Creating a Triathlon Nutrition and Hydration Plan

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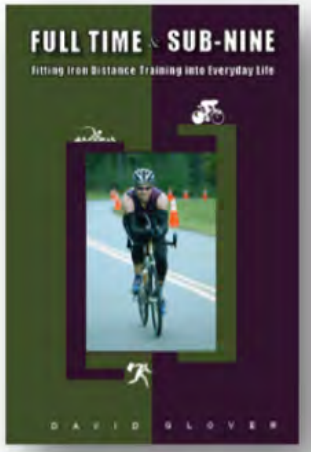
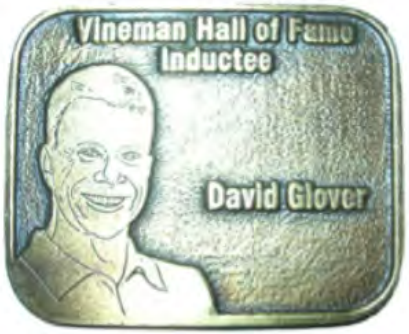




SHE DOES TRI

endurance works

CLASS IS STARTING!

SCHOOL OF TRI

Why do we care about nutrition & hydration?!?!

Because we want to:

- Provide fuel to muscles
- Resist fatigue
- Prevent overheating
- Maintain water and sodium levels
- Feel good

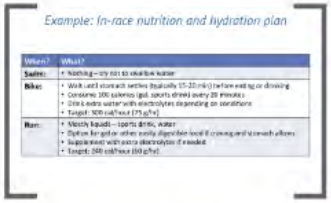
Why create a plan?

"The successful person has the habit of doing the things failures don't like to do."

—Thomas Edison

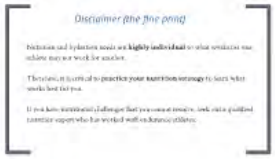
Agenda:

- What's going on?
- Developing your plan
- Training
- Race Day



Example: In-race nutrition and hydration plan

When?	What?
Swim:	• Nothing – try not to swallow water
Bike:	• Work until stomach settles (typically 15-20 min) before eating or drinking • Consume 100 calories (gu, sports drink) every 20 minutes • Drink extra water with electrolytes depending on conditions • Target: 90+ cal/hour (75 g/hr)
Run:	• Mostly liquids – sports drink, water • Option for gel or other easily digestible food if craving and stomach allows • Supplement with extra electrolytes if needed • Target: 240 cal/hour (60 g/hr)



Disclaimer (the fine print)

Nutrition and hydration needs are **highly individual** so what worked for one athlete may not work for another.

The best way to practice your nutrition strategy is learn what works best for you.

If you have nutritional challenges that you cannot resolve, seek out a qualified exercise expert who has worked with endurance athletes.

Example: In-race nutrition and hydration plan

When?	What?
Swim:	• Nothing – try not to swallow water
Bike:	• Wait until stomach settles (typically 15-20 min) before eating or drinking • Consume 100 calories (gel, sports drink) every 20 minutes • Drink extra water with electrolytes depending on conditions • Target: 300 cal/hour (75 g/hr)
Run:	• Mostly liquids – sports drink, water • Option for gel or other easily digestible food if craving and stomach allows • Supplement with extra electrolytes if needed • Target: 240 cal/hour (60 g/hr)

Disclaimer (the fine print)

Nutrition and hydration needs are **highly individual** so what works for one athlete may not work for another.

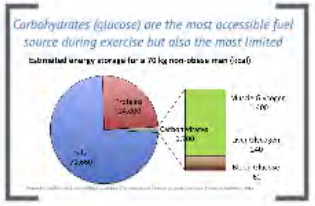
Therefore, it is critical to **practice your nutrition strategy** to learn what works best for you.

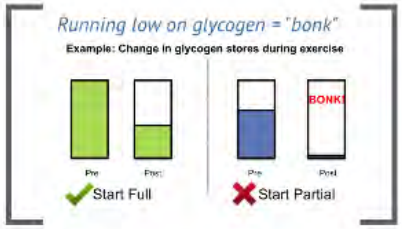
If you have nutritional challenges that you cannot resolve, seek out a qualified nutrition expert who has worked with endurance athletes.

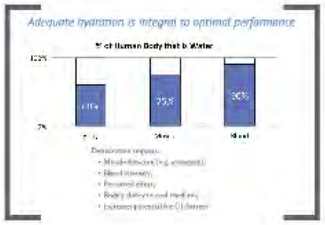
So what's going on?

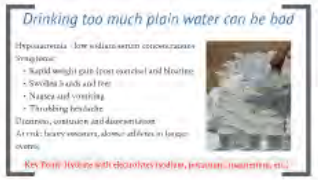
"The ability to conquer oneself is no doubt the most process of all things sports bestows on us."

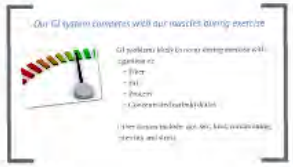
- Olga Korbut





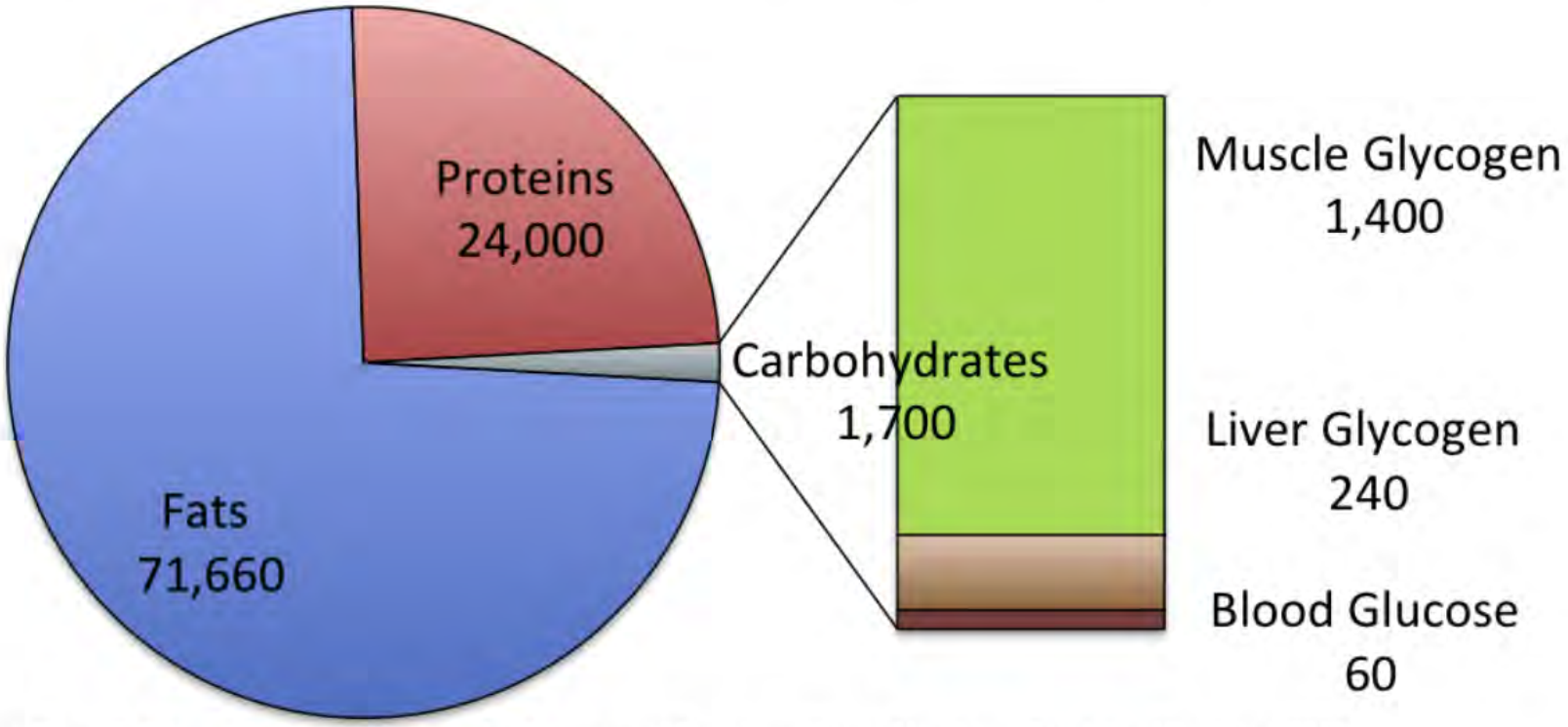






Carbohydrates (glucose) are the most accessible fuel source during exercise but also the most limited

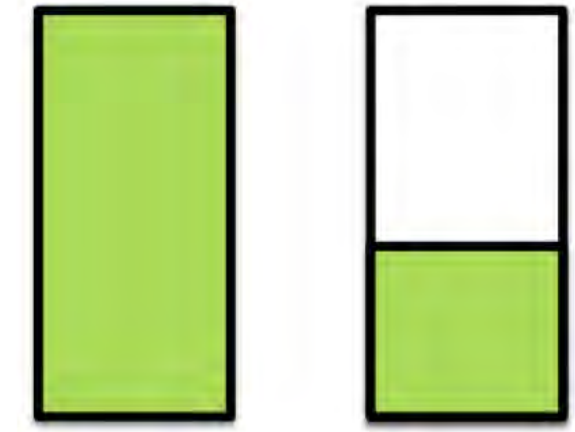
Estimated energy storage for a 70 kg non-obese man (kcal)



Derived from: Berardi, John and Ryan Andrews, The Science and Practice of Sport Nutrition, Precision Nutrition, 2012.

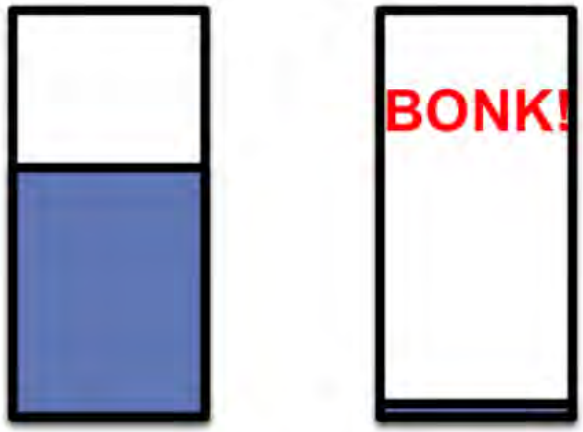
Running low on glycogen = "bonk"

Example: Change in glycogen stores during exercise



Pre Post

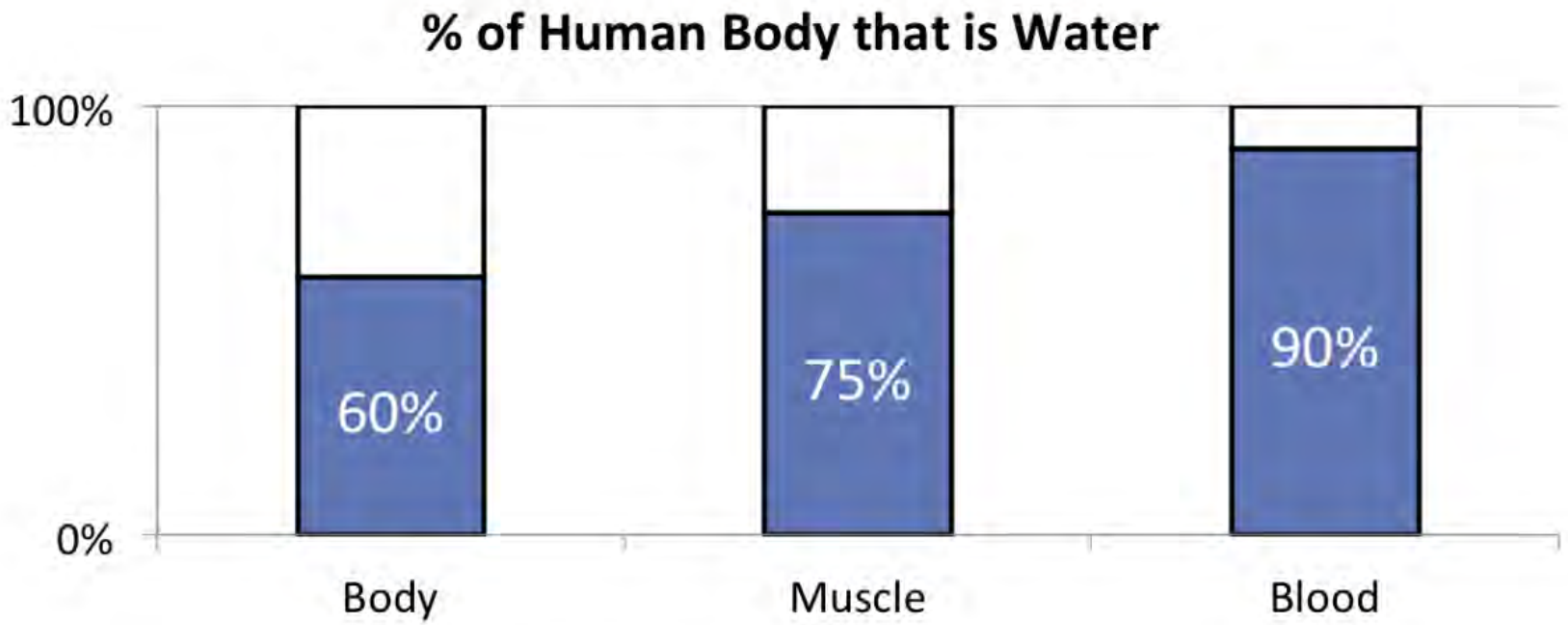
✓ Start Full



Pre Post

✗ Start Partial

Adequate hydration is integral to optimal performance



Dehydration impacts:

- Muscle function (e.g. cramping),
- Blood viscosity,
- Perceived effort,
- Body's ability to cool itself and
- Increases potential for GI distress

Drinking too much plain water can be bad

Hyponatremia - low sodium serum concentrations

Symptoms:

- Rapid weight gain (post exercise) and bloating
- Swollen hands and feet
- Nausea and vomiting
- Throbbing headache

Dizziness, confusion and disorientation

At risk: heavy sweaters, slower athletes in longer events

Key Point: Hydrate with electrolytes (sodium, potassium, magnesium, etc.)

Our GI system competes with our muscles during exercise

GI problems likely to occur during exercise with ingestion of:

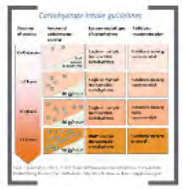
- Fiber
- Fat
- Protein
- Concentrated carbohydrates

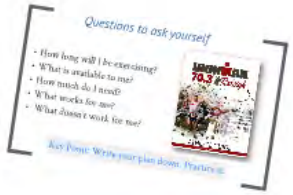
Other factors include: age, sex, heat, conditioning, intensity and stress

Developing your plan

"Failing to plan is planning to fail."

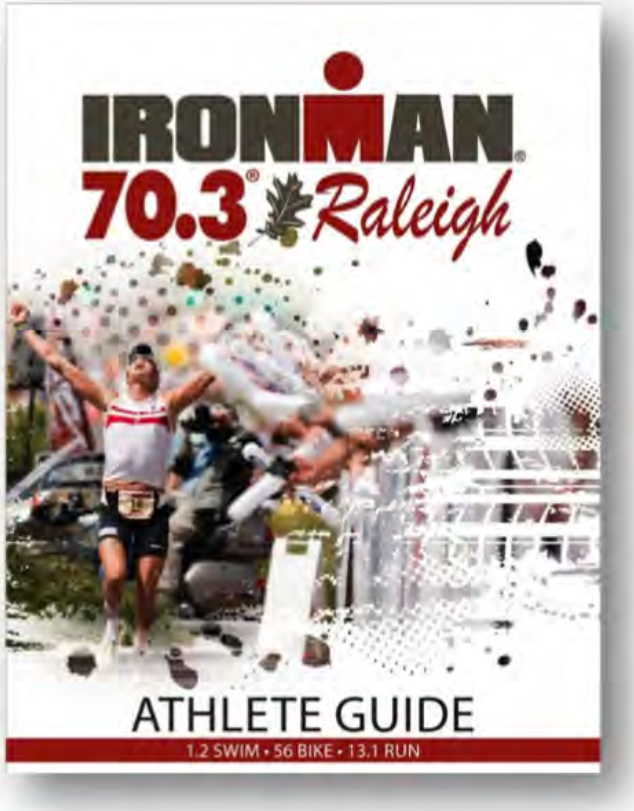
- Unknown





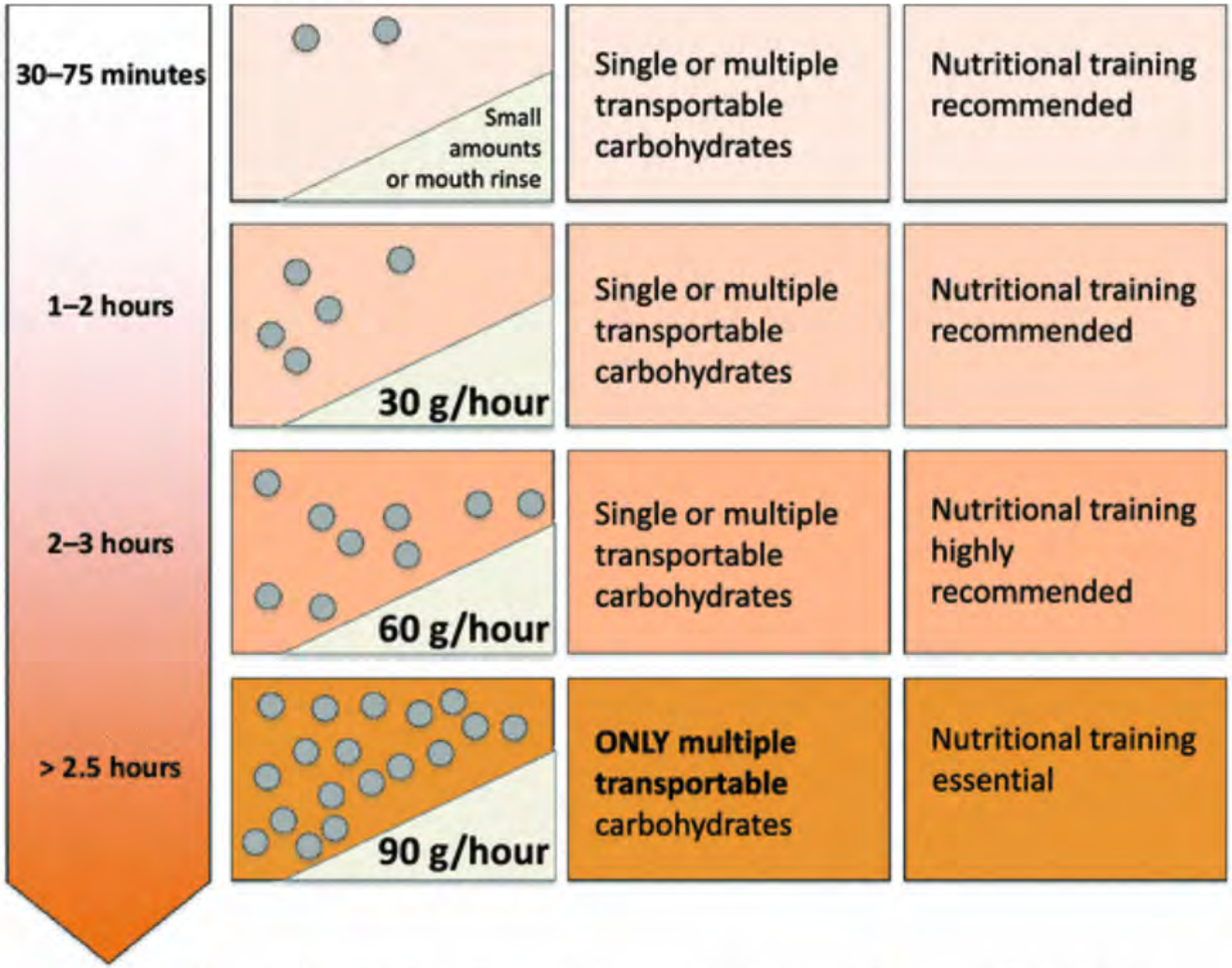
Questions to ask yourself

- How long will I be exercising?
- What is available to me?
- How much do I need?
- What works for me?
- What doesn't work for me?



Key Point: Write your plan down. Practice it.

Carbohydrate intake guidelines



Source: Jeukendrup, Asker, "A Step Towards Personalized Sports Nutrition: Carbohydrate Intake During Exercise," Sports Medicine. May 2014, Volume 44, Issue 1 Supplement, p 27.

Hydration and electrolyte replacement guidelines

Hydration:

- Modest sweat rate is 32 fluid ounces per hour
- Aim to replace 90% during exercise

Electrolytes:

- ACSM recommends 500-700mg sodium for every 32 ounces of water consumed
- May need more if:
  - Heavy sweater
  - Experience cramping
- Notice swelling in hands and feet

What YOU need will vary on a number of factors

Key Factors
Body Mass
Intensity of Effort
Duration of Event
Fitness
Tolerance
Temperature

Example drink mixes

Hammer HEED

Supplement Facts

Serving Size 1 level scoop (29g)
Servings Per Container 32

	Amount Per Serving	% Daily Value
Calories	100	
Total Carbohydrate	26 g	9%*
Sugars	2 g	†
Vitamin B6	7 mg	339%
Calcium	51 mg	5%
Magnesium	26 mg	6%
Manganese	2 mg	89%
Chromium	27 mcg	22%
Chloride	60 mg	2%
Sodium	40 mg	2%
Potassium	25 mg	1%
Glycine 31 mg		†
L-Carnosine 50 mg		†
Tyrosine 11 mg		†

*Percent Daily Values are based on a 2,000 calorie diet.
† Daily Value not established.

INGREDIENTS : Maltodextrin, Xylitol, Natural Flavor, Pyridoxine Hydrochloride, Calcium Chelate, Potassium Chelate, Magnesium Chelate, Salt, L-Carnosine, Stevia, Glycine, Tyrosine, Manganese Chelate, Chromium Polynicotinate.

Skratch Labs

Nutrition Facts

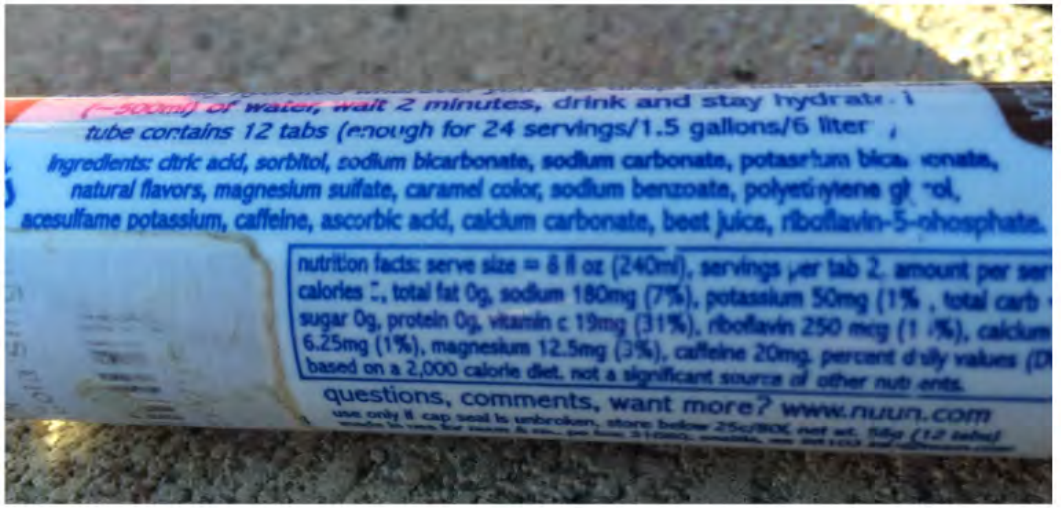
Total Fat 0g
Sodium 180mg
Potassium 20mg
Total Carbohydrate 10g
Sugars 10g
Protein 0g
Vitamin C 15% • Calcium 2%
Magnesium 6%

Ingredients: cane sugar, dextrose, citrate, citric acid, magnesium lactate, calcium citrate, lemon juice, lime juice, potassium citrate, ascorbic acid (Vitamin C).

Example electrolyte replacement

Hammer Endurolytes

NUUN Tablets



Other example products

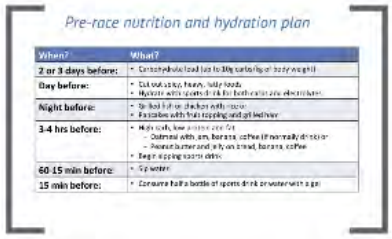
Hammer Gel

Hammer Recoverite

Create Your Plan

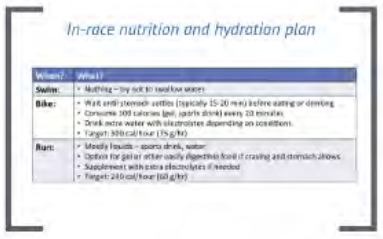
Three parts:

- Pre-race
- In-Race
- Post-race



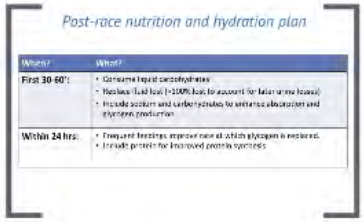
Pre-race nutrition and hydration plan

When?	What?
2 or 3 days before:	• Consume carbohydrate load (up to 10g carbs/kg of body weight)
Day before:	• Eat moderately heavy, fatty foods • Hydrate with sports drink for both water and electrolytes
Night before:	• Grilled fish or chicken with rice • Pancakes with fruit topping and gel before
3-4 hrs before:	• High carb, low protein/fat – Oatmeal with jam, banana, coffee (if normally drink) – Peanut butter and jelly on bread, banana, coffee • Begin sipping sports drink
60-15 min before:	• Sip water
15 min before:	• Consume half a bottle of sports drink or water with a gel



In-race nutrition and hydration plan

When?	What?
Swim:	• Nothing – try not to swallow water
Bike:	• Wait until stomach settles (typically 15-20 min) before eating or drinking • Consume 300 calories (gel, sports drink) every 20 minutes • Drink extra water with electrolytes depending on conditions • Target: 300 cal/hour (75 g/hr)
Run:	• Mostly liquids – sports drink, water • Option for gel or other easily digestible food if craving and stomach allows • Supplement with extra electrolytes if needed • Target: 240 cal/hour (60 g/hr)



Post-race nutrition and hydration plan

When?	What?
First 30-60':	• Consume liquid carbohydrates • Replace fluid lost (~100% lost, to account for later urine losses) • Include sodium and carbohydrates to enhance absorption and glycogen production
Within 24 hrs:	• Frequent feedings, improve rate at which glycogen is restored. • Include protein for improved protein synthesis

Pre-race nutrition and hydration plan

When?	What?
2 or 3 days before:	• Carbohydrate load (up to 10g carbs/kg of body weight)
Day before:	• Cut out spicy, heavy, fatty foods • Hydrate with sports drink for both carbs and electrolytes
Night before:	• Grilled fish or chicken with rice or • Pancakes with fruit topping and grilled ham
3-4 hrs before:	• High carb, low protein and fat – Oatmeal with jam, banana, coffee (if normally drink) or – Peanut butter and jelly on bread, banana, coffee • Begin sipping sports drink
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Post-race nutrition and hydration plan

When?	What?
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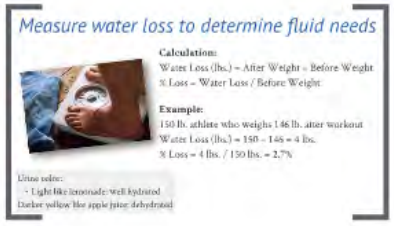
Within 24 hrs:	• Frequent feedings improve rate at which glycogen is replaced. • Include protein for improved protein synthesis

Training

"It's not the will to win, but the will to prepare to win that makes the difference."

- Bear Bryant



Put in the training time for the race...


+

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Don't forget: **NUTRITION & HYDRATION**

Measure water loss to determine fluid needs

Calculation:

Water Loss (lbs.) = After Weight – Before Weight

% Loss = Water Loss / Before Weight

Example:

150 lb. athlete who weighs 146 lb. after workout

Water Loss (lbs.) = 150 – 146 = 4 lbs.

% Loss = 4 lbs. / 150 lbs. = 2.7%

Urine color:

- Light like lemonade: well hydrated

Darker yellow like apple juice: dehydrated

Plan for and practice race day logistics

What to wear, eat, drink, carry

Race day

"The body is much stronger than you know, it is the mind that is the weakness." - Unknown

Follow your plan

...and some final tips for race day...

- Carry some fluids and nutrition
- Don't try anything new
- Be flexible
- Keep moving
- Have fun!

Now, go achieve YOUR success!

"It's not the mountain we conquer, but ourselves." — Edmund Hillary

Thank you for attending!

We'll post the recording at: enduranceworks.net/resources

Upcoming webinar:
- 3/24: The 7 Daily Nutrition Habits for a Better, Healthier Body

Please contact us with any questions:

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