Úxwumixw  
Squamish Nation



Tsleil-Waututh Nation  
PEOPLE OF THE INLET



Okanagan Nation Alliance

# DISCLAIMER

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*I am not a registered nutritionist or dietician.*

*My knowledge of endurance nutrition stems from self-study, a few years of college biology, and personal experience. This presentation will focus on the generalized basics of nutrition and offers resources and references in support.*

*Connect to a professional nutritionist or dietician for personalized advice.*

*~ Laura Chatham*



# CONTENT WARNING

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*Parts of this presentation focus on potentially triggering topics, including eating disorders and body image.*

*If you need to take a break while we're discussing these topics, please let me know that you're okay. I am always open to chat if you want to around these topics ♡*



# Today's Agenda

- I. What does Nutrition Matter?
- II. Macro & Micronutrients
- III. Nutrition for Runners

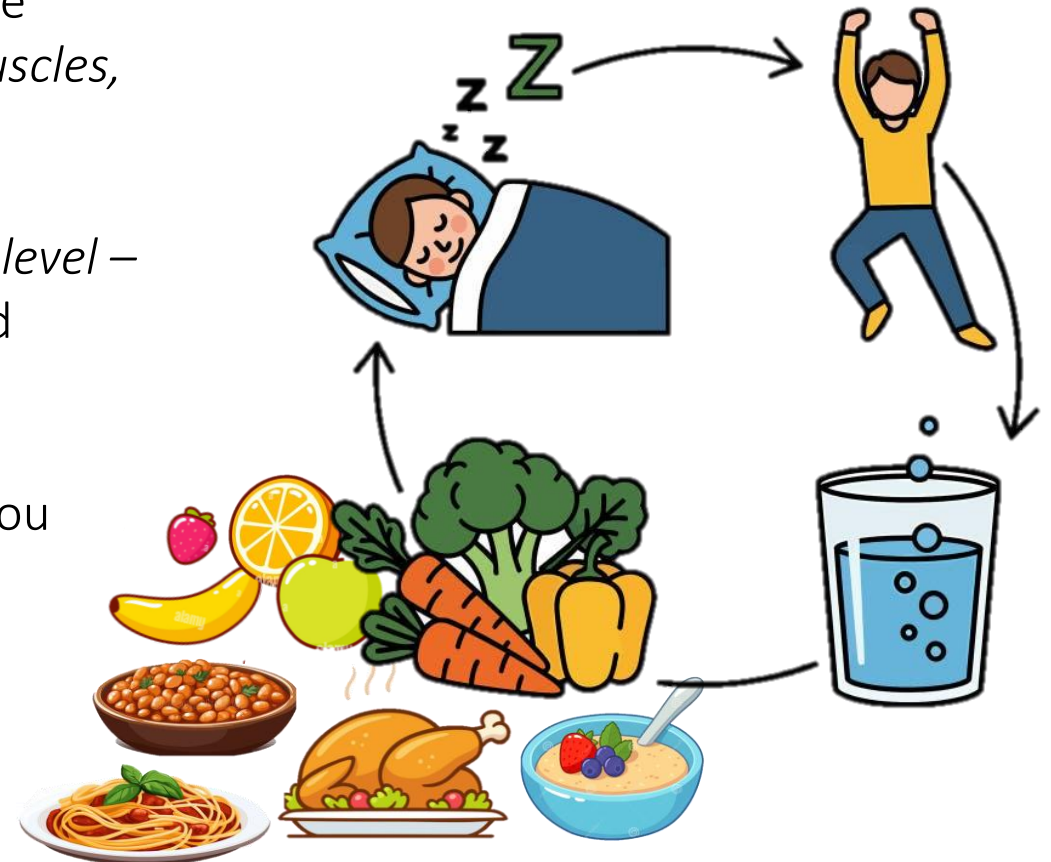


# I. Why Does Nutrition Matter?



# I. Why Does Nutrition Matter?

- As your ***live*** – *move, breathe, sleep, and eat* – you utilize energy and impact your body’s physical structures: *muscles, ligaments, tendons, joints, bones, other tissues, etc.*
- To ***maintain & grow*** – *e.g. strength, endurance, energy level* – you must supply your body with the right nutrients and energy it needs. This means ***food & water!***
- Food *literally* supplies the building blocks and energy you need to live! Water has many important roles.
- As an endurance athlete, you need ***a lot of food.***



# I. Why Does Nutrition Matter?



- Your diet should be tuned to *your* lifestyle and goals.
- As an endurance athlete, it is *extremely important* you get enough food and water to compensate for your *increased energy expenditure & physical activity*.
- Running is somewhat destructive by nature from the muscle and energy use, and even the repetitive impact of your feet on the ground.
- Long running distances is *dangerous* without proper fuel & hydration.

[Image \(source\):](#) Ryan Hall

(left) marathon running, *very fast* but he says his “body was just totally depleted and in really bad shape”.

(right) body building; running less & slower (still fast, last I heard) but is in better balance & overall health.

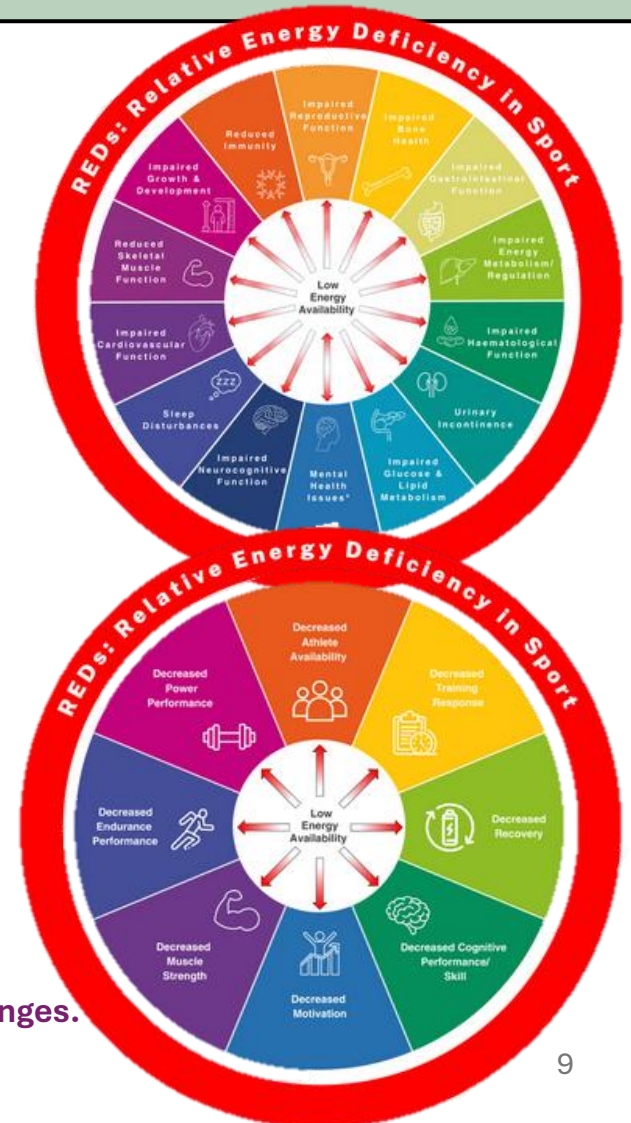


# I. Why Does Nutrition Matter?

## REDs: Relative Energy Deficiency in Sports

- Physical and/or psychological impairment caused by prolonged or severe **low energy availability (LEA)**
- E.g. too much exercise (energy out) and not enough food (energy in)
- Serious Detriment to your body:
  - Decreased energy, musculoskeletal health, immune response, cardiovascular health, reproductive function, and more.
  - Leads to **lower quality of life** and **higher injury risk** (long & short term)

TIP: Learn your energy and hormone cycles. Ladies, you have an obvious sign every month helping you know if everything is on track: **you should not lose your period from training. Seek professional help if it changes.**



# I. Why Does Nutrition Matter?

Eating disorders and **body image insecurity** are not uncommon, anywhere.

As an athlete, there can be extra pressure to perform and fit an 'athletic form'.

This can be dangerous if your energy requirements are not met.

→ Make your goal to *feel strong and graceful.*

→ Educate yourself, talk to someone.

*You are not alone and you are beautiful!*



# II. Macro & Micronutrients

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## II. Micro & Macronutrients

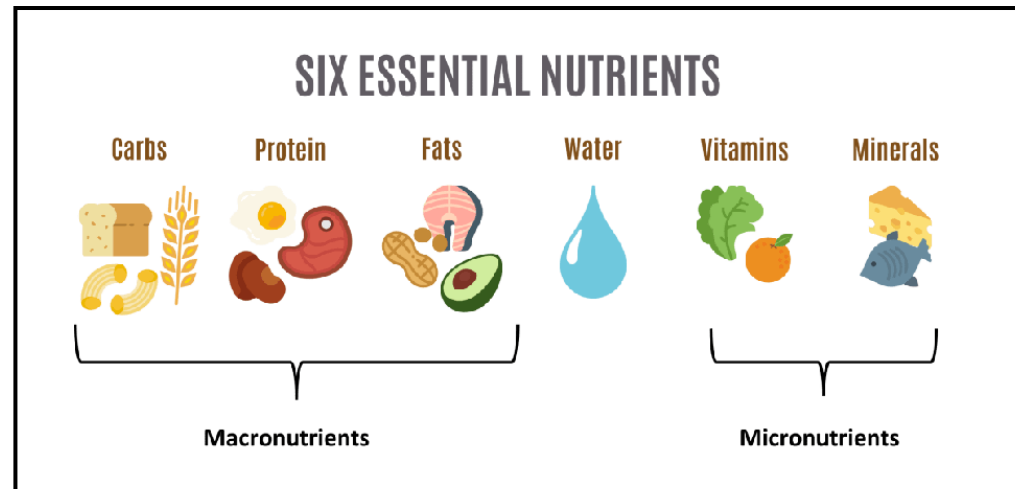


Image Source: [Mullane \(2025\)](#)

**Macronutrients:** Proteins, Lipids (fats), Carbohydrates (carbs)

- required in larger amounts
- provides the body with energy and structural building blocks

**Micronutrients:** Vitamins (e.g. Vit. B12, C, D, etc.) & Minerals ( $\text{Na}^+$ ,  $\text{K}^+$ ,  $\text{Mg}^{2+}$ ,  $\text{Fe}^{2+/3+}$ )

- required in smaller amounts
- required to operate many body processes (e.g. metabolism, immune response, enzyme function)

## II. Micro & Macronutrients

There are 3 types of macronutrients:



- Builds muscle, tissue, DNA, enzymes, hormones, & more
- Made up of different **amino acids**



- **Short-term energy:** your body can digest and utilize carbs easily to supply immediate energy
- Stored in the body as **glycogen**



- **Long-term energy:** your body digests lipids (dietary fats) more slowly for longer-lasting, more sustained energy.
- Stored in the body as **fat deposits**



## II. Micro & Macronutrients

NOTE: the units of kcal and Calorie not consistent in literature & food labels. 'Calorie' is often used in place of kcal when talking about food, although kcal (1000cal) is the proper, scientific unit.

Macronutrients are an energy source:



- 4 kcal / gram of protein



- 4 kcal/g carbs



- 9 kcal/g lipids (highest energy per gram)

WHAT IS ENERGY? Energy = capacity of a system (e.g. you) to do work [\(source\)](#)

WHAT IS A CALORIE? 1 kcal = kilo-calorie = 1000 calories | 1 calorie = 4184 Joules (typical energy units)

## II. Micro & Macronutrients



EXAMPLE Recommended Daily Intakes, [general adult \(non-athlete\) data from Health Canada](#)

- ~ 0.8 g/kg per day
- E.g. 132 lbs person = 60 kg  $\cdot \frac{0.8 \text{ g protein}}{1 \text{ kg body weight}} = \sim \mathbf{48 \text{ g protein / day}}$

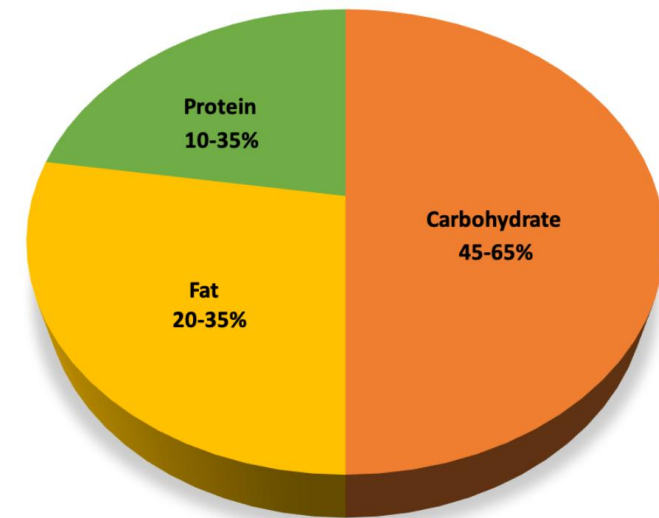
BUT: need more with increased exercise load.  
20% of a 2000kcal/day diet = 100g protein / day

- ~ **130 g carbs / day** (for brain function)

BUT: need more with increased exercise load.  
50% of a 2000kcal/day diet = 250g carbs / day !

- ~ 20-35 % of Energy Intake → e.g. for a 2000 kcal / day diet :

$$2000 \text{ kcal} \cdot 30\% = 600 \text{ kcal} \cdot \frac{\text{g protein}}{9 \text{ kcal}} \\ = \mathbf{67 \text{ g lipids / day}}$$



[Image Source](#)

## II. Micro & Macronutrients

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Micronutrients are *essential vitamins and minerals* for your body.

- found in many natural foods – *e.g. fruits, vegetables, nuts, dairy, meats* – or can be consumed as supplements.
- It is important that your body has enough of each micronutrient for optimal function and longevity. See [Health Canada References for Vitamins & Elements](#) for guidelines.

→ talk to your doctor about (ideally regular) blood testing to determine what needs attention.



## II. Micro & Macronutrients

A few important micronutrients to know:

**Electrolytes: Sodium ( $\text{Na}^+$ ), Potassium ( $\text{K}^+$ ), Magnesium ( $\text{Mg}^{2+}$ ), Calcium ( $\text{Ca}^{2+}$ )**

- Regulate hydration, support nervous system, muscle contractions, pH level, and more
- Calcium is especially important for healthy bones, teeth, vascular system, and more

[Learn about osteoporosis & bone health](#)

**Iron: Ferrous  $\text{Fe}^{2+}$**  from animals readily absorbs into the body [HealthLinkBC: Iron in Foods Resource](#)

**Ferric  $\text{Fe}^{3+}$**  from plants & some animal sources is less bioavailable

- Creates hemoglobin, an oxygen-transporter protein in red blood cells. *Critical!!*
- As we run, we squash red blood cells in our feet → these must be remade.



# III. Nutrition for Runners

A few specific notes for runners and endurance athletes:

- **Carbs:** digest quick for quick energy. Harder efforts use more sugar.
- **Lipids:** digest slower for longer, stable energy. Easier efforts use more fats.
- **Proteins:** digests slower for building blocks & body repair.
- **Hydration!!** Take small sips of water throughout.
  - drink mixes are a great way to intake carbs + electrolytes



# III. Nutrition for Runners

A few specific notes for runners and endurance athletes:

- **Before Running:** Eat a full meal 2-3 hrs and/or a snack 10-30 minutes prior  
(a solid dinner the night before helps too, especially for early mornings with lower appetite)
- **During a run (< 2-3 hrs):** consume 30-90g of carbs / hour (~150-400 kcal/hr)
- **During a run (> 2-3 hrs):** introduce fats & proteins
- **After a run (or workout):** Eat a snack immediate after, protein + carbs + hydration  
Eat a full meal ~1hr after.



# III. Nutrition for Runners



# Interested in Nutritional Guidance?

Find a registered nutritionist or dietician to work with!



Canadian Sports Institute (CSI) Sports Nutrition – <https://www.csipacific.ca/our-services/sport-nutrition/>

Sara Friedrich | Kelowna, BC – Sports Dietitian & Certified Intuitive Eating Counselor



<https://www.sarafriedrichrd.com/>

No Sweat Nutrition | Squamish, BC – <https://nosweatnutrition.ca/>



# Take Home Messages

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- Eat plenty of a wide variety of foods!
- Learn what *your* body needs and appreciate all that it does.
- Macronutrients (proteins, fats, & carbs) supply your body with energy and building blocks.
- Micronutrients help everything function.
- Running requires special attention to food & hydration in and around runs



# *Thank-You!*



**SUSTAIN** ATHLETICS

## **UPCOMING EVENTS:**

*February 21, 10am | KELOWNA – Pop-up Running Clinic*

*February 23, 6pm | KELOWNA – Run Club Social - I'll be there!*

*March 12, 7pm | ZOOM – Workshop 03: Nutrition I*

*April 9, 7pm | ZOOM – Workshop 04: Member's Choice!*

→ Join events through [Heylo](#) or email [info@sustainathletics.com](mailto:info@sustainathletics.com)