

WHAT you are eating

PROTEIN: Baseline needs / DAY = 0.8 g / kg body weight X your TARGET weight ~ kg ~ g protein
 Recovery protein needs increase by TYPE of exercise PER hour PER week:

- 10% for **Strength** training (< 10 repetitions per set to near failure with rest between sets)
- 7% for **muscular endurance** training (> 10 reps per set to near failure with rest between sets)
- 5% for **circuit** training (regardless of repetitions per set, with very little rest)
- 5% for high-intensity **interval** exercise i.e. sprints = **game simulation**
- 3% for steady-pace **cardio**, with life activity (e.g. yoga, pilates, regular walking) included in baseline needs

For each HOUR per WEEK (it takes that long for tissue healing i.e. recovery) of the above, ADD respectively 0.1, 0.07, 0.05, 0.05 and 0.03 TOGETHER to get your tissue-healing i.e. recovery FACTOR =

Then MULTIPY your recovery factor by BASELINE = **your DAILY protein recovery needs** = g / day

Add your daily **baseline and recovery** needs together = your **total** daily protein needs = g / day

Distribute this evenly through your day, mainly in meals e.g. dividing by 3 = protein **per meal** = g / meal

CARB: YOUR Baseline carbohydrate fueling target PER MEAL (see below) =

Each meal at baseline (w/o physical activity) requires the sum of three components:

- 50 Cal carb fuel (i.e. not counting fiber) based on brain needs to maintain **mental energy** (unless in ketosis)
- The same grams or Calories of carb as **recovery protein for tissue recovery** = 0-100 i.e. ~ 50 Cal carb fuel
- Another 0-100+ i.e. ~ 50 Cal carb fuel if physically active (walking, etc.) to maintain **physical energy**

This **adds up to 0-250 Cal / meal** without exercise **refueling** considerations i.e. **generally ~100 Cal baseline**

- Below are the volume of the various carb sources providing ~100 Cal of carb fuel (i.e. not including fiber):

Leafy greens	Vegetables	High-Cal Veg	Fruit & Legumes	Starch (tuber, grain)
100 Cal fuel: 10 cups	5 cups	3 c tomato carrot beet	1/2-1 i.e. ~2/3 cup	1/3-2/3 i.e. ~1/2 c

Carb fuel needs beyond baseline (above) are to immediately refuel your **exercise that day**: Within 10 min after exercise training with STARCH (see food chart next page) and repeat same amount w/any carb at next meal:

Training intensity	Lowest	Medium	High	Very high
TOTAL Cal / hour	100-400 Cal	300-600	400-800	600-1000+
CARB Cal / hour	≥ 50% i.e. 50-200 Cal	≥ 65% i.e. 200-400	≥ 75% i.e. 300-600	≥ 85% i.e. 500-1000
Total carb loss based on intensity duration	Cal	Cal	Cal	Cal
Combine above values accordingly for carb loss in total workout	Lowest <u>workout</u> :	Medium <u>workout</u> :	High intensity <u>wrkout</u> :	Highest intensity <u>wrkt</u> :
During exercise:	n/a	n/a	Consider ~100 Cal/hr	Consider ~200 Cal/hr
W/in 10 min after ex:	Optional	50-150 Cal STARCH	50-250 Cal STARCH	100-300 Cal STARCH
Choose your target & REPEAT @ next meal	Cal	Cal	Cal	Cal
Example	Fruit or legumes ok	Slow starch: oatmeal	Fast strch: whole grain	Fastest starch: white

VEGGIES: At a minimum in lunch & dinner the same volume as your carb fuel volume = cups

- Better to have: Larger amounts, darker in color, greater variety, and at a minimum same volume as carbs
- If veggies are cooked soft or if mostly air (i.e. salad) they do not slow digestion as well = use larger volume

Unsaturated FAT: Your main daily **Ω-3, 6 & 9 sources** from the food chart (next page)

Ω-3	Ω-6	Ω-9
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- The benefits of high quality (un-oxidized = protected from heat, oxygen and age) fats are the equivalent of **medication**, including “non-essential” omega-9 (monounsaturated) i.e. a Mediterranean dietary pattern.
- The **timing** of fats does not matter. If chronically hungry, put fats in each meal and even snacks since the hormonal response to fats lowers hunger for hours. But in terms of health, timing makes no difference.
- Restaurants do not generally serve quality fats so purchase high-quality sources and include them in meals **you** prepare or add those fats to lower-fat meals yourself: have higher fat at home, lower fat elsewhere.

WHEN you are eating: What you consider your biggest **timing** issue (see below):

- **PLT = Protect Lean Tissue** with a snack containing both protein and carb any time your last feeding is not no longer helping PLT e.g. breakfast delayed ≥ 10 min after waking; otherwise you lose ≥ 10 Cal muscle/hr.
- Typical healthy balanced meals provide for the body for ~ 6 hours, whereas snacks only provide for 1-2 hours
- Since **vegetables** slow digestion, meals including significant vegetables coarse enough to inhibit stomach emptying allow you to eat larger meals to provide your body's needs for 6 or more hours, as opposed to having more frequent smaller meals. This is in particular true when combining veggies with carbs that **already** digest slowly on their own i.e. squash, fruit, and in particular legumes (see food chart, below).
- Once you are hungry and want a **snack: start with a fruit** to bump up blood sugar, not just nuts or protein
- **For every 100-150 Cal you should to eat 1 hour earlier**, giving you a dinner Calorie target: Cal/dinner

WATER: Your strategy (see below):

- We need **~ 1 Liter or Quart (32 oz) for every ~ 1000 Cal** that we eat to assist in digestion: L/day
- **Water as $> 1/2$ your fluids**: Drink water in an equal amount 1st before drinking anything else
- **To figure out how much water and salt you are losing in your exercise**: Measure your weight change across a workout = every 2.2 lb lost corresponds to 1 L (32 oz) of perspiration containing at least 600 mg sodium = 1/4 tsp table salt. Note how much you drank between weighing yourself (to determine the weight change) since drinking raises your body weight, masking perspiration losses. Convert the weight change to a volume, and add it to the volume you drank, to compute the total loss. You don't need to replace the first 1/4 tsp of salt loss, but do replace all additional salt loss; a single restaurant meal adds 1/2-1 tsp of salt to your body (enough for 1/2-1 gallon of perspiration losses). Do not pre-load salt before losing it since that will pull water out of your cells (cellular dehydration) = cramping. Only replace it after it is lost e.g. in the next meal.
- The **combined symptoms of frequent urination, poor digestion and low sleep quality** (tired when you wake) warrants a serious consideration of your hydration and electrolyte replacement (high or low intake).
- **General pattern**: Drink water upon waking up and then in the 1-2 hours after each major meal, evenly spaced through the day. Drinking water with meals is also fine but optional. The body does not store water.

FOOD: 1 food from each group **per meal per 50 kg baseline**; MORE depending on your mass, athletics & goal

Unsaturated Fat per DAY	Protein per 50 kg per meal	Produce: volume ratio	Carb fuel per ~ 100 Cal
1-2 of each/DAY minimum TYPE daily: Ω-3: 1+ Tbsp flax or chia Ω-6: 1 Tbsp any nut butter or 2-3 Tbsp any nut/seed Ω-9 i.e. MonoUnsat: 1 Tbsp olive oil 3 Tbsp olives 4 Tbsp avocado or hummus	1 or more per meal : • 2 eggs • 3 oz muscle tissue (meat, poultry, fish) • 4 oz cottage cheese, Greek yogurt, tofu • 6 oz regular yogurt • 8 oz milk, soy milk, or legumes	Variety, dark color, and ratio volume to carb fuel in meal, especially starch : • 1 X the volume of carb fuel of raw vegetables • 1.5-2 X volume of carb fuel if light cook veggies (still crunchy) • 3-6 X volume salad	$\sim 2/3$ cup whole body fuel: • Fruit, squash • Legumes: Beans, lentils $\sim 1/2$ cup muscle fuel starch right after & meal after ex: • Tubers: yams, potato • Whole grain: Rice, corn, wheat, oat, quinoa

SPECIFIC MEALS: Each row is a different meal or snack. Sketch out the rudiments of a typical day:

Unsaturated Fat	Protein	Vegetables	Carb Calories
PLT if needed:	Required		Req
Breakfast: Ω -3/6?	Req		Req
Lunch: Ω -6?	Req	Helpful	Req
Dinner: Ω -9?	Req	Req	Req
Post exercise refuel:	Helpful		Req STARCH
Snack: Hunger Ω -6?	Hunger & tissue repair	Leanness	Hunger & energy; NOT starch by itself