



COACH ROBB
SOLUTIONS

FUELING PERFORMANCE

NUTRITION FOR ATHLETES

ENDURANCE SPEED HYDRATION PERFORMANCE STRENGTH RECOVERY

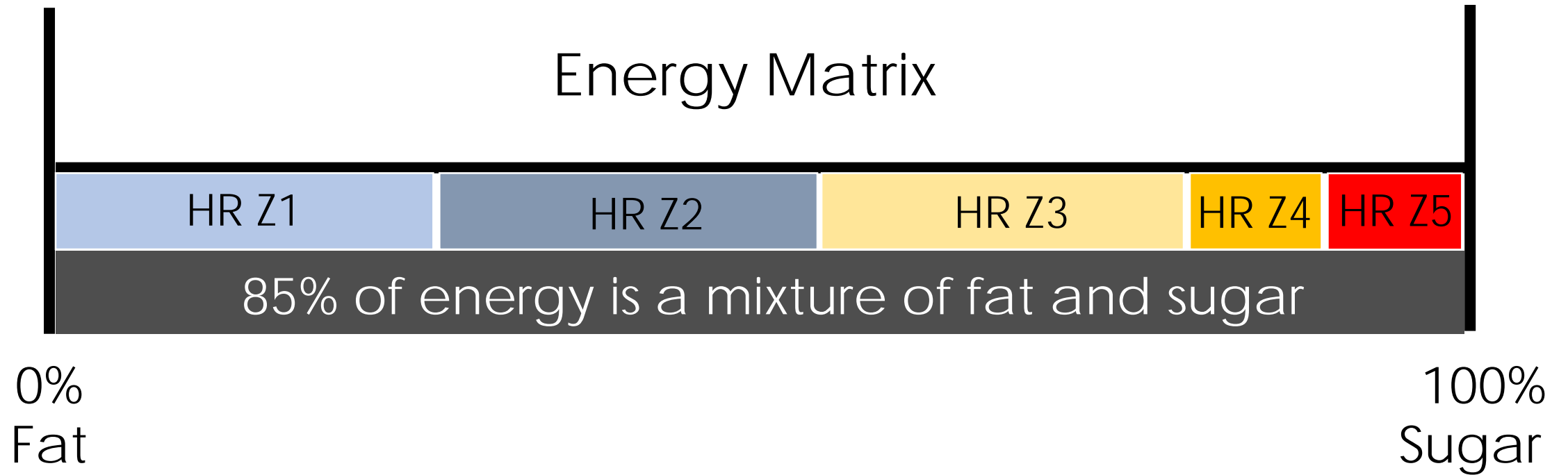
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“I am sleeping like a baby 2nd day in a row, something that I wasn’t able to do in months, if not years even though I have tried everything. All it took was an avocado, two strips of bacon, and a spoonful of coconut oil before going to bed. THANK YOU!!”

- Gphilip

Source of Calories – Intensity Derived



Protein Equals 15% Total Energy

Heart Rate Spreadsheet

Heart Rate Zone Calculators

Run	
Enter Test Date ->	5/16/2018
Maximum Heart Rate ->	180
Resting Heart Rate ->	56
Heart Rate Reserve	124

Concept 2	
Enter Test Date ->	5/16/2018
Maximum Heart Rate ->	185
Resting Heart Rate ->	56
Heart Rate Reserve	129

Bicycle	
Enter Test Date ->	5/16/2018
Maximum Heart Rate ->	170
Resting Heart Rate ->	56
Heart Rate Reserve	114

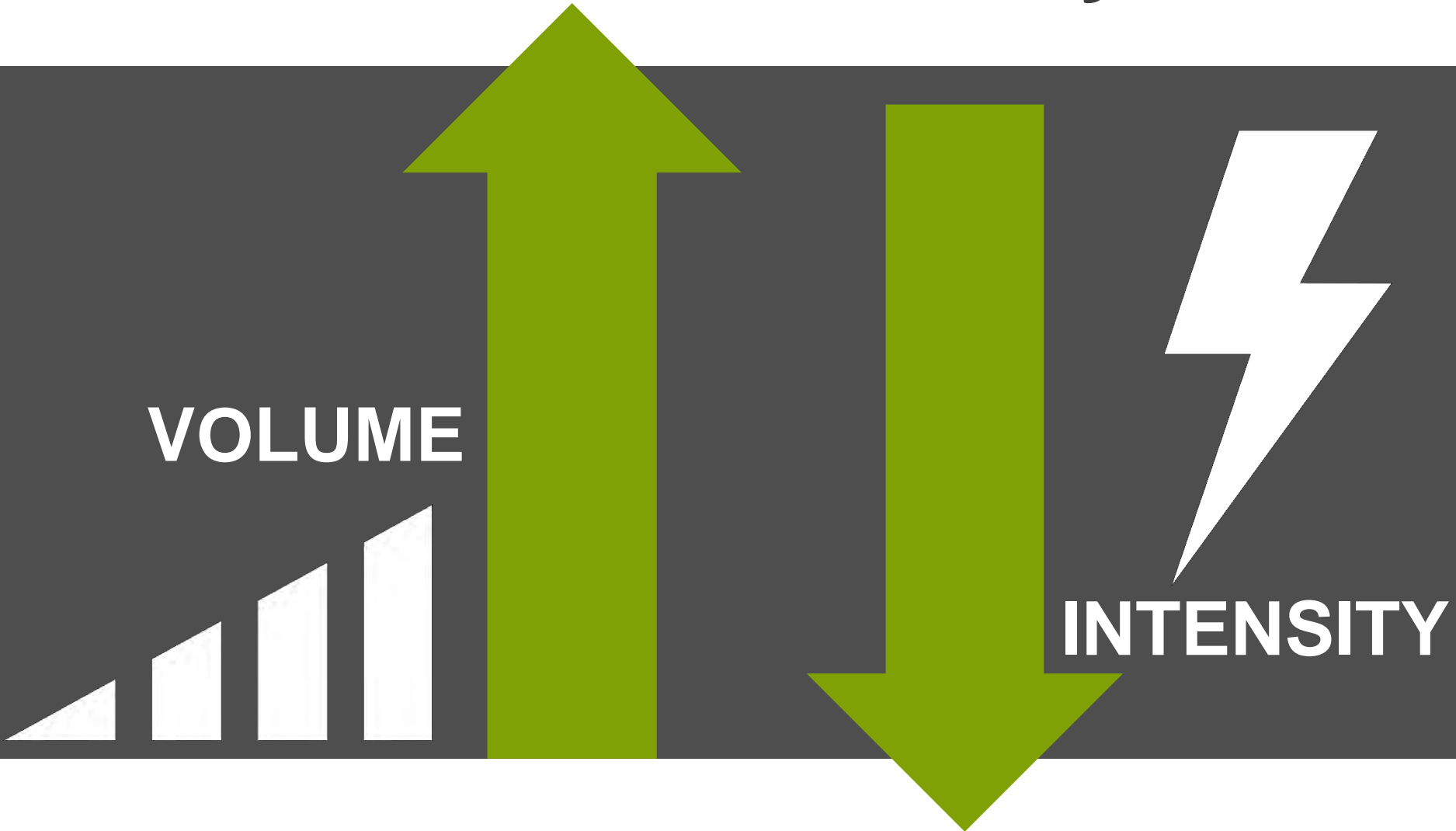
Zones	Objective	% Of HRR	Low	High
Z1	Recovery	55 - 64	122	137
Z2	Aerobic Foundation	65 - 74	135	150
Z3	Intensive Endurance	75 - 84	147	162
Z4	Anerobic Threshold	85 - 92	159	172
Z5	Lactate Tolerance	93 - 98	169	180

Zones	Objective	% Of HRR	Low	High
Z1	Recovery	55 - 64	125	141
Z2	Aerobic Foundation	65 - 74	138	153
Z3	Intensive Endurance	75 - 84	151	166
Z4	Anerobic Threshold	85 - 92	164	177
Z5	Lactate Tolerance	93 - 98	174	184

Zones	Objective	% Of HRR	Low	High
Z1	Recovery	55 - 64	117	131
Z2	Aerobic Foundation	65 - 74	128	142
Z3	Intensive Endurance	75 - 84	140	154
Z4	Anerobic Threshold	85 - 92	151	163
Z5	Lactate Tolerance	93 - 98	160	170

Inverse relationship between intensity and food complexity

The Inverse Relationship Between Volume & Intensity





Why Fuel for Performance?

- 98% of molecules in body are replaced annually
- Blood, muscle proteins, tendons & ligaments are completely replaced every six months
- Improve Body Composition
 - Lean muscle tissue for efficiency
 - Muscular endurance
 - Keep core body temperature down
 - Volume of oxygen uptake (VO2 max)
 - Strength to weight ratios
- Improve Immune System
- Create Durability

Nutritional Periodization

- Pre-Season
 - Maximum strength & aerobic enhancement
- Pre-Competitive
 - Strength
 - Aerobic
 - Speed Work
- Competitive
 - Maintain strength, aerobic engine and ability to recover from speed work & racing

WEEK	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
2	Rest Day	Wts. Anatomical Adaptation Run: 1 Hour Even Tempo	Swim: 2700 Yards Bike: 90' Even Tempo w/ Standing Accelerations	Wts. Anatomical Adaptation Run: ½ Mile Intervals	Swim: 2500 Yards Bike: 90' Even Tempo w/ Standing Accelerations	Run: 6 Miles/Hilly Wts. Anatomical Adaptation	Bike: 2 Hours Fragmented Swim: 1800 Yards

COMPLETE TRIATHLON SOLUTIONS

Training Cycle: 6 Weeks
Cycle Duration: 2/6
Focus: Enhanced Strength & Aerobic Capacity

Intensity Note:
• Blue highlights indicate HR Zone 2 or less (builds your aerobic engine - burns fat as a primary fuel source)
• Red highlights indicate HR Zone 3+ (builds your strength, speed & L1 - burns stored sugar as a primary fuel source)

Monday
• **Body Analysis:** please use your Coach Robb Report Card to log this information for evaluation purposes
• **Complete Rest Day**
• **Misc. Notes:** Research supports increased salt intake - this was the title of an article written by sports scientist Bob Seabach where he reviewed eight scientific articles published in a medical research journal in addition to consulting with a world class endurance athlete (Joanna Zeiger). Here is a recap of what he extracted from the articles:
1. Symptoms of low salt levels: dizziness, nausea, vomiting, throbbing headache, swollen hands, a bloated stomach
2. Sodium losses range from 3.6-5.5 grams per hour (depending on intensity, temperature & humidity levels)
3. Steps to offset low sodium levels:
a. Increase sodium intake by preloading 3 to 4 grams of sodium 12 to 24 hours before a hard workout or race
b. Consume between 600-1500 milligrams of sodium per hour (and follow your third level) of training or racing
c. Consume a sports drink that contains 150-200 milligrams of sodium per hour (Note: **Energy Fuel** provides 150 mg per serving)
Researchers agree that high sodium diets can blunt or possibly even reverse the expected decrease in sweat sodium during heat acclimatization. The bottom line is that current research supports adding more sodium to the diet in preparation for racing in the heat, and when you add the real-life experiences of world class athletes like Joanna it is hard to argue with the results!
• **Evening Protocols**
Flexibility: after your shower, **upper body** and **lower body trigger points**, foam rolling and stretching exercises
Hydration: consuming a **hydration** smoothie 30 minutes before bed will feed your brain throughout the night

Tuesday
• **Body Analysis:** please use your Coach Robb Report Card to log this information for evaluation purposes
• **Evening Workout / Complete Rest Day**
• **Misc. Notes:** Research supports increased salt intake - this was the title of an article written by sports scientist Bob Seabach where he reviewed eight scientific articles published in a medical research journal in addition to consulting with a world class endurance athlete (Joanna Zeiger). Here is a recap of what he extracted from the articles:
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• **Evening Protocols**
Flexibility: after your shower, **upper body** and **lower body trigger points**, foam rolling and stretching exercises
Hydration: consuming a **hydration** smoothie 30 minutes before bed will feed your brain throughout the night

Run
Enter Test Date -> 1/1/2018
Enter Heart Rate -> 185
Maximum Heart Rate -> 55
Resting Heart Rate -> 130

Zones	Objective	Recovery	Low	High
21	Recovery	55 - 64	125	140
22	Aerobic Foundation	65 - 74	138	153
23	Intensive Endurance	75 - 84	151	166
24	Aerobic Threshold	85 - 92	164	177
25	Intensive Endurance	93 - 98	174	194

Enter Data in light blue cells ONLY!

21 - Recovery
Seasons Utilized:
Pre-Season
Pre-Competitive
Competitive
Off Season

Robb Beams describes the purpose of this training zone as follows:
1. This zone will promote recovery from high intensity training and long distance intervals.
2. Use adipose tissue as a primary fuel source
3. Increase capillary development for delivering oxygen and dissipating lactic acid.

22 - Aerobic Foundation
Seasons Utilized:
Pre-Season
Pre-Competitive
Competitive
Off Season

Robb Beams describes the purpose of this training zone as follows:
1. Increases capillary development for delivering oxygen and dissipating lactic acid
2. Creates adaptations such as increased capillary development, increase in size and number of mitochondria and the increase of aerobic enzymes
3. Fuel sources come from both carbohydrates and adipose tissue

23 - Intensive Endurance
Seasons Utilized:
Pre-Season
Pre-Competitive
Competitive

Robb Beams describes the purpose of this training zone as follows:
1. Aerobic enhancement and tolerance of lactic acid
2. Develops the body's ability to buffer lactic acid resulting in the handling of greater work loads.
3. Fuel sources at this intensity comes from carbohydrates

24 - Aerobic Threshold
Seasons Utilized:
Pre-Season
Pre-Competitive
Competitive

Robb Beams describes the purpose of this training zone as follows:
1. Aerobic enhancement and tolerance of lactic acid
2. Develops the body's ability to buffer lactic acid resulting in the handling of greater work loads.
3. Fuel sources at this intensity comes from carbohydrates

25 - Intensive Endurance
Seasons Utilized:
Pre-Season
Pre-Competitive
Competitive

Robb Beams describes the purpose of this training zone as follows:
1. Aerobic enhancement and tolerance of lactic acid
2. Develops power and speed
3. Fuel sources at this intensity comes from carbohydrates

Even Tempo (60 Minutes)
a turnover rate that doesn't leave you gasping for air. Stop and complete your **Dynamic Movements** to increase your **running strategy** to help maximize your oxygen uptake. Stay aerobic zone for any reason. Hit your hydration every mile
your cool down, complete 15 seconds of your **affiance** by focusing on good biomechanics. Remember your quality, it will carry forward with each workout.
hamstrings, quads and calves
Porten your recovery window and replace depleted

COACH ROBB SOLUTIONS



Importance of Water in the Body

- Body has 96 pints of water
 - 64 pints inside cells
 - 32 pints in blood lymphatic & digestive system
 - Brain is 75% water
 - Muscle is 70% water
 - Blood is 85% water
 - Body fat is 10% water
 - Bone is 20-30% water



Optimum Hydration for Health & Wellness

- Basal metabolic needs
- Consume half your body weight in ounces of water over an 8-10 hour period
 - For example: 100 lb person needs 50 ounces of water
 - Consuming raw fruits and vegetables “pre-hydrates” the body
- Evening weight should be 2-3 lbs heavier than morning weight

Optimum Hydration for Performance

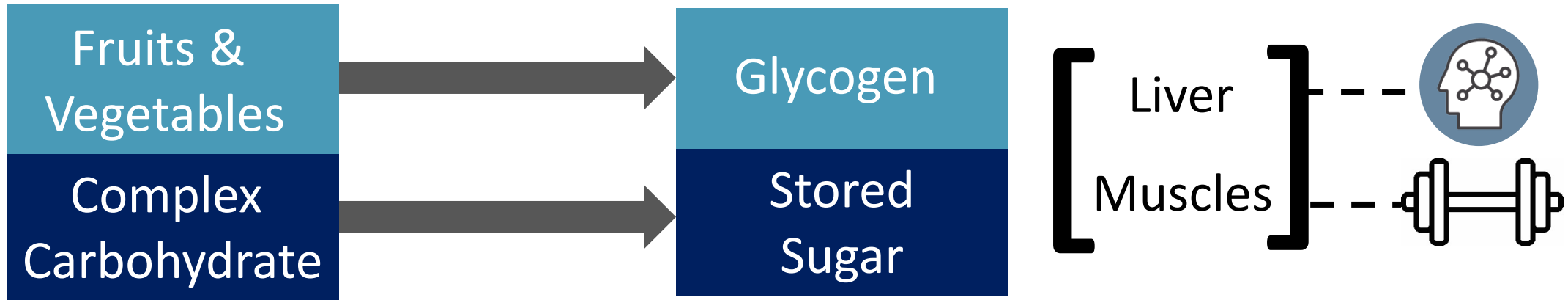
- Sweat Rate & Replenishment Strategies
- Calculate sweat rate associated with performance
 - Beginning weight
 - Ending weight
 - Ounces of fluid consumed
 - Temperature
 - Humidity
 - Duration
 - Max and average heart rate
- Ideal loss rate between 1-2%
 - Lose $> 2\%$ and you are dehydrated
 - Lose $< 1\%$ and you are overhydrated



CARBS



What is the role of Carbs?



The liver feeds the brain and the muscles feed any activity!



Carbohydrate Intake

- Daily metabolic needs
- Sports performance needs
- Daily Diet – *The Key To Optimized Performance*
 - Non-Athlete: 100-120 mmol/kg
 - Athlete: 170-200 mmol/kg
 - Muscle glycogen vs. blood glucose
 - Phosphorylation
 - Glycogen synthesis
 - Exhausted glycogen storage leads to OTS and muscle catabolism
 - Reduced glycogen storages





Carbs – Pre-Exercise

- Morning exercise – 8-10 hour “fast”
- Top off sugar levels for optimum performance
- 3 hours before exercise – 100 grams (Energy Fuel)
- Consume 70-90 grams 10-15 minutes prior to exercise





Carbs – During Exercise

- No carbs necessary during first 60-80 minutes
- Muscle glycogen vs. blood glucose
- Consume 60-75 grams per hour of exercise
 - 4 calories to a gram of carb = 240 or 300 per hour



Carbs - Post Exercise

- Achieve the highest level of muscle glycogen between training sessions
- Recovery begins as soon as cool down is complete
- Simple sugar is key – consume 200-225 grams within 10-15 minutes post exercise
- Be careful not to be a calculator athlete – biofeedback
- Rehydrate the body



8 Rules of Carbohydrate Planning for Optimum Performance

1. Consume 100 grams of complex carbs 3 hours prior to key workouts and racing
2. Consume complex carbs (fruits & vegetables) at every snack & meal – every 2 hours
3. Combine foods at every snack and meal to keep an insulin spike to a minimum
4. Consume enough carbs daily to avoid muscle cannibalization and stressed adrenals
5. Adjust your carbohydrate complexity according to your intensity and duration levels
6. Use a sports drink with 6-7% carbohydrate concentration rate
7. During exercise, consume 250-300 calories per hour / 60-75 grams of easily digestible carbs (Energy Fuel)
8. Post exercise, consume 100-225 grams within 15-20 minutes of completing a workout/race

Carbo Loading...a dangerous lie

- Conversion of complex carbs to stored sugar to glycogen
- Water retention is part of the conversion process
- Anything above your normal eating to fluid intake changes biomechanics
- Carbohydrate furnace is ignited – excessive eating
- Load correctly – everyday!

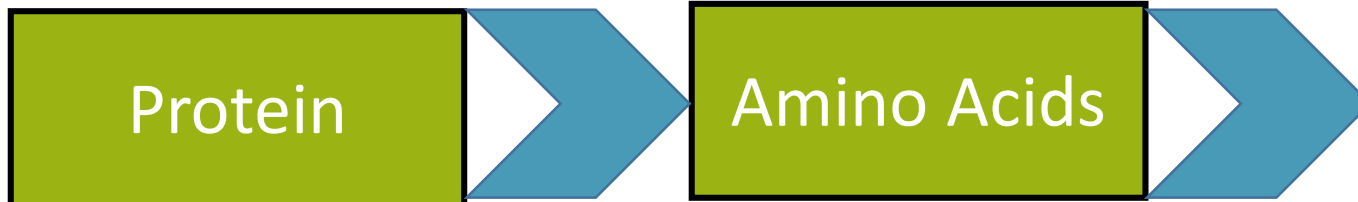




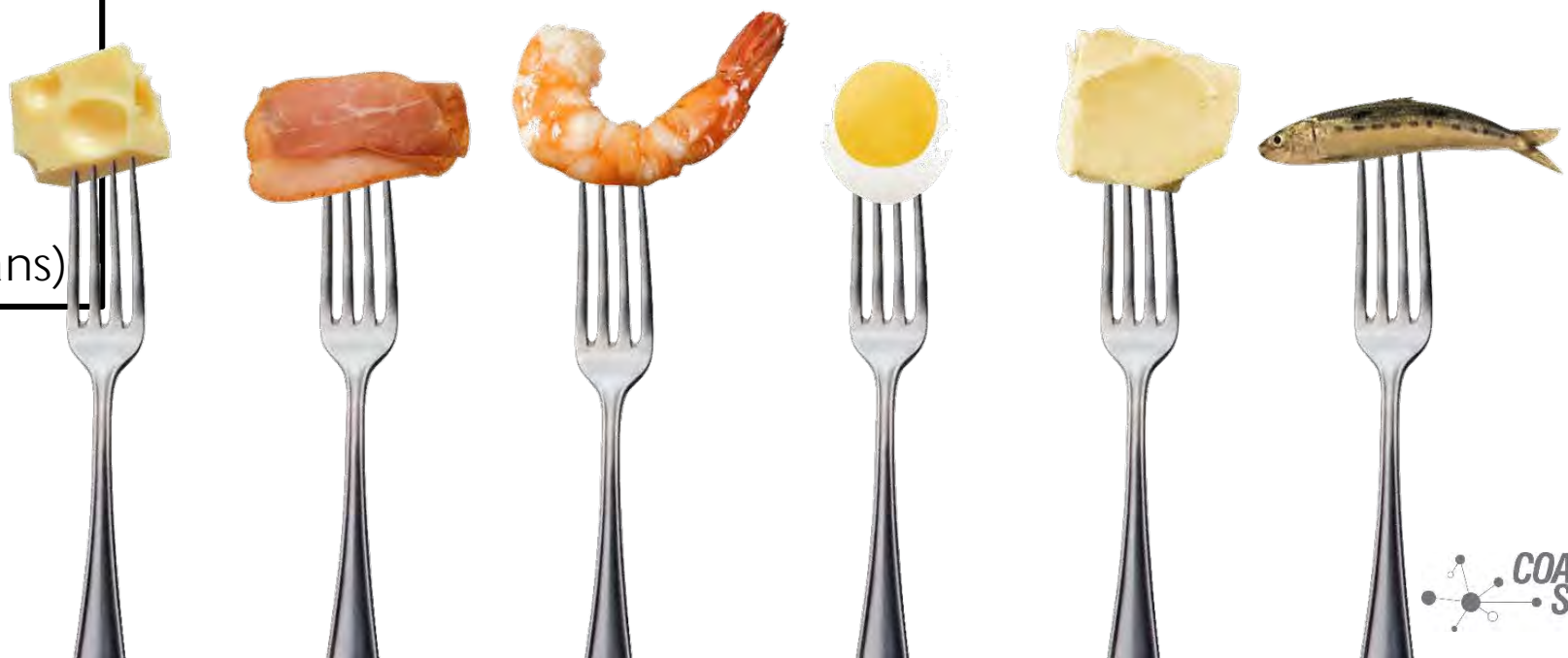
PROTEIN



What is the role of Protein?



- Eggs
- Beef
- Pork
- Chicken
- Fish
- Nuts
- Tofu
- Legume (beans)



- Rebuilds torn down muscle tissue
- Supports immune system



Protein Intake

- Daily metabolic needs
 - Rebuild muscle
 - Support your immune system
 - Hemoglobin is made from protein
 - Enzymes – all bodily functions
- Sports performance needs
 - New muscle growth is about 1 ounce per day – 23 pounds a year





Protein Daily Diet

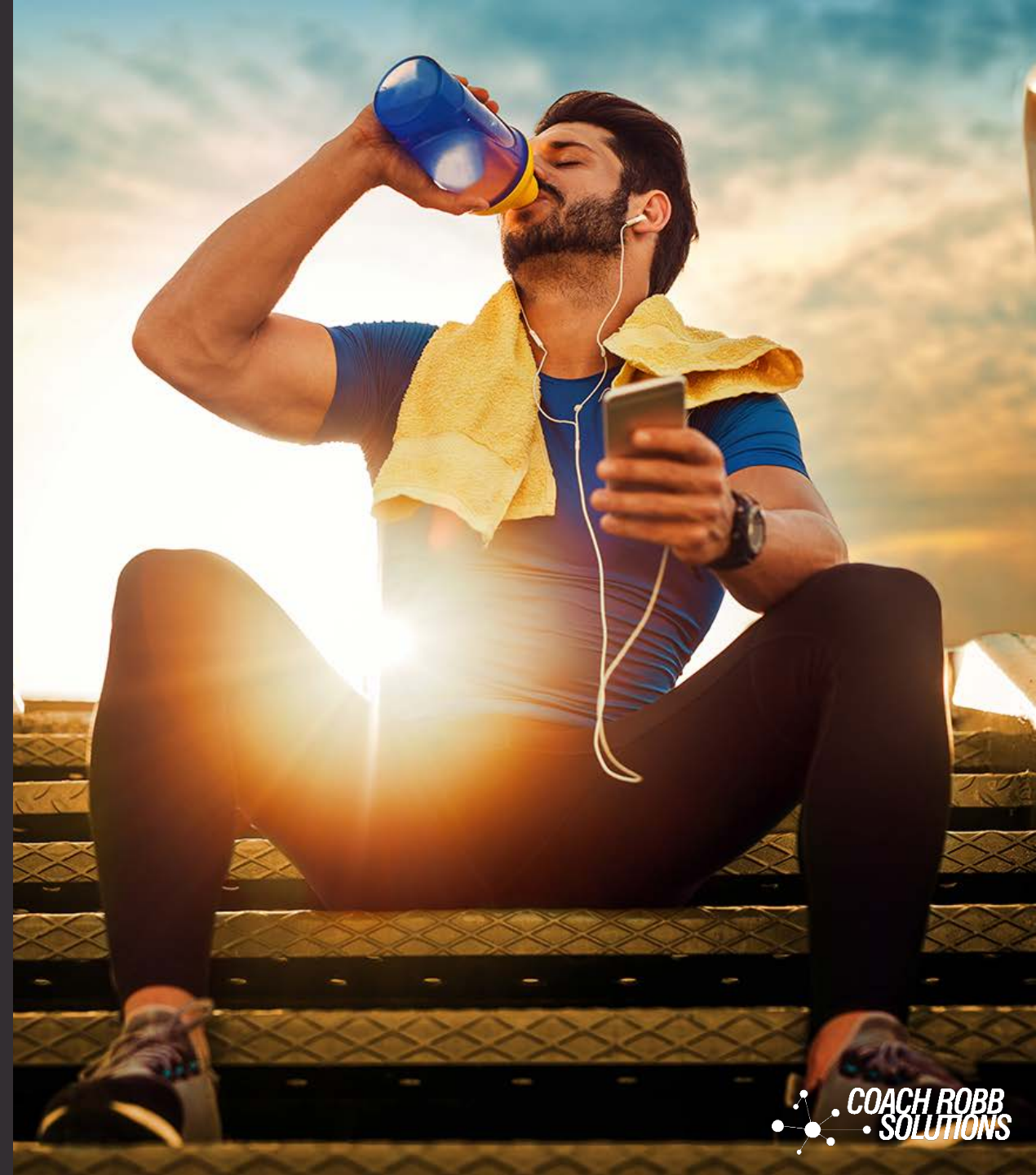
- *The Key To Optimized Performance*
 - Building muscle is not controlled by protein intake
 - Body weight divided by 2 x 1.7 = grams of protein per day
 - Too little protein
 - Reduced muscle mass
 - Reduce strength levels
 - Sick more than four times a year





Protein Intake

- Pre-Exercise
 - Prevent muscle protein breakdown during training
 - Better adaptation to training long term
 - Amino acids conversion to glucose
- Post-Exercise
 - Support immune system
 - Rebuild stressed muscles, tendons and ligaments
 - High load levels for muscle repair – 3:1 ratio carb to protein
 - Long endurance sessions – 4:1 ratio carb to protein





HEALTHY
FATS



Fat is good!

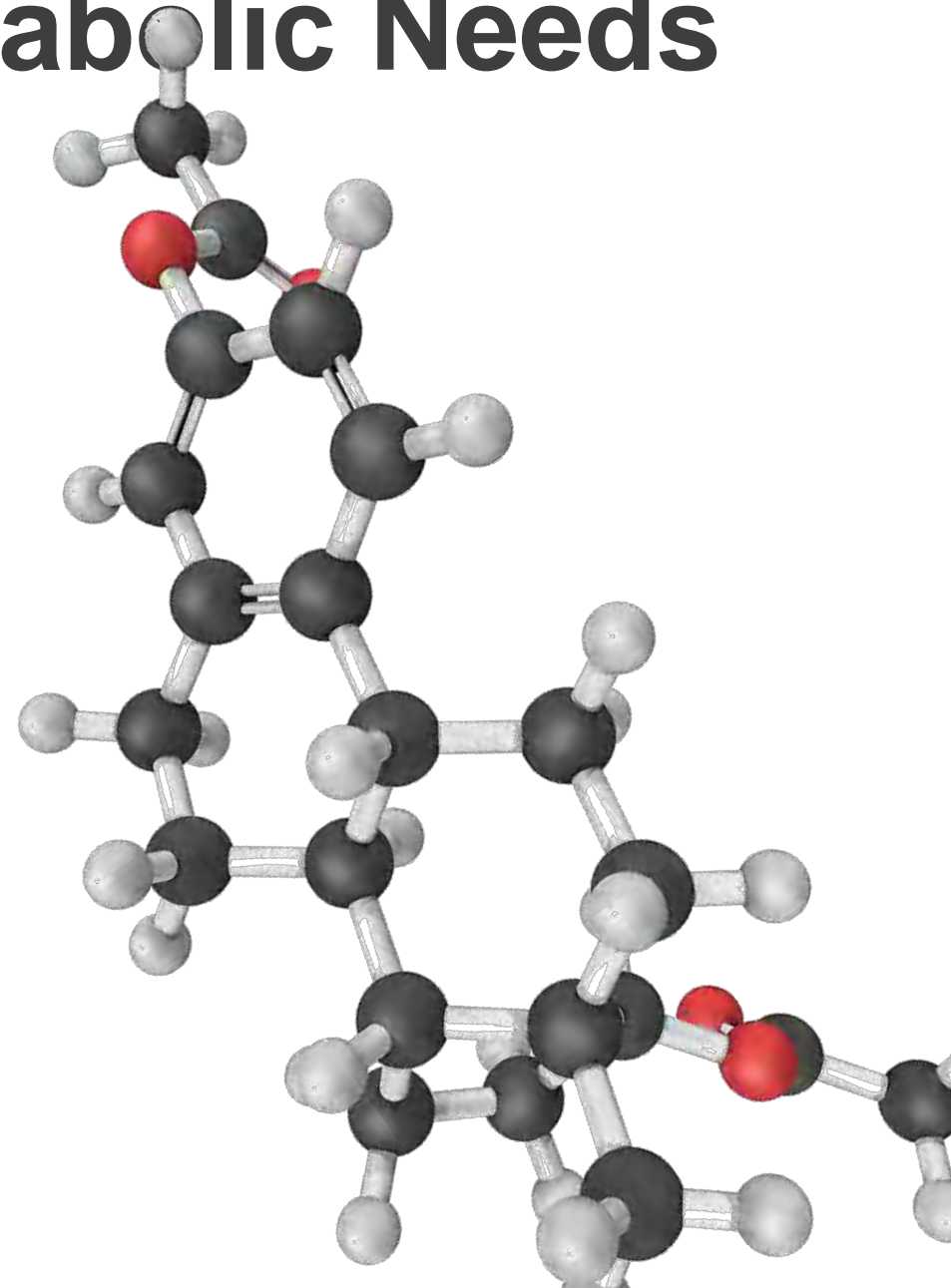
- Anti-inflammatory
- Maintains healthy skin and hair
- Helps healing of wounds
- Maintains proper nerve function
- Helps fuel workouts
- Essential for production of all hormones
- Essential for overall health and wellness





Fat Intake – Daily Metabolic Needs

- Production of hormones for health & performance
 - Adrenals – regulates electrolytes and facilitates fat and sugar conversion to energy
 - Thymus gland – regulates immunity
 - Thyroid – regulates temperature, weight & metabolic functions
 - Kidney hormones – regulates blood pressure & circulation
- Protects vital organs
- Supports immune system





Fat Intake – Sports Performance

- Too much fat
 - Heavy
 - Retains heat
 - Less water for cooling (muscle is 75% water, fat 50% water)
- Too little fat
 - Nervous
 - Poor brain function – foggy brain
 - Adrenal fatigue



Fat Intake – Daily Diet

- *The Key To Optimized Performance*
 - MCT Fats – fat burning increased; protein oxidation reduced
 - Easier fat to “burn” vs. saturated fat
 - Sources:
 - Extra virgin olive oil (EVO)
 - Raw nuts
 - Coconut
 - Cheese
 - Butter
 - Whole milk
 - Greek yogurt



How Do I Know I'm Getting Enough Fat?

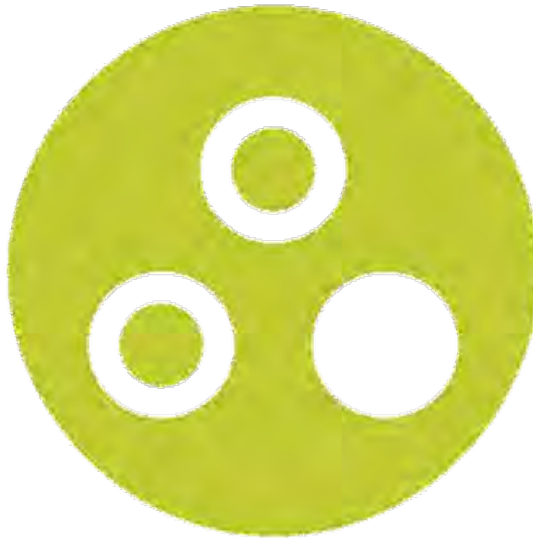
- Body composition
- Performance results
- Sleep
- Hunger levels
- Signs of adrenal fatigue
 - Night sweats
 - Inability to sleep
 - Low libido
 - Craving simple sugars



What Should I Eat ?



Carbohydrate



Protein



Fat

Raw, real food every two hours!



Vitamins & Minerals

- Natural Antioxidants
 - Catalyst for Energy
 - Micronutrients are the glue

Are Supplements Necessary?

- Self evaluation
 - Food choices?
 - Energy levels?
 - Mental clarity?
 - Residual fatigue by end of week?
- Full blood panel
- Defines deficiencies in vitamins and minerals
- Optimized supplement absorption



Developing the Optimum Performance Nutrition Program



- Food timing
- Food choices
- Food quantities
- Exercise
 - Exercise intensity and duration
- Conditions
 - Heat and humidity (temperature silos)
- Sweat Rate
- Performance Outcomes

Developing the Optimum Hydration Program

- Pre-exercise / Basal Metabolic Needs
 - Pre-hydration through fruits and vegetables
- During exercise
 - Sweat rate calculator
- Post exercise
 - Glycogen synthase enzyme
 - Amino acids



Electrolytes

- Absorption of fluids
 - Osmolality in the stomach
 - Carbohydrate concentration rate
- Necessary for muscle contraction
 - Sodium/potassium ratios
 - Cramping



Role of Electrolytes **As a Mineral**

- Sodium – nerve function, muscle contraction, maintain fluid levels
 - Fruit – cantaloupe & avocado
 - Vegetables – sundried tomatoes, bell peppers & sweet potatoes
- Potassium – regulates heart, sodium potassium pump associated with muscle contraction
 - Fruit – bananas & kiwis
 - Vegetables – sweet potatoes & mushrooms
- Magnesium – muscle and nerve functions, supports immune system
 - Fruits – bananas & avocados
 - Vegetables – kale & spinach
- Calcium – growth of bones and nerve conduction, secretion of hormones & enzymes
 - Fruit – plums, kiwi, pears, tangerines & oranges
 - Vegetables – okra & broccoli



Cramping Causes & Cures

- Not maintaining daily hydration needs
- Not consuming enough fruits and vegetables
- Excessive sweating and chronic dehydration
- Electrolyte depletion
- Insufficient fluid and electrolyte intake during exercise
- Training and racing in non-familiar conditions (heat & humidity)

Intensity & Food Complexity

- Pre-training or racing calorie intake needs to be optimized
- Carbohydrate concentration rate needs to be optimized
- The higher the intensity, the more simplistic the food needs to be
- Recovery calories need to be consumed within 15-20 minutes of training or racing





The Goals of Optimum Recovery

- Build muscle – strengthen tendons and ligaments
- Release of Human Growth Hormone (hGh) – increase strength to weight ratios (VO2)
- Release of testosterone
- Create an environment of anabolic muscle growth (versus catabolic tear down)
- Support the adrenal system (para-sympathetic)
- Support immune system
- Consume enough protein and fat before bed
 - Satisfy appetite
 - Improve sleep quality

The Importance of Sleep

- Our bodies need 8 hours of sleep
- 2-hour nap is beneficial
- Rejuvenate mentally (REM 1)
- Rejuvenate physically (REM 3)
- Sleep cycles 1-4 / hGH
- Sleep cycles 5-6 / Testosterone
- Ability to absorb exercise



Top 10 Shopping Rules for Optimum Performance

1. Eat high protein & fat snack prior to shopping
2. Only purchase what is on your shopping list
3. Shop 2-3 times a week to ensure fresh fruits and vegetables
4. Shop solo
5. Shop the perimeter of the store
6. Purchase more than you need, especially fruits and vegetables
7. Use a shopping cart versus a basket
8. Labels should only contain 1 ingredient
9. Eat only what you can pronounce
10. Update your shopping list



Reading Labels to Avoid GI Distress

- Hidden sugars (-OSE)
- Preservatives
- Artificial colors
- Pseudo foods and fillers



1. Eat Good Food - QQ



2. Get Your Sleep - QQ



3. Balance Volume & Intensity



To Naturally Build Elite Level Performance



QUESTIONS & ANSWERS

ENDURANCE SPEED HYDRATION PERFORMANCE STRENGTH RECOVERY

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