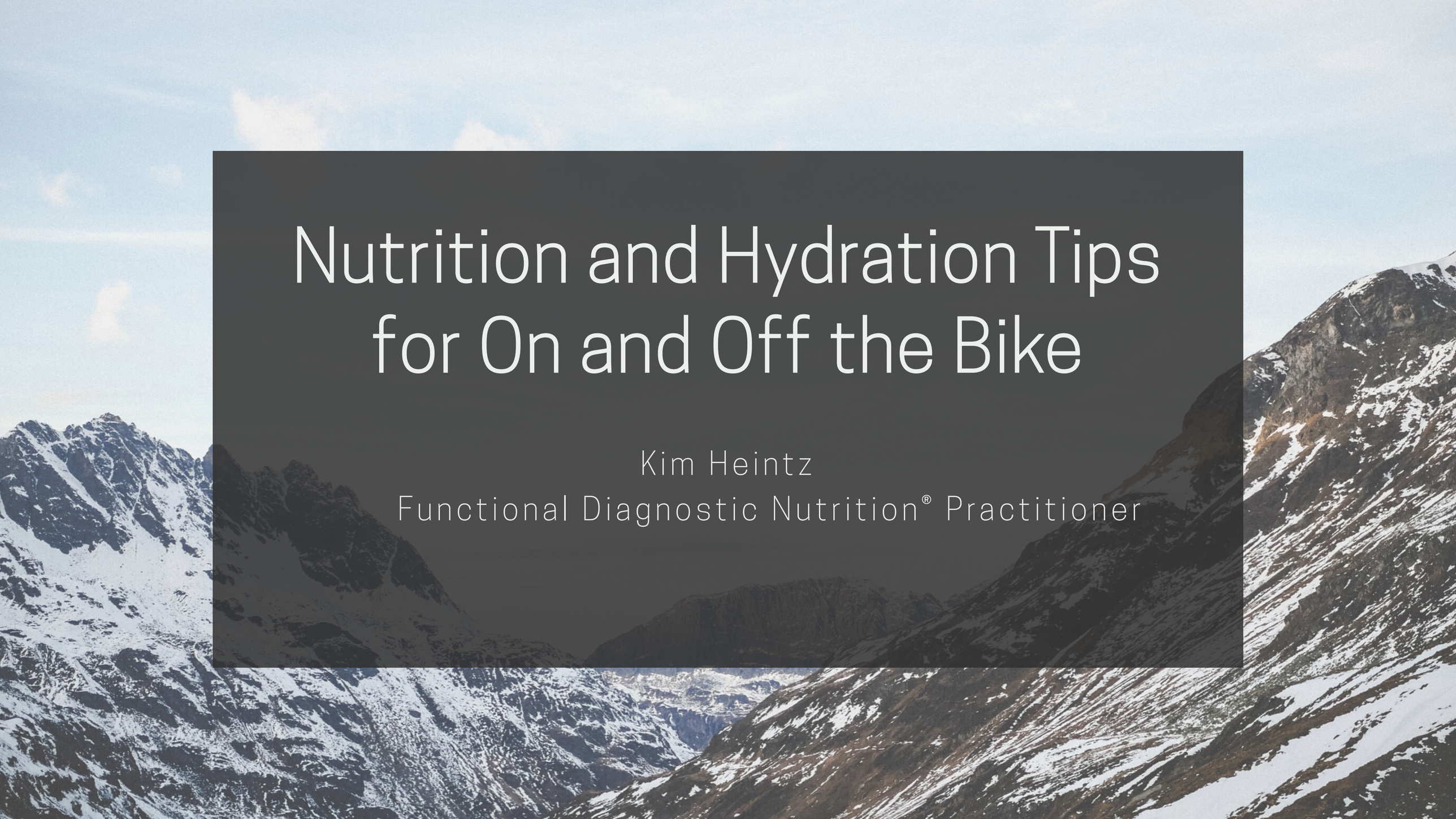


Nutrition and Hydration Tips for On and Off the Bike

Kim Heintz
Functional Diagnostic Nutrition® Practitioner

Hey, I'm Kim!

www.kimheintz.com

OPPORTUNISTIC/OVERGROWTH MICROBES

DYSBIOTIC & OVERGROWTH BACTERIA	Result		Reference
Bacillus spp.	1.02e6		< 1.76e6
Enterococcus faecalis	4.86e3		< 1.00e4
Enterococcus faecium	3.97e3		
Morganella spp.	<dl		
Pseudomonas spp.	<dl		
Pseudomonas aeruginosa	<dl		
Staphylococcus spp.	<dl		
Staphylococcus aureus	5.33e2	High ↑	
Streptococcus spp.	8.65e3	High ↑	
COMMENSAL OVERGROWTH MICROBES			
Desulfovibrio spp.	2.08e4		
Methanobacteriaceae (family)	4.17e8	High ↑	
INFLAMMATORY & AUTOIMMUNE-RELATED BACTERIA			
Citrobacter spp.	<dl		
Citrobacter freundii	<dl		
Klebsiella spp.	<dl		
Klebsiella pneumoniae	<dl		
M. avium subsp. paratuberculosis	<dl		
Proteus spp.	9.03e4	High ↑	
Proteus mirabilis	<dl		
COMMENSAL INFLAMMATORY & AUTOIMMUNE-RELATED BACTERIA			
Enterobacter spp.	3.48e7		
Escherichia spp.	1.38e8		
Fusobacterium spp.	2.68e6		
Prevotella spp.	1.84e8	High ↑	

FUNGI/YEAST

FUNGI/YEAST	Result
Candida spp.	<dl
Candida albicans	<dl
Geotrichum spp.	<dl
Microsporidium spp.	<dl
Rhodotorula spp.	<dl

VIRUSES

VIRUSES	Result
Cytomegalovirus	<dl
Epstein-Barr Virus	<dl

Oxalate Metabolites

19	Glyceric	0.77	- 7.0		4.8
20	Glycolic	16	- 117	H	245
21	Oxalic	6.8	- 101		67

Glycolytic Cycle Metabolites

22	Lactic		≤ 48		34
23	Pyruvic		≤ 9.1		6.0

Mitochondrial Markers - Krebs Cycle Metabolites

24	Succinic		≤ 9.3		3.6
25	Fumaric		≤ 0.94	H	1.9
26	Malic	0.06	- 1.8	H	2.3
27	2-Oxoglutaric		≤ 35	H	46
28	Aconitic	6.8	- 28		9.1
29	Citric		≤ 507		308

Mitochondrial Markers - Amino Acid Metabolites

30	3-Methylglutaric		≤ 0.76		0.21
31	3-Hydroxyglutaric		≤ 6.2		5.2
32	3-Methylglutaconic		≤ 4.5		1.1

Neurotransmitter Metabolites

Phenylalanine and Tyrosine Metabolites

33	Homovanillic (HVA) *(dopamine)*	0.80	- 3.6		1.7
34	Vanillylmandelic (VMA) *(norepinephrine, epinephrine)*	0.46	- 3.7		1.3
35	HVA / VMA Ratio	0.16	- 1.8		1.3
36	Dihydroxyphenylacetic (DOPAC) *(dopamine)*	0.08	- 3.5		0.98
37	HVA/ DOPAC Ratio	0.10	- 1.8		1.7

Tryptophan Metabolites

38	5-Hydroxyindoleacetic (5-HIAA) *(serotonin)*		≤ 4.3		0.84
39	Quinolinic	0.85	- 3.9		1.5
40	Kynurenic		≤ 2.2		0.51

NUTRITIONAL ELEMENTS

	Ca	Mg	Na	K	Cu	Zn	P	Fe	Mn	Cr	Se	B	Co	Mo	S
	Calcium	Magnesium	Sodium	Potassium	Copper	Zinc	Phosphorus	Iron	Manganese	Chromium	Selenium	Boron	Cobalt	Molybdenum	Sulfur
HIGH	172	20.0	68	46	6.9	32	29	2.7	.250	0.14	0.33	1.80	.005	.013	7126
	135	15.5	52	35	5.4	27	25	2.2	.190	0.11	0.26	1.36	.004	.011	6231
REFERENCE RANGE	97	11.0	36	24	3.9	21	20	1.6	.130	0.08	0.18	0.91	.003	.008	5336
	22	2.0	4	2	0.9	10	11	0.5	.010	0.02	0.03	0.02	.001	.003	3546
LOW						5	7						.000	.001	2651
	104	17.2	20	2	3.4	14	12	0.6	.022	0.06	0.07	0.08	.002	.002	4221

TOXIC ELEMENTS

	Sb	U	As	Be	Hg	Cd	Pb	Al
	Antimony	Uranium	Arsenic	Beryllium	Mercury	Cadmium	Lead	Aluminum
HIGH	.035	.0595	.070	.004	0.63	.049	1.1	6.3
	.030	.0510	.060	.003	0.54	.042	0.9	5.4
	.025	.0425	.050	.003	0.45	.035	0.8	4.5
	.020	.0340	.040	.002	0.36	.028	0.6	3.6
	.015	.0255	.030	.002	0.27	.021	0.5	2.7
REFERENCE RANGE	.010	.0170	.020	.001	0.18	.014	0.3	1.8
		<<		<<		<<	<<	<<
	N/A	.0005	.004	.001	0.04	.001	0.1	0.3

ADDITIONAL ELEMENTS

	Ge	Ba	Bi	Rb	Li	Ni	Pt	Tl	V	Sr	Sn	Ti	W	Zr
	Germanium	Barium	Bismuth	Rubidium	Lithium	Nickel	Platinum	Thallium	Vanadium	Strontium	Tin	Titanium	Tungsten	Zirconium
HIGH	.008	0.39	.059	.0265	.009	.15	.003	.0090	.020	0.74	0.05	.30	.017	0.14
	.005	0.26	.039	.0190	.006	.10	.002	.0060	.014	0.50	0.03	.20	.011	0.09
REFERENCE RANGE	.000	0.00	.000	.0000	.001	.00	.000	.0000	.002	0.03	0.00	.00	.000	0.00
	<<						<<	<<					<<	
	.003	0.12	.003	.0023	.001	.01	.001	.0005	.005	0.48	0.01	.04	.001	0.03

"<<": Below Calibration Limit; Value Given is Calibration Limit

"QNS": Sample Size Was Inadequate For Analysis.

"N/A": Currently Not Available

Ideal Levels And Interpretation Have Been Based On Hair Samples Obtained From The Mid-Parietal To The Occipital Region Of The Scalp.

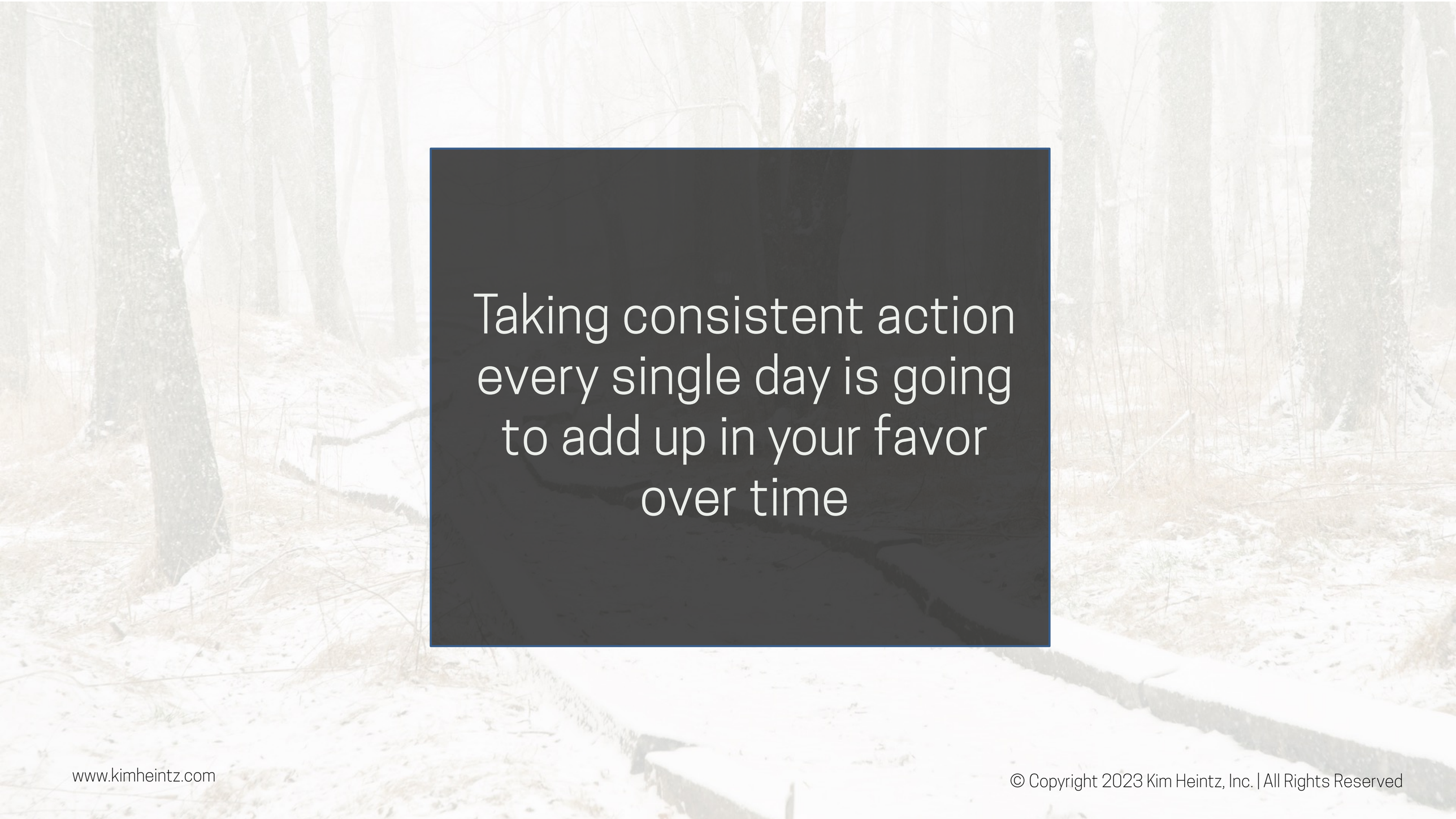
Laboratory Analysis Provided by Trace Elements, Inc.
an H. H. S. Licensed Clinical Laboratory.
No. 45 D0481787 Lab Dir: P. Mendershausen, Ph.D.

In This Workshop

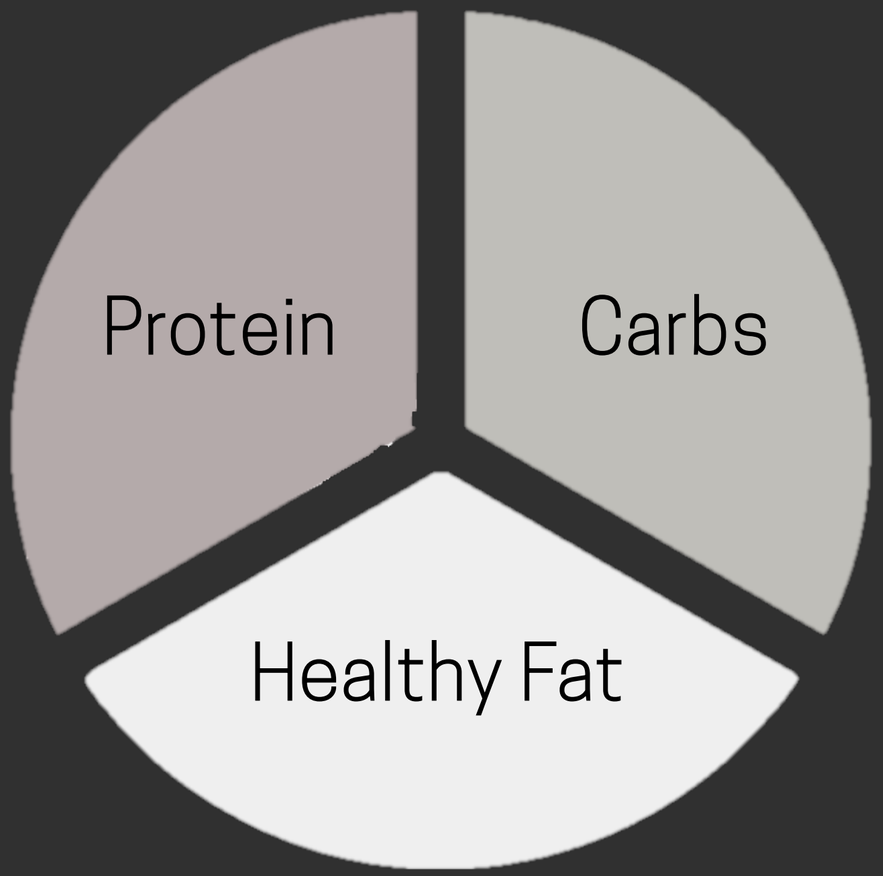
- How to fuel yourself for optimal performance both on and off the bike
- What nutrient most women do not get enough of and how to figure out how much you need
- Determining how much hydration you need both on and off the bike
- Why balancing minerals daily – not just on the bike – is the secret sauce to optimizing your hydration levels
- Some of my favorite recipes

Do you feel confused on exactly what to eat?

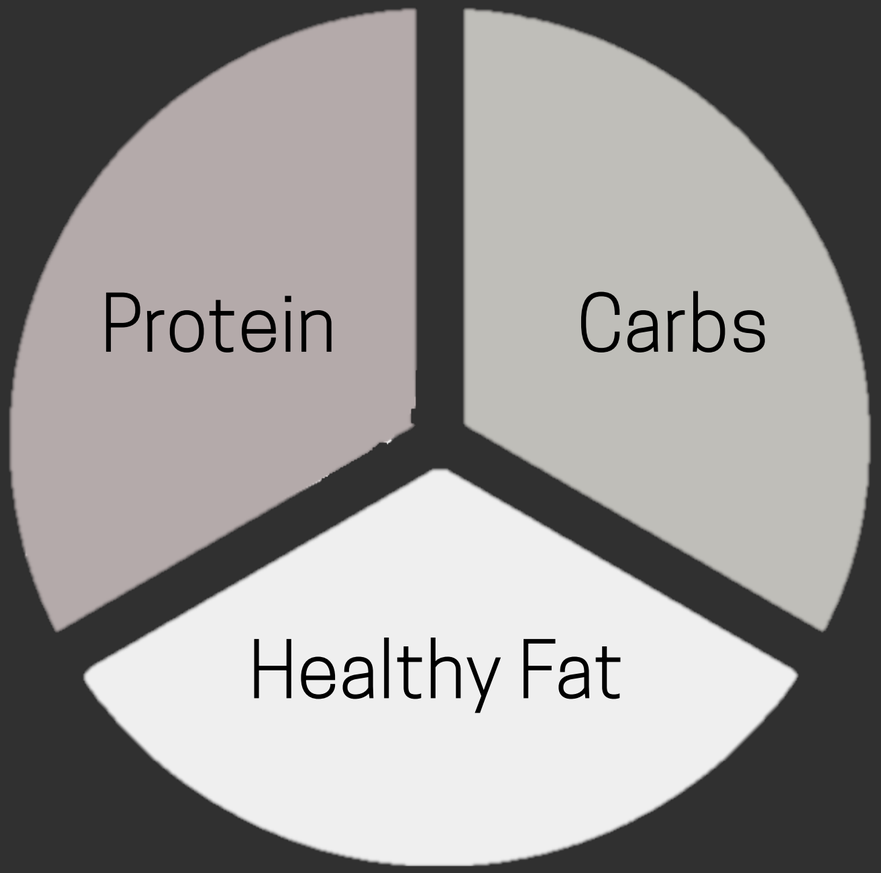
When I first started adventure racing…



The 3 Best Friends:



Your 3 Best Friends:



These are all critical for exercise, recovery, hormone production, feeling energized all day long, mental clarity, and more

Your 3 Best Friends:

Let’s talk about carbs first

The Benefits of Carbs

- Some B vitamins for energy (especially folate)
- Loaded with fiber and antioxidants
- Vegetables (especially greens) help the body naturally detox
- Help keep cortisol levels balanced

The Downside of Eating Low Carb

- Low carb diets cause increase sodium loss, which can lead to electrolyte issues and dehydration
- High fat, low carb diets elevates cortisol levels, which…
  - Breaks your body down and doesn't allow you to recover
  - Harms protein synthesis
  - Hurts your immune system
  - Puts your body under a lot of stress

General Guidelines for Carbs:

Aim for 30-40% of your daily caloric intake from carbs

1 gram of carbs = 4 calories

Aim to eat the starchier carbs before 2pm as they can raise blood sugar

Non-starchy veggies, root veggies, and carbs like quinoa, beans, lentils, hummus, and amaranth don’t spike blood sugar

Your 3 Best Friends:

Let’s talk about protein

Most women do not eat enough protein

Protein is a dietary SUPERSTAR

- A lot of studies are showing tons of health benefits from eating higher protein diets vs higher carb diets
  - Blood pressure, cholesterol, decreased risk of heart disease
- Helps maintain muscle tissue and building muscle
- Major player in
  - Hormones production
  - Sleep
  - Digestion
  - Ovulation
  - Immunity
- Increases satiety, so you feel satisfied with less food
- Burns more calories when we process it

General Guidelines for Protein:

Aim for 30% of your daily caloric intake from protein

1 gram of protein = 4 calories

Aim for between 0.8g to 1.2g per pound of bodyweight

(higher end when activity is higher, lower end when less)

<u>Easy way to get it in:</u>

Eat a least 30 grams of protein with every meal (along with its BFFs carbs and healthy fat)

Include some protein snacks

If you are plant-based, research the protein sources you need to get in all 9 essential amino acids.

Meat, eggs, fish, and most dairy already includes these

Your 3 Best Friends:

Let’s talk about fat

Fat is essential for performance and optimal health

Benefits of Healthy Fats

- Controls your appetite hormones – keeping you feeling full longer
- Help reduce cravings and snacking
- Stabilizes blood sugar
- Makes you feel calm and relaxed
- Slows digestion
- Keep our energy high for much longer than carbs do

Sources of Healthy Fats

- Avocados & avocado oil
- Full fat coconut milk
- Organic, nitrate-free bacon
- Organic olive & coconut oil
- Grass-fed ghee (instead of butter)
- Organic & pasture-raised meats and eggs
- Quality cheeses
- Nuts and nut butters

General Guidelines for Fats:

Aim for 30-40% of your daily caloric intake from fats

1 gram of fats = 9 calories

Test out whether you like higher percentage of ***fats or carbs*** and pick the ratios that work for you

Include a serving of fat with each meal to help keep things balanced

What to eat right before, during, and after a ride

Before – Night before/morning of

- Healthy carbs (rice, quinoa, etc)
- Light proteins
  - For meat → the less legs the better – easier to digest
- Foods lower in fat because it's easier to digest

During a Ride

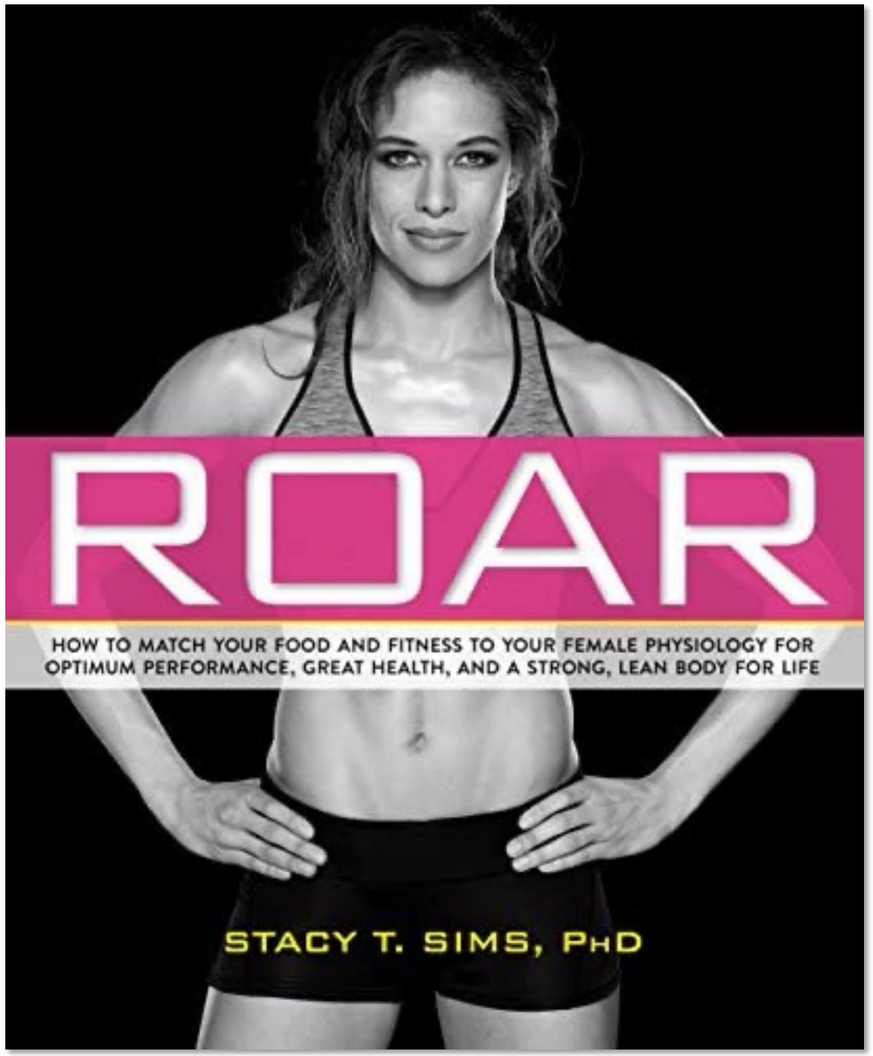
- 40-50g carbs per hour of exercise beyond 60 minutes
- Some light protein
- Light fats
- Easy to digest
- Focus on real foods when possible
- Avoid eating a ton of sugary foods

A gel brand that I like and is easy on my digestion is Maurten

Post Ride

- 30g of protein (within 30 min)
- Restock carbs within 2 hours
- Avoid sugary foods

Want to learn more?



Many people are chronically dehydrated

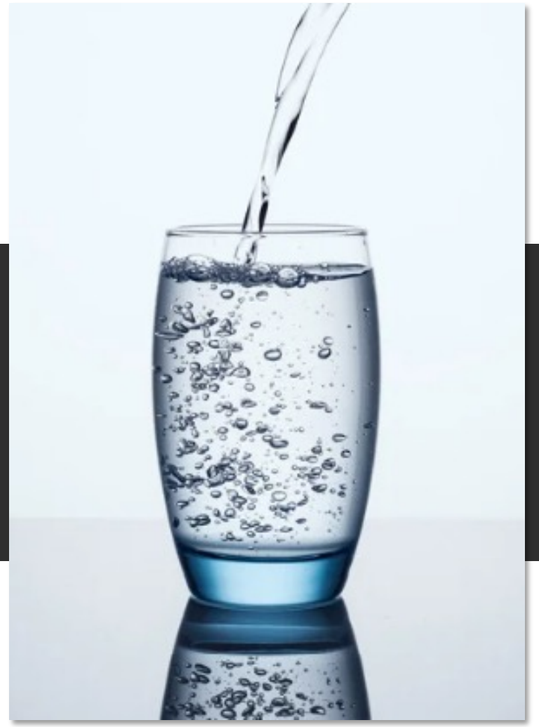
Hydration Tip #1:

Not including workouts…

Aim to drink at least ½ your bodyweight (in ounces) daily.

So, if you weigh 150lbs, you want to aim for at least 75 ounces of water a day.

Hydration Tip #2:



- When you're adding exercise into the mix, you'll want to add 12 ounces per 30 minutes of exercise.

So if you weigh 150 lbs and ride for 2 hours:

75 oz + (12 oz X 4) = 123 oz that day

- Add more on days that are hot or you're sweating more.

If we drink water without electrolytes, especially when working out, we can still get dehydrated.

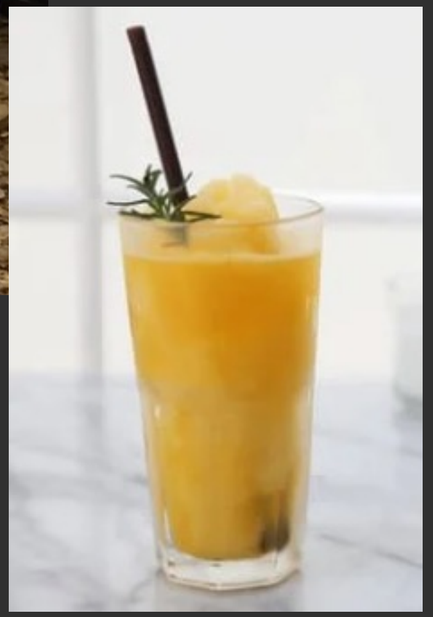
Hydration Tip #3:

- Start each morning with a pinch of sea salt (up to ¼ tsp) in a glass of warm water with a squeeze of lemon

- You can do this midday too if desired

You can also drink an adrenal cocktail

Drink an adrenal cocktail between mid-morning and 2-3pm
if you feel like your energy dips.



- 3 ounces of OJ
  - (vitamin C helps adrenals)
- 1 tsp of of cream of tartar
  - (rich in potassium)
- ¼ tsp of Celtic sea salt
  - (rich in sodium, potassium, and magnesium)
- 3 ounces of coconut water or full fat coconut milk
  - (rich in potassium)

What's so special about minerals in the body?

“

Minerals are the ‘spark plugs of Life’

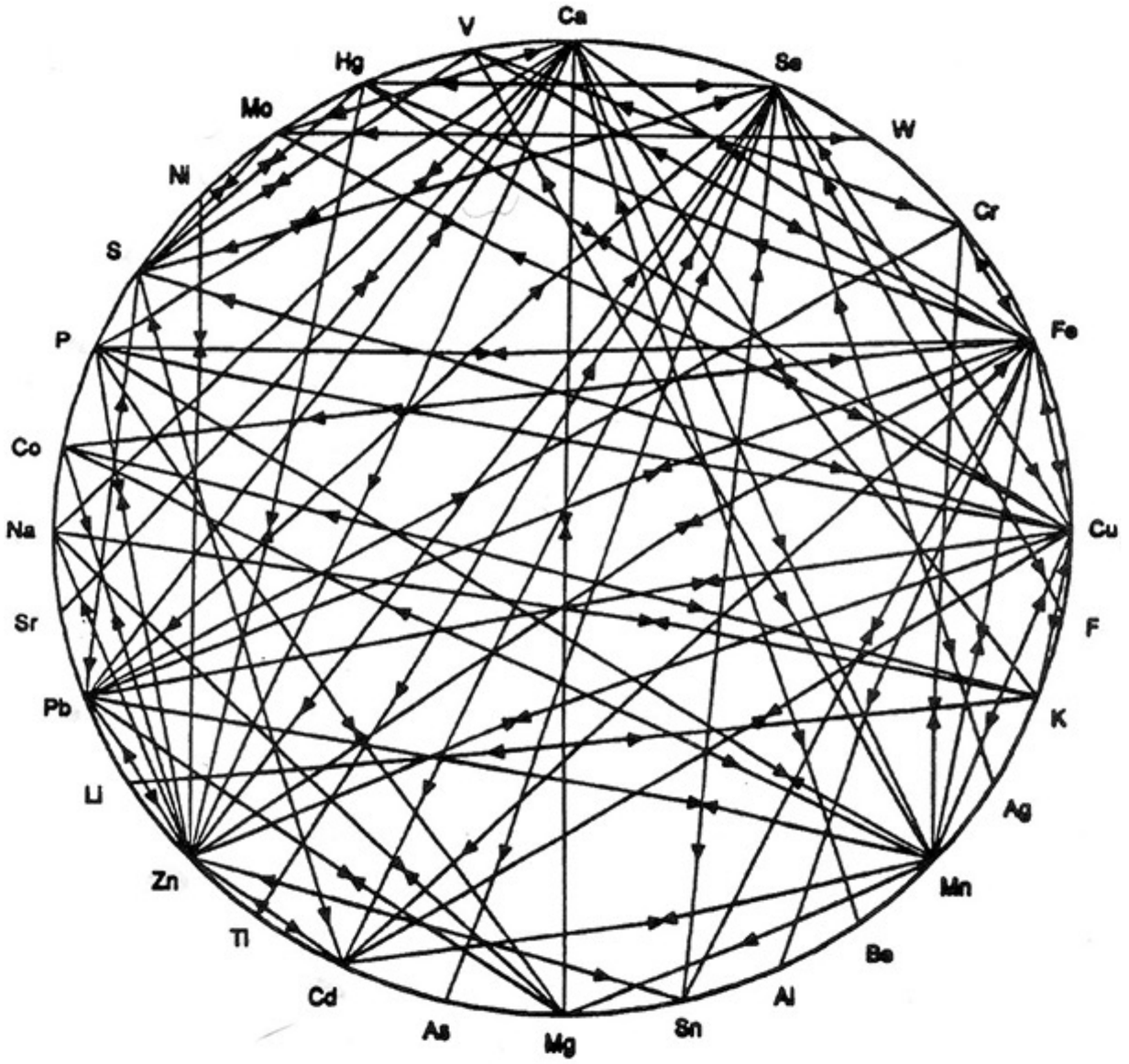
Dr. Henry Schroeder

Electrolytes are chemicals that conduct electricity when dissolved in water.

They regulate nerve and muscle function, hydrate the body, balance blood acidity and pressure, and help rebuild damaged tissue.

The muscles and neurons are sometimes referred to as the “electric tissues” of the body.

No Mineral Stands Alone



Most people are deficient in sodium, potassium, & magnesium

& they tend to have too much calcium

Hydration Tip #5:

- Stay ahead of your electrolytes rather than try to chase after them – it'll be far more effective
- We cannot spot-treat minerals
- It's best to get most of your electrolytes & minerals from whole food sources

Sodium

- Celtic sea salt
- Pickled veggies
- Sauerkraut
- Celery juice
- Artichoke
- Beets
- Swiss chard
- Animal products
- Eggs

Magnesium

- Spinach
- Pumpkin seeds
- Avocados
- Hemp seeds
- Swiss chard
- Dark chocolate
- Almonds
- Cashews
- Mackerel
- Banana
- Plantain
- Beet greens
- Sunflower seeds
- Summer squash
- Black beans
- Brown ride
- Broccoli

Potassium

Dried apricots
Acorn squash
Stinging nettle tea
Celery juice
Coconut water
Coconut milk
Beet greens
Avocados
Russet potatoes (skins especially)
White button mushrooms
Tomatoes
Banana cantaloupe
Asparagus
Spinach

Hydration Tip #6

Use electrolyte packets before, during, and after rides to help replenish

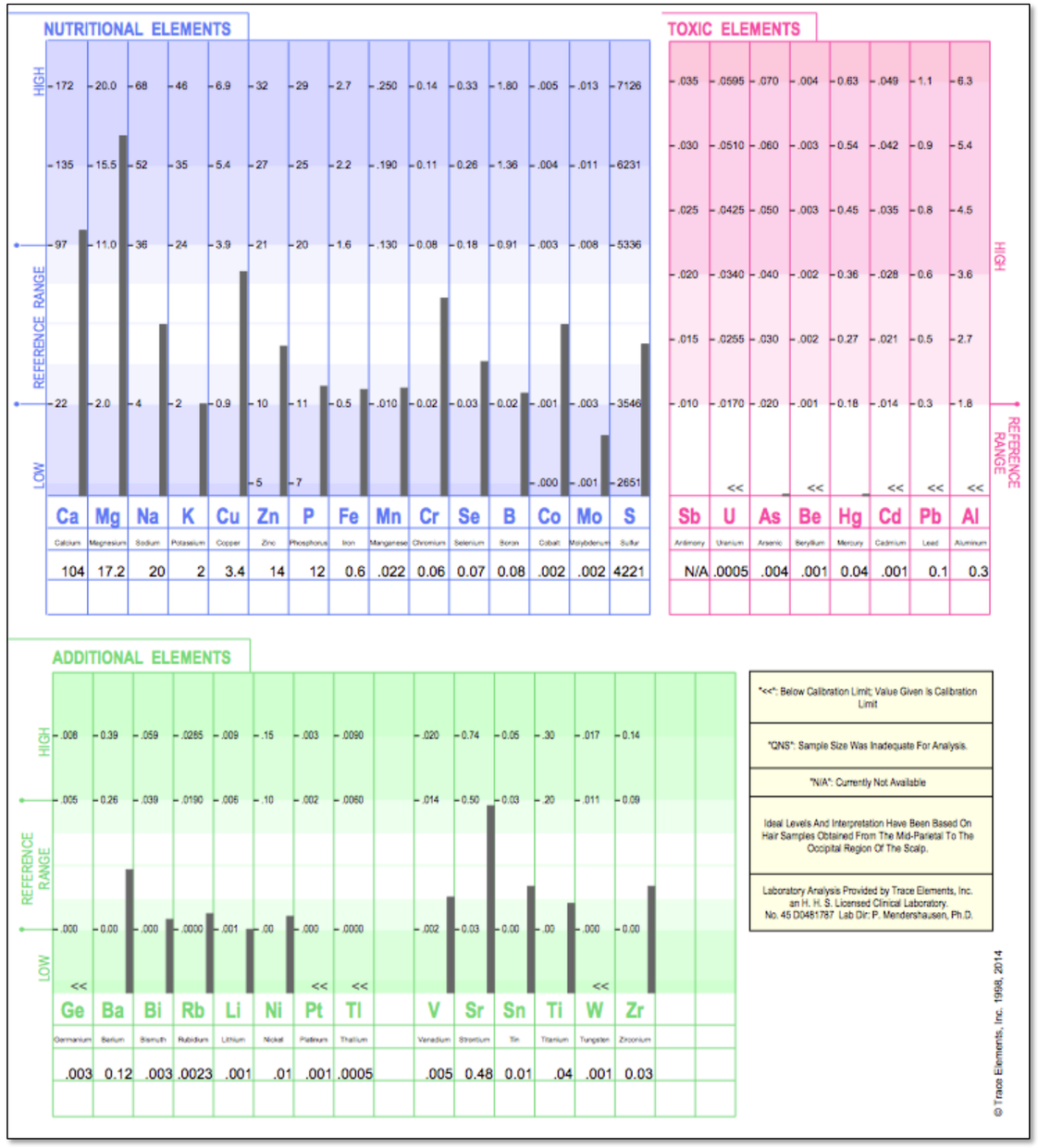
Signs your minerals/electrolytes are depleted:

- Feel worse after exercising/feeling fatigued
- Dizziness
- Cramps
- Lack of energy
- Constipation
- Skin issues
- Water retention/bloating
- Confusion
- Muscle weakness
- Bloating/water retention
- Weak feeling
- Low blood pressure
- Depression
- Heart palpitations

The best way to figure out how you're getting enough and how to get minerals & electrolytes in balance?

Test, don't guess.

Running a hair tissue mineral analysis is a great way to determine what your body needs (and doesn't need)



Sources

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- Kendra Perry – HTMA Expert Course
- Dr. Stacy T. Sims – Roar
- Balanced Bombshells – Lifestyle Plan

Questions?