



Endurance Athlete Feeding ... DB#19

Becoming Your Own Chemist
Nutrition during your training & events



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Background:

I am Gluten Free (GF), Dairy Free (DF) no to milk/cheese and yes to eggs.
Mostly nut free - no to peanut butter and yes to Brazilian nuts.

Becoming your own chemist - Why?

- 1) Only put in your body only what you know
- 2) Experiment with each ingredient and amount of each to solve nutrition & cramping problems
- 3) Save money & not be tied to chemistry changes



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Background:

I have experimented many years to find a combination that works for me I have repeatedly suffered from cramping problems of the calf, hamstring & quad muscles during longer 80 to 100+mile rides. I have completed over one hundred metric century to one hundred English mile century events.

I have found three solutions that work for me:

1) My own chemistry of nutrition - Most inexpensive, yet cumbersome to stock & to make

Vs.

2) Skratch Labs + adding nutrition - Easy, yet more expensive



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During - I am a cyclist, so this would be 'on the bike'
This is what would go in each bottle:

- In winter - filtered water, In summer - Coconut Water
- 1 pill Nuun - one bottle with Caffeine & one without
- 1 to 3 teaspoons of electrolyte liquid - depending on temperature outside
- 1/2 scoop of Branch Chain Amino Acids (BCAA)
- Maltodextrin sugar - 1/2 to 1 cup - depending on length of ride 1/2 cup for up to 4 hours
- For longer rides of greater than 4 hours, one of the two bottles will be double strength or doubling everything above. As the first single strength bottle gets to be empty, refill it half way with the double strength bottle and refill the rest of both bottles with whatever water is available.



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The Why's?

- **Coconut water in the summer is for electrolytes**, the natural composition has potassium > sodium helping muscle relaxation.
- **Nuun is simply for flavor & caffeine**, it contains a small amount of electrolyte, but nowhere near enough.
- **Electrolyte liquid - is a very concentrated dosage to prevent cramping**, 3 tsp limit for me because greater create an enema type condition after ride. (for me ~ 1 tsp at < 70 deg F, 2 tsp at < 85 F and~ 2.5 tsp > 86 deg F)
- **BCAA's help with muscle rebuilding during & after your longer workouts.** If you remember Dana Torres who at 41 years old, she missed Olympic gold by < 1 second, my takeaways from her book Age Is Just a Number. 1) You need BCAAs before, during & after workout, 2) Working out with greater rest is required as you get older, 3) You can do great things as you age if you stretch & prepare yourself well.
- **Maltodextrin vs. glucose or fructose for burning a complex vs. simple sugar.** Sugar = Fuel. Even if you are riding in the 'base building' or 'fat burning zone' you are burning ~ 50 percent sugar. Maltodextrin technically a polysaccharide and more complex form of sugar. It has a glycemic index (GI) that is higher than table sugar. Dextrose would be an example of a single sugar and converted into glucose by your body faster than Maltodextrin. I find Maltodextrin does not cause me headaches.



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What is the nutrition? How much does it cost? Where do I buy it?

Product	per serving		Protein	Fat	Electrolytes (all mg)						Cost		Where	
	Carbohydrates (g)	Calories			Chloride	Sulfate	Calcium	Magnesium	Sodium	Potassium	Bulk (\$ US)	Per Bottle (\$ US)		
My mix -_ Totals	87	340	0	0	465	25	111	55	300	1020	136	1.72		3.4
Coconut Water	22	90	0	0	0	0	80	0	80	740	2.89	0.09	16 oz	aldi's ~ 1.3 cost of amazon
Nuun	2	10	0	0	75	0	15	15	100	150	37.6	0.39	1 tablet	amazon
electrolyte liquid	0	0	0	0	390	25	0	40	120	130	40.6	0.56	1 tsp	amazon
BCAA	0	0	0	0	0	0	0	0	0	0	29.99	0.25	1/2 scoop	
Maltodextrin	63	240	0	0	0	0	16	0	0	0	24.44	0.43	1/2 cup	amazon
vs														
Skratch + ' -- Totals	116.5	450	0	0	0	0	162	74	650	799	76.82	2.23		4.5
Skratch Labs	31.5	120	0	0	0	0	66	74	570	59	19.5	1.46	1.5 scoops	amazon
in coconut water	22	90	0	0	0	0	80	0	80	740	2.89	0.09	16 oz	amazon
BCAA	0	0	0	0	0	0	0	0	0	0	29.99	0.25	1/2 scoop	0
+ 1/2 C maltodextrin	63	240	0	0	0	0	16	0	0	0	24.44	0.43	1/2 cup	amazon

Notes

Prices as of 4/25/20

Coconut water from Aldi's - Nature's Nectar Pure Coconut Water

Electrolyte liquid from Amazon two types: LYTEshow Electrolyte (shown) and Trace Minerals Research, Endure, Performance Electrolyte, buy whichever is cheaper on amazon

BCAA from Amazon - BCAA Glutamine Supports Muscle Endurance, Growth Recovery with Essential Amino Acids 0.25

Maltodextrin from Amazon - NOW Sports Nutrition, Carbo Gain Powder (Maltodextrin), Rapid Absorption, Energy Production, 8-Pound





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In conclusion

My mix - *Become your own Chemist vs. Skratch+*

1/3 less calories

3 times the potassium as sodium

20% more potassium with ½ the sodium \$3.4/ride vs.

\$4.5/ride assuming 2 bottles/ride



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Nuun

SUPPLEMENT FACTS: Serving Size: 1 tablet (4.4 g) (makes 16 fl-oz/500ml prepared), Servings Per Container 12, Amount Per Serving: **Calories: 10, Total Carb 2g** (1% DV*), Total Sugars 2g (INCL. 2g added sugars (4% DV)), Vitamin A (as beta carotene) 112 mcg (13% DV), Vitamin C (as ascorbic acid) 10 mg (11% DV), Vitamin D (as ergocalciferol) 5 mcg (25% DV), Vitamin E (as d-alpha tocopherol acetate) 2 mg (13% DV), Vitamin B6 (as pyridoxal-5 phosphate) 0.25 mg (15% DV), Folic Acid (as folic acid) 136 mcg DFE (34% DV), Calcium (as calcium carbonate) 15 mg (<2% DV), Magnesium (as magnesium oxide) 15 mg (4% DV), Chloride (as Himalayan Sea Salt) 75mg (3% DV), **Sodium** (as Himalayan Sea Salt, sodium bicarbonate,) 100 mg (4% DV), Potassium (as potassium bicarbonate) 150 mg (3% DV). *The % Daily Value 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.

Electrolyte

Supplement Facts		
Serving Size 3.0 mL (0.6 tsp)		
Servings Per Container: 40		
	Amount Per Serving	% Daily Value
Magnesium	40 mg	10%
Sodium	125 mg	5%
Zinc	2 mg	10%
Chloride	390 mg	10%
Potassium	130 mg	4%
Sulfate	20 mg	-
+ Daily Value not established		

Maltodextrin from Corn

Nutrition Facts		
About 57 servings per container		
Serving size 1/2 cup (63g)		
Amount per serving		
Calories 240		
	Amount	% Daily Value*
Total Fat 0g		0%
Saturated Fat 0g		0%
Trans Fat 0g		
Cholesterol 0mg		0%
Sodium 45mg		2%
Total Carbohydrate 60g		22%
Dietary Fiber 0g		0%
Total Sugars 2g		
Includes 0g Added Sugars		0%
Protein 0g		0%
Vitamin D 0mcg		0%
Calcium 16mg		2%
Iron 0mg		0%
Potassium 0mg		0%

* 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.

INGREDIENT: PURE MALTODEXTRIN (FROM NON-GMO CORN).

QUALITY TESTED & PACKAGED BY:
NOW FOODS, 395 S. GLEN ELLYN RD.
BLOOMINGDALE, IL 60108, USA
nowsportsproducts.com

BCAA

Supplement Facts		
Serving Size 1 Scoop (6.9g)		
Servings Per Container About 59		
	Amount Per Serving	% Daily Value
Vitamin C (as ascorbic acid)	30 mg	33%
L-Glutaminet	2.5 g	*
L-Leucinet	2 g	*
L-Isoleucinet	1 g	*
L-Valinet	1 g	*

* Daily Value not established.

Other ingredients: None.

Does not contain: Gluten, Sugar, Salt, Preservatives, Artificial Colors or Flavors.

† Free Form Amino Acids

* These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

Skratch

Nutrition Facts	
About 20 servings per container	
Serving size 1 scoop (22g)	
Amount per serving	
Calories 80	
	% Daily Value*
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 380mg	16%
Total Carbohydrate 21g	8%
Dietary Fiber 0g	0%
Total Sugars 18g	
Includes 18g Added Sugars	38%
Protein 0g	
Vit. D 0mcg 0%	Calcium 44.3mg 4%
Iron 0.02mg 0%	Potas. 39mg 0%
Magnes. 39mg 10%	

* 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.

Ingredients: Cane Sugar, Dextrose, Sodium Citrate, Citric Acid, Magnesium Lactate, Calcium Citrate, Potassium Citrate, Lemon Oil, Lime Oil, Lemon Juice, Lime Juice, Ascorbic Acid (Vitamin C).

Coconut Water

Serving Size 1 1/2 (240 mL)		
	Amount per Serving	% Daily Value
Calories	60kcal	12%
Total Fat	0g	0%
Saturated Fat	0g	0%
Trans Fat	0g	0%
Cholesterol	0mg	0%
Sodium	40mg	2%
Potassium	400mg	10%
Total Carbohydrate	11g	2%
Sugars	11g	10%
Added Sugars	0g	0%
Fiber	0g	0%
Protein	0g	0%
Vitamin A	0IU	0%
Vitamin C	10mg	10%
Calcium	40mg	4%
Iron	0mg	0%



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Potential Ingredients

Nuun = Nuun Hydration: Vitamin + Electrolyte Drink Tablets & Nuun Sport + Caffeine: Electrolyte Tablets, Effervescent Hydration Supplement with caffeine

Electrolyte = LYTEshow Electrolyte Supplement for Hydration OR Trace Minerals Research , Endure, Performance Electrolyte Production

Maltodextrin from Corn = NOW Sports Nutrition, Carbo Gain Powder (Maltodextrin), Rapid Absorption, Energy

BCAA = BCAA Glutamine Supports Muscle Endurance, Growth Recovery with Essential Amino Acids by BodyTech

Skratch =SKRATCH LABS Sport Hydration Drink Mix, Fruit Punch - Natural, Electrolyte Powder Developed for Athletes and Sports Performance, Gluten Free, Vegan, Kosher

Coconut Water = Nature's Nectar 100% Pure Coconut Water

All of the ingredients can be found on Amazon. Coconut water, I have found less expensive at Aldi's locally.