

# Marathon Nutrition

**FUELING FOR LONG  
RUNS & RACE DAY**

Presented by

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# About Me

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Runner

Running Dietitian

Run & Strength Coach

Founder of The Dietitian Runner





# Why Nutrition Matters

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- Energy, performance, recovery, injury prevention
- Underfueling can result in:
  - Nutrient deficiencies, cravings/overeating at night, poor energy, frequent illnesses and injuries, decreased immune function, muscle & bone loss, poor performance & hitting the wall, poor exercise recovery, irregular/loss of period in female athletes





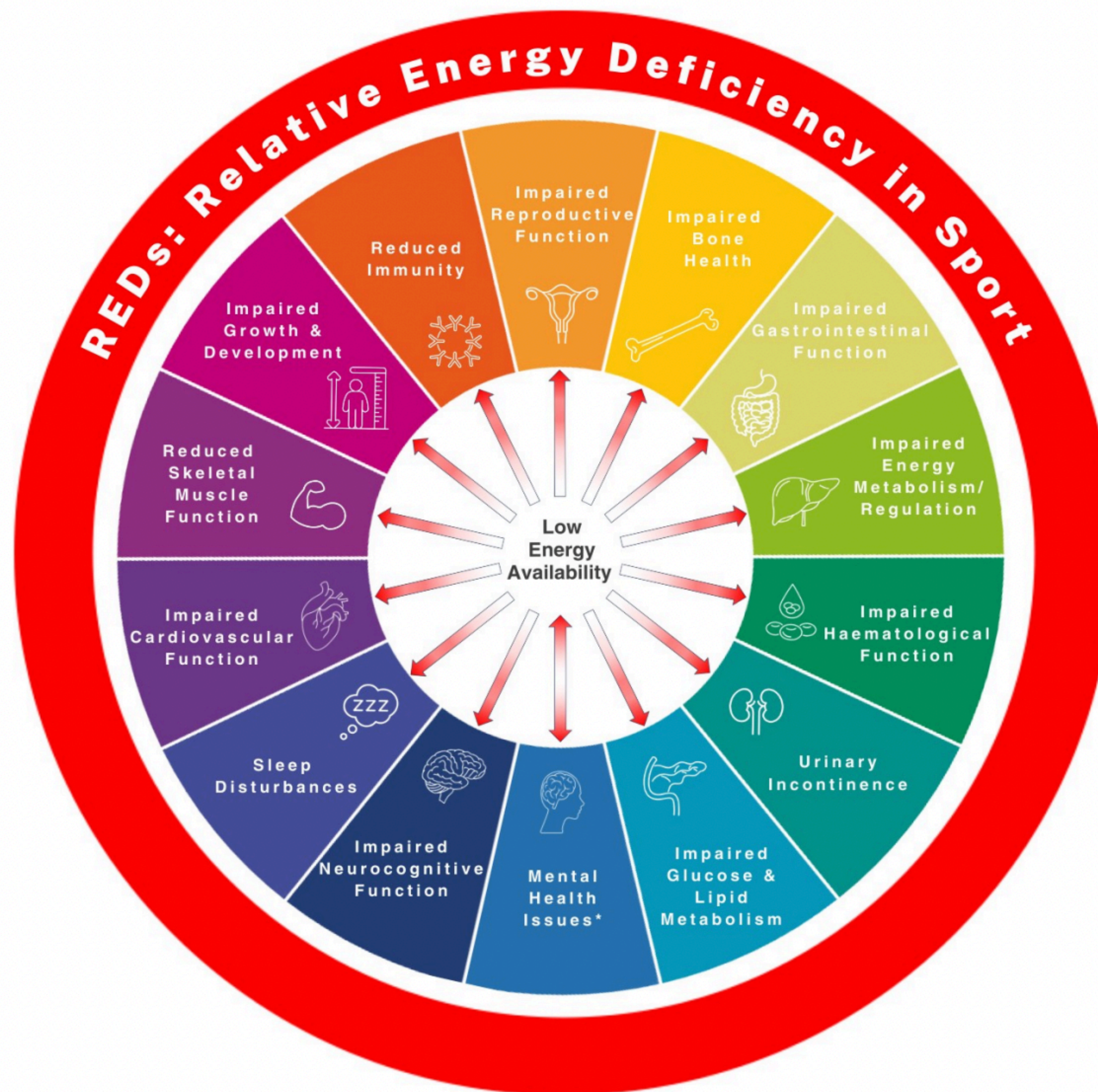
# Mindset

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- You don't have to be elite to fuel like an athlete-eating enough should be a part of your training
- You don't need to "earn" your food
- Underfueling  $\neq$  a more disciplined runner
- Lighter, smaller body  $\neq$  faster
  - NOT the time to focus on weight loss
- More training = more fuel needed, calories & carbs
  - Should not be eating the same now as your first week of training
  - You should be eating more than non-runner friends/fam



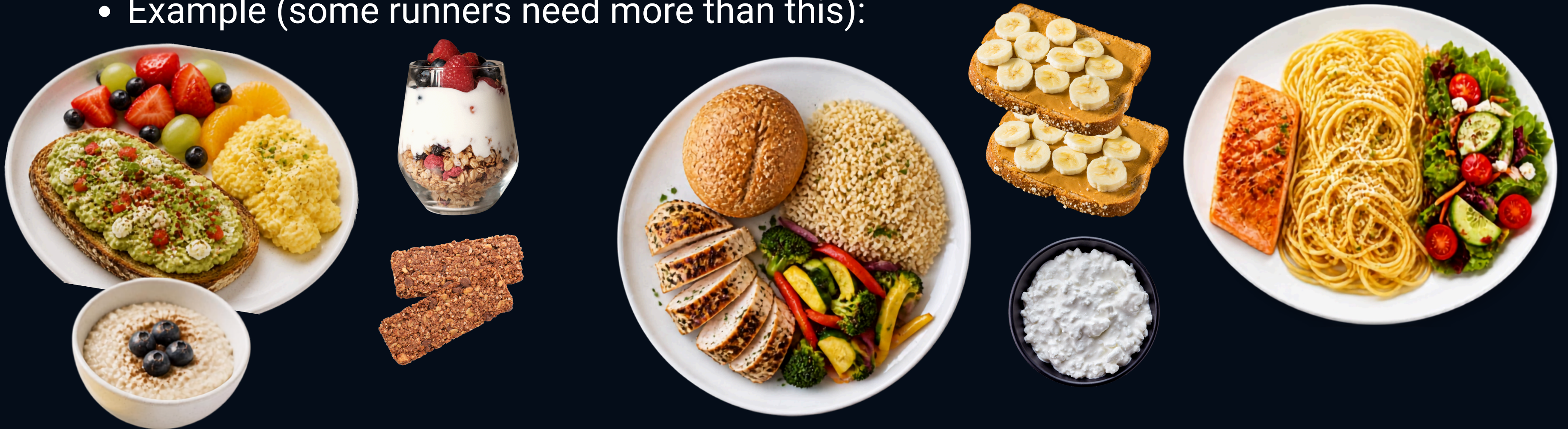






# Everyday Nutrition

- 3 meals: 50% grain/starch, 25% protein, 25% color + source of fat
- 2-3 snacks: carbs + protein
- Hydration: Half of your body weight (oz/day)- baseline
- Example (some runners need more than this):





# Running Nutrition

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- Pre-, during, post-
- Enhances energy, performance & recovery
- Use these guidelines and personalize them
  - FIGURE HOW MUCH + TIMING DURING TRAINING!
  - Becomes your race day nutrition plan

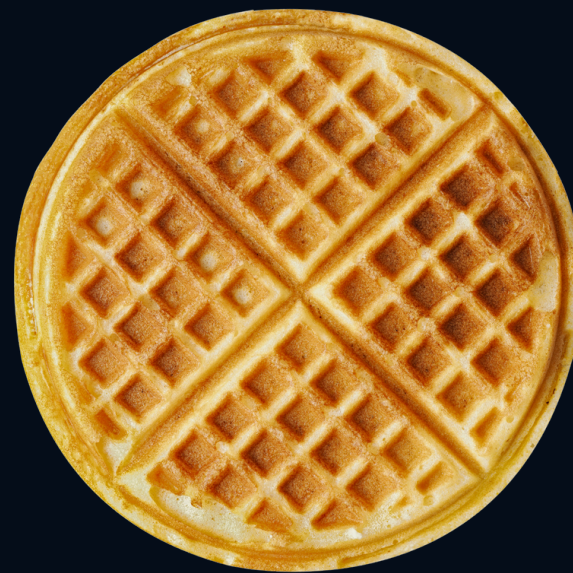




# Pre-Run Nutrition

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- FUEL BEFORE ALL WORKOUTS, even early AM, strength & xtraining
- For workouts that are <1 hour with <1 hour to digest= low fiber carbs





# Pre-Run Nutrition

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- For workouts that are >1 hour
  - Need to eat more to sustain you!
  - Goal= carb-rich (+ some protein if you have the time to digest)
  - Hydrate- may be smart to include electrolytes
  - Aim for at least 1.5-2 g/kg carb before long runs & races
  - Need time to digest
  - Test out before long runs
  - Pre-long run nutrition & timing turns into your race day breakfast & timing





# Pre-Run Nutrition

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- If you have a really hard time eating early AM..
  - Low fiber carb snack + carb-rich sports drink
    - 2 scoops of Skratch Labs Sport + 3 graham cracker rectangles= 73 g carb
    - 1 pouch of Tailwind High Carb Fuel (90 g carb) + toaster waffle= 104 g carb
    - 2 cups apple juice + banana= 87 g carb
- WE ARE NOT GOING TO BE AFRAID OF SUGAR





# During Run Nutrition

- 3 parts to build into your plan for long runs + race day
- Long run plan becomes your race day plan



**1**  
CARBS



**2**  
FLUIDS



**3**  
ELECTROLYTES



# During Run- Carbs

- Carbs
  - Low fiber/sugar is best
  - Less blood flow to gut
- 3 options: food or gels/chews/carb sports drink or a combo
- What's on race course:
  - Nuun Endurance (lemon lime; has carbs) at every water stop
  - Noogs Energy Chews (lemon & apple) & GU energy gel (vanilla & strawberry banana) at miles 14 and 21 **\*NOT ENOUGH TO FUEL A MARATHON- bring more fuel\***
  - Junk Food Stops at miles 16 & 22 **\*nothing new on race day\***
  - Pickle Juice at mile 23 **\*source of sodium, not fuel\***
  - **USE ALL PRODUCTS DURING TRAINING IF PLANNING TO TAKE FROM COURSE**





# During Run- Carbs

- Hit 60-90+ g/PER HOUR of carbs
  - During long runs too!
  - Hit this within first hour & every hour after
  - Carb-rich sports drink + gels/chews/food
- Choose a blend of carb types for better absorption & tolerance
  - Maltodextrin + fructose or fructose + glucose

| Vanilla Bean Energy Gel                                                                                                                                                                                                                                                                                                       |  |                     |               |                               |               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------|---------------|-------------------------------|---------------|
| Naturally Flavored                                                                                                                                                                                                                                                                                                            |  |                     |               |                               |               |
| Nutrition Facts                                                                                                                                                                                                                                                                                                               |  | Amount Per Serving  | %Daily Value* | Amount Per Serving            | %Daily Value* |
| 8 servings per container<br><b>Serving size</b><br>1 Packet (32g)<br><br><b>Calories</b> 100<br>per serving                                                                                                                                                                                                                   |  | <b>Total Fat</b> 0g | 0%            | <b>Total Carbohydrate</b> 22g | 8%            |
|                                                                                                                                                                                                                                                                                                                               |  | Saturated Fat 0g    | 0%            | Dietary Fiber 0g              | 0%            |
|                                                                                                                                                                                                                                                                                                                               |  | Trans Fat 0g        |               | Total Sugars 7g               |               |
|                                                                                                                                                                                                                                                                                                                               |  | Cholesterol 0mg     | 0%            | Includes 7g Added Sugars      | 14%           |
|                                                                                                                                                                                                                                                                                                                               |  | Sodium 60mg         | 3%            | <b>Protein</b> 0g             |               |
|                                                                                                                                                                                                                                                                                                                               |  | Vitamin D 0mcg      | 0%            | Calcium 20mg                  | 2%            |
|                                                                                                                                                                                                                                                                                                                               |  | Potassium 40mg      | 0%            | Iron 0mg                      | 0%            |
| <b>INGREDIENTS:</b> MALTODEXTRIN, WATER, FRUCTOSE, L-LEUCINE, POTASSIUM CITRATE, SODIUM CITRATE, CITRIC ACID, CALCIUM CARBONATE, L-VALINE, SEA SALT, NATURAL FLAVOR, GREEN TEA (LEAF) EXTRACT (CONTAINS CAFFEINE), GELLAN GUM, L-ISOLEUCINE, SUNFLOWER OIL, SODIUM BENZOATE (PRESERVATIVE), POTASSIUM SORBATE (PRESERVATIVE). |  |                     |               |                               |               |

\*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.



# During Run- Carbs



1 GU gel + 1 pack of Noogs  
per hour= 60 g carb

6 cups of Nuun Endurance  
per hour= 18 g carbs

= 78 g carbs

- Fuel every 30 mins, alternate 1 gel with 1 whole pack of Noogs, drink 6 cups of Nuun Endurance per hour on course (double up on course)
- Work on building up to your targets over time DURING training!



# During Run- Fluids

- Fluids
  - Goal= avoid dehydration (>2% loss of body weight) AND avoid overhydration
  - Signs of dehydration:
    - Fatigue, headaches, nausea, vomiting, dark colored urine, dry mouth and skin and feeling really thirsty.
    - Increased body temp, at risk for heat exhaustion & heat stroke, makes your heart work harder, use more glycogen stores
  - Dangers of overhydrating (especially of dilute fluids like water)= exercise-associated hyponatremia
    - Signs: nausea, vomiting, headache, weakness, lethargy, seizures, death





# During Run- Fluids

- Runs <1 hr: not necessary BUT know your body & may be necessary especially in hot, humid weather
- Runs >1 hr: you better be hydrating!!
  - Based on individual sweat rate (through sweat testing)
  - General sports rec is 14-27 oz/PER HOUR
- Hit goal within the first hour & every hour after
- Start sipping within the first 10-15 mins of running, relying on thirst isn't always reliable
- During training, practice & build to goal





# During Run- Electrolytes

- Electrolytes
  - Sodium, Chloride, Potassium, Magnesium, Calcium
  - We lose the most sodium in our sweat
    - Losses can vary wildly between runners (200-2300+ mg/L)
      - Average sweat loss is 1-3L/hour
      - Average sodium sweat loss is 900-1000 mg/L





# During Run- Sodium



- Important with sweat losses & to prevent exercise-associated hyponatremia
- How much do we need?
  - Based on individual sweat electrolyte composition (through sweat testing)
  - General sports rec: 300-600+ mg/hr of sodium during running
  - Heavy, salty sweaters: 600-1000+ mg/hr
- Runner's daily sodium needs are generally much higher than general pop



# During Run- Sodium

- Signs that you're a salty sweater
  - Salt crystals on skin, gritty feeling
  - White stains on the inside brim of hat
  - White stains on clothes





# During Run- Sodium

## Electrolyte Products

*the  
Dietitian  
Runner*

For during running that I often  
recommend to my clients



- Higher sodium gels:
  - Crank Sports E-gels
  - Huma Gel Plus
  - Victus
  - Amacx
  - Carbs Fuel **\*Salted\*** Gel

# Post-Run Nutrition

- Goal: provide your body with nutrients to support your recovery
  - Important after each workout but especially after long runs and high intensity efforts
- Intentional nutrition right after exercise= better exercise recovery
- Delayed nutrition after exercise= poor recovery & increased injury risk
- 2 options:
  - 1- Snack followed by meal
  - 2- Meal but get it in asap
- Plan ahead & be prepared!



# Post-Run Nutrition

- Example:



# Post-Race Nutrition

- Have a plan for refueling & hydration after the race- get carbs + protein + fluids and electrolytes in ASAP
  - Snack followed by a meal
- What to eat the rest of the day
  - Meals: 50% grains/starch + 25% protein + 25% color + fat
  - Snacks: carb + protein
  - Practical hunger
    - No appetite: small frequent meals & liquid nutrition
- What to eat next 3 days:
  - EAT LIKE YOU'RE STILL MARATHON TRAINING
    - Meals: 50% grains/starch + 25% protein + 25% color + fat
    - Snacks: carb + protein
- Then adjust nutrition based on what exercise looks like & goals



# Carb Loading

- Race- specific
- Benefits performance for races that are >90 mins
- Goal: optimize glycogen stores which has been show to..
  - Improve endurance performance by 2-3%
  - Extend the duration of steady state exercise by 20%
  - Postpone fatigue
  - Help you avoid hitting the wall during racing (along with a strong intra-race nutrition plan)



# Carb Loading

- Guidelines:

## Sports Nutrition Guidelines

| Day | Training                 | Carbohydrate                                                                                        |
|-----|--------------------------|-----------------------------------------------------------------------------------------------------|
| 1   | Rest/light shake out jog | 8-12 g/kg/day                                                                                       |
| 2   | Rest/light shake out jog | 8-12 g/kg/day  |
| 3   | Rest/light shake out jog | 8-12 g/kg/day                                                                                       |
| 4   | Race day                 | Follow plan for before, during and after long run/race                                              |



# Carb Loading

- Example: A 170 lb runner= 77 kg x 8-12 g/kg/day= 618-924 g/day
- Plan for 3 meal/day + morning snack + afternoon snack + carb-rich liquids at all meals & snacks

|                                                                                                        | Breakfast | AM Snack | Lunch | PM Snack | Dinner |
|--------------------------------------------------------------------------------------------------------|-----------|----------|-------|----------|--------|
| Day 1<br>Total carbs:                                                                                  |           |          |       |          |        |
| Day 2<br>Total carbs:                                                                                  |           |          |       |          |        |
| Day 3<br>Total carbs:                                                                                  |           |          |       |          |        |
| Day 4<br>RACE DAY  |           |          |       |          |        |

# Carb Loading

- Tips:
  - Choose low fiber carbs + protein + moderate fat + some color
    - Your plate should not be super colorful
  - Not intuitive, use practical hunger
  - Drink carbs
  - Add honey or maple syrup
  - NOT the time to focus on weight
  - Normal to feel stiff and heavy
  - Practice 1 day of your plan before a long run & make adjustments before race week





# Race Day Nutrition Checklist

- 3-day carb load
- Breakfast & timing morning of
- During race fuel, fluid & electrolyte plan- amounts & timing
  - If taking cups on course know how many you need to take to meet hydration & electrolyte needs
- Post-race fueling & hydration
- Eating 3 days post-race

# Questions?



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<https://thedietitianrunner.com>