



Nutrition Thumb Rules

WHAT you are eating:

- Protein:** I agree with the Recommended Dietary Allowances (RDA) for protein of 0.8 grams / kg body weight. For a 50-100 kg person (110-220 lbs) this would correlate to 40-80 grams protein per day, or 13-26 grams per meal (3 meals / day) depending on body weight. Maximum protein production (after injury, surgery, or during hard exercise, which is chronic injury) is 0.5-2.5 times higher depending on the amount of injury/exercise, how well the protein is timed evenly through the day, and how well the body is equipped for recovery i.e. hormone levels, immune system, circulation, etc. The chart below is for 60 Cal i.e. about 15 grams protein per meal (top row), twice that during hard exercise (bottom row) for someone who is not overweight and weighs 127 lbs, but these amounts would not change outside of the 110-150 lb range when using round numbers for the amounts of the various protein sources. For example, few people would eat 1.5 or 2.5 eggs; most would eat a whole number of eggs. For a 160-200 lb lean person, the middle row (below) would correspond to baseline protein needs i.e. without exercise. Assuming that larger persons have larger hands, **1/2 the volume of your palm can be used to estimate your baseline protein needs, and the entire volume of your palm during hard exercise. Low-density protein sources (watery like milk or fibrous like legumes) take twice the volume** of dense sources.

Exercise level	Egg whites	Muscle tissue	CC or Grk yog	Yog or tofu	Milk or legume
Little/none	2	3 oz	4 oz	6 oz	8 oz
Medium	3	4-5 oz	6 oz	9 oz	12 oz
Hard training	4	6 oz	8 oz	12 oz	16 oz

- Carb:** Unlike protein, carb baseline needs do not change much with body weight or how lean you are because they are based on the needs of our brain, and everyone's brain size and fuel use are similar. The liver can produce the glucose that the brain needs, so if sedentary, you do not need to consume any carbohydrate calories. Recovering from the injury of exercise raises your carbohydrate needs a bit in the days after (for a week after hard) exercise, and recovering your glucose fuel losses right after exercise raises carb needs a lot while refueling right afterwards (10 min later and the next 1-2 meals). Use anywhere from 0-1 palm carb calories depending on how physically active you are, which means (unless you are wanting to be in ketosis with very low carb), **the carb and protein volumes on your plate will be roughly equal.** Use vegetables to slow the carb digestion rate.
- Use ~200 Cal starch (tubers or cereal based foods), which is **~ 1/2 palm volume carb right after 1 hour of hard exercise, or ~100 Cal or 1/4 palm for shorter or low intensity.** If this does not recover most of your exercise fuel losses, add that much again to your next meal with vegetables to slow their digestion. For very long workouts (century rides, long runs, etc) you may need to do this for an additional meal.
- Vegetables:** Health requires vegetable variety. **For weight loss have a higher volume of crunchy vegetables than starch: 2 x the volume if raw, 3 x the volume if lightly cooked, or 4 x the volume of leafy green.** Research had not specified how much vegetables and how crunchy they must be to slow the digestion rate of different amounts of carb calories, which is why I am hypothesizing a volume ratio.
- Unsaturated fat:** Daily minimum 2 Tbsp (2 thumb volumes) chia or ground flax for daily omega-3, nuts 2-3 Tbsp for omega-6, and 1-2 Tbsp quality olive oil for omega-9, twice these amounts during hard training.

WHEN you are eating:

- At least a protein & carb snack **within 10 min of waking**
- At least 100 if not 200 Cal starch (depends on intensity and duration) **within 10 min after exercise**
- Dinner at least 3 hours before bed to allow for hydrating** its digestion to facilitate sleep (obviously you cannot hydrate a meal in the last hour before bed or that will wake you up soon after falling asleep)

WATER:

- ~1 L (32 oz) / 1000 Cal** you are eating, evenly spaced out through the day, with dinner early enough to hydrate its digestion by at least 1/2 L (16 oz) in the two hours afterwards (no fluids in hour before bed)
- Always an **equal volume of water before drinking anything else**
- 8-16 oz water upon waking up** to facilitate going back to the bathroom 1-2 hours after waking