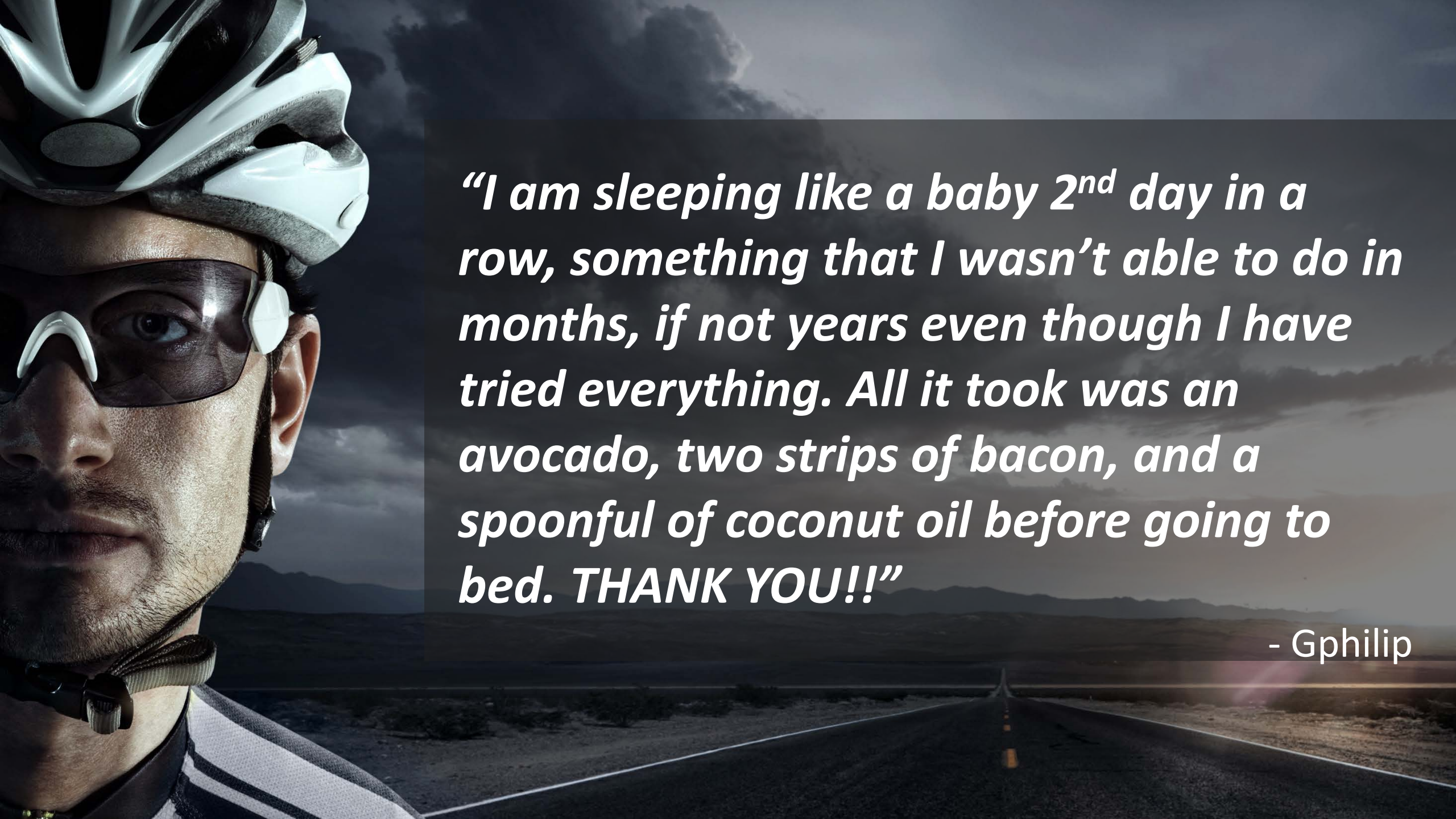
FUELING PERFORMANCE

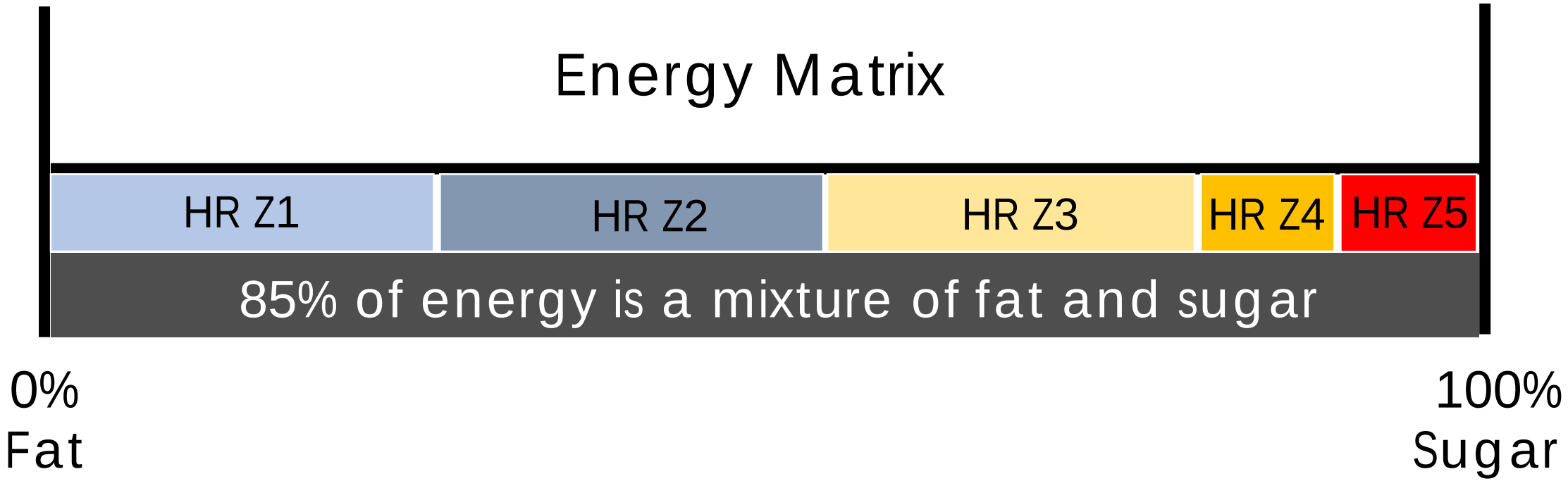
NUTRITION FOR ATHLETES

ENDURANCE SPEED HYDRATION PERFORMANCE STRENGTH RECOVERY

Visit us at www.CoachRobb.com


“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

COACH ROBB SOLUTIONS

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

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

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

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

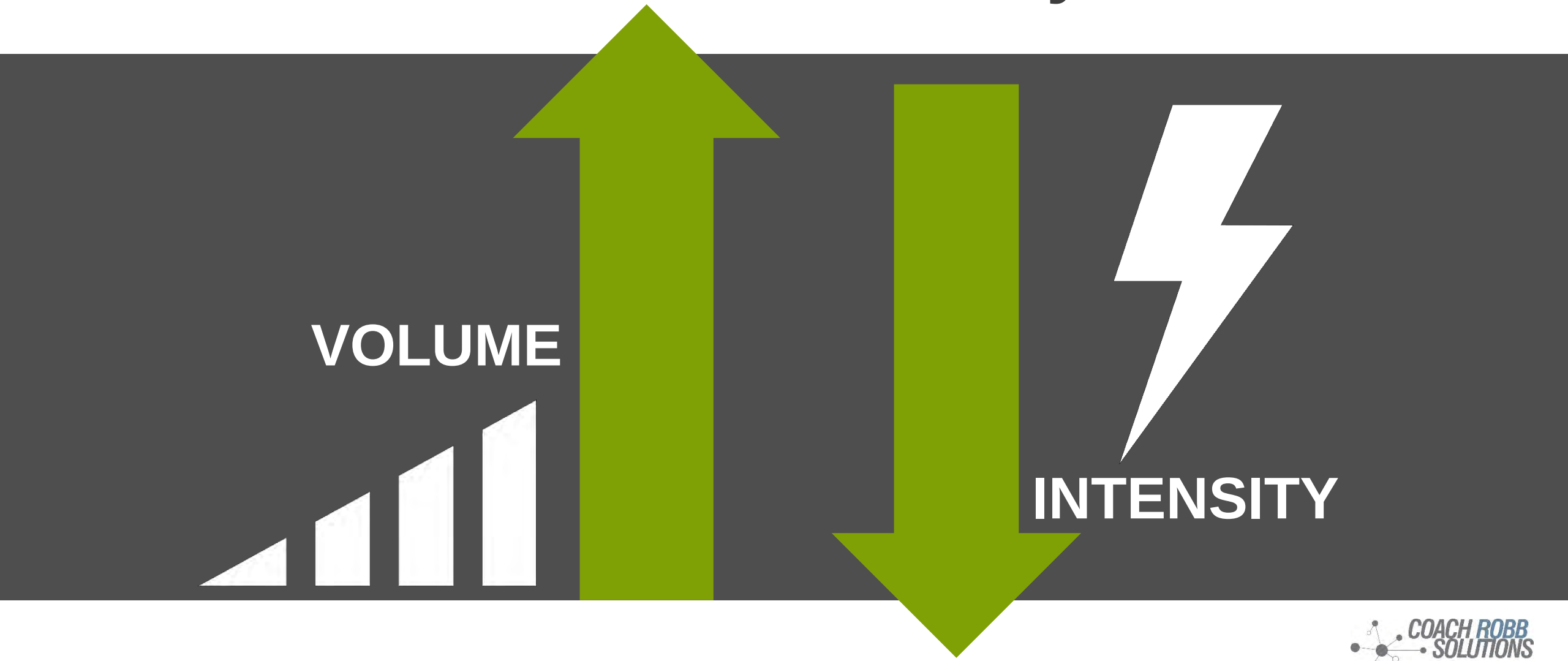
Bicycle	
Enter Test Date ->	5/16/2018
Maximum Heart Rate ->	170
Resting Heart Rate ->	56
Heart Rate Reserve	114

Zones	Objective	% Of HRR	Low	High
Z1	Recovery	55 -64	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

COACH ROBB SOLUTIONS

The Inverse Relationship Between Volume & Intensity



COACH ROBB SOLUTIONS

Why Fuel for Performance?

- 98% of molecules in body are replaced annually
- Blood, muscle proteins, tendons & ligaments are completed 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

COACH ROBB SOLUTIONS

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

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

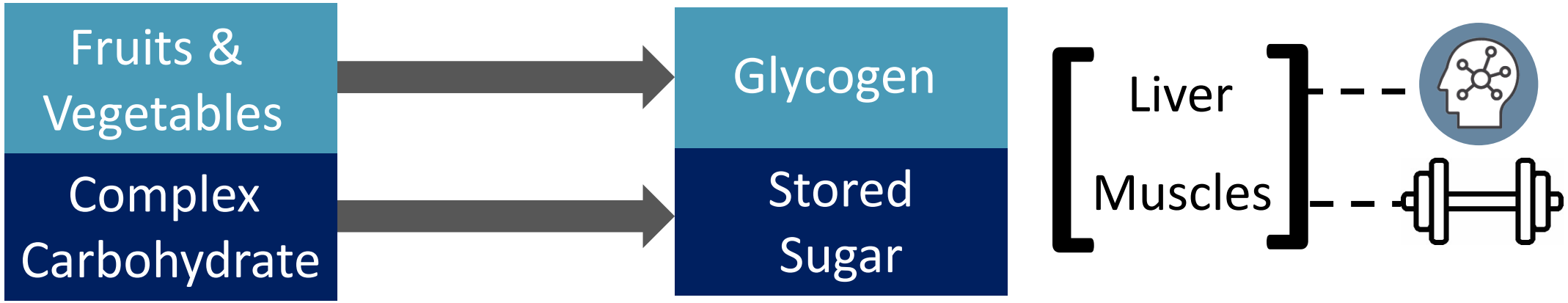
COACH ROBB SOLUTIONS

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

COACH ROBB SOLUTIONS

What is the role of Carbs?



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

COACH ROBB SOLUTIONS

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
  - Phospsohorylation
  - Glycogen synthesis
  - Exhausted glycogen storage leads to OTS and muscle catabolism
  - Reduced glycogen storages

COACH ROBB SOLUTIONS

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

COACH ROBB SOLUTIONS

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

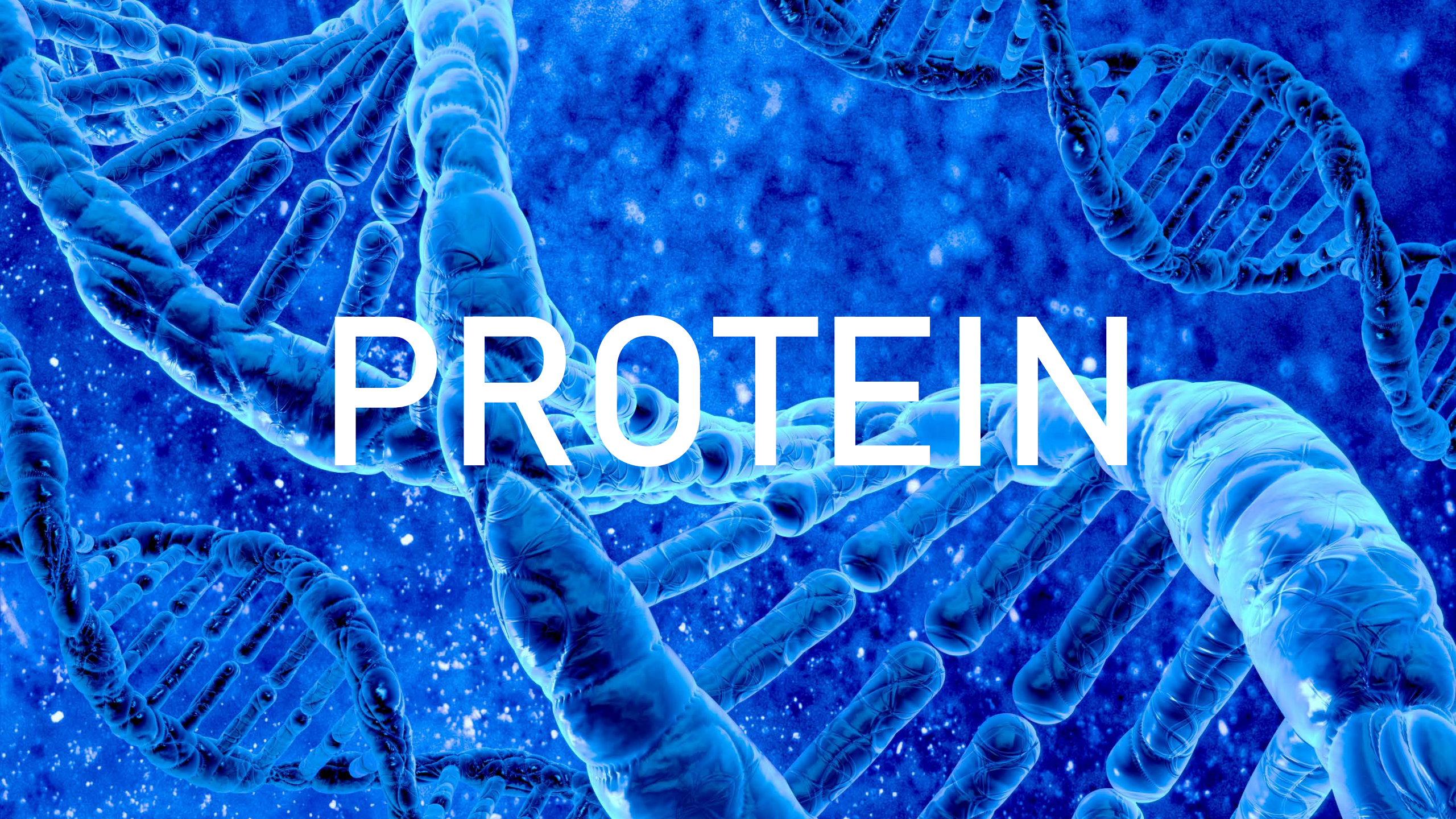
1. Consume 100 grams of complex carbs 3 hours prior to key workouts and racing
2. Consume complex carbs (fruits & vegetables) at every snack & meal – every 2 hours
3. Combine foods at every snack and meal to keep an insulin spike to a minimum
4. Consume enough carbs daily to avoid muscle cannibalization 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

COACH ROBB SOLUTIONS

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!

COACH ROBB SOLUTIONS

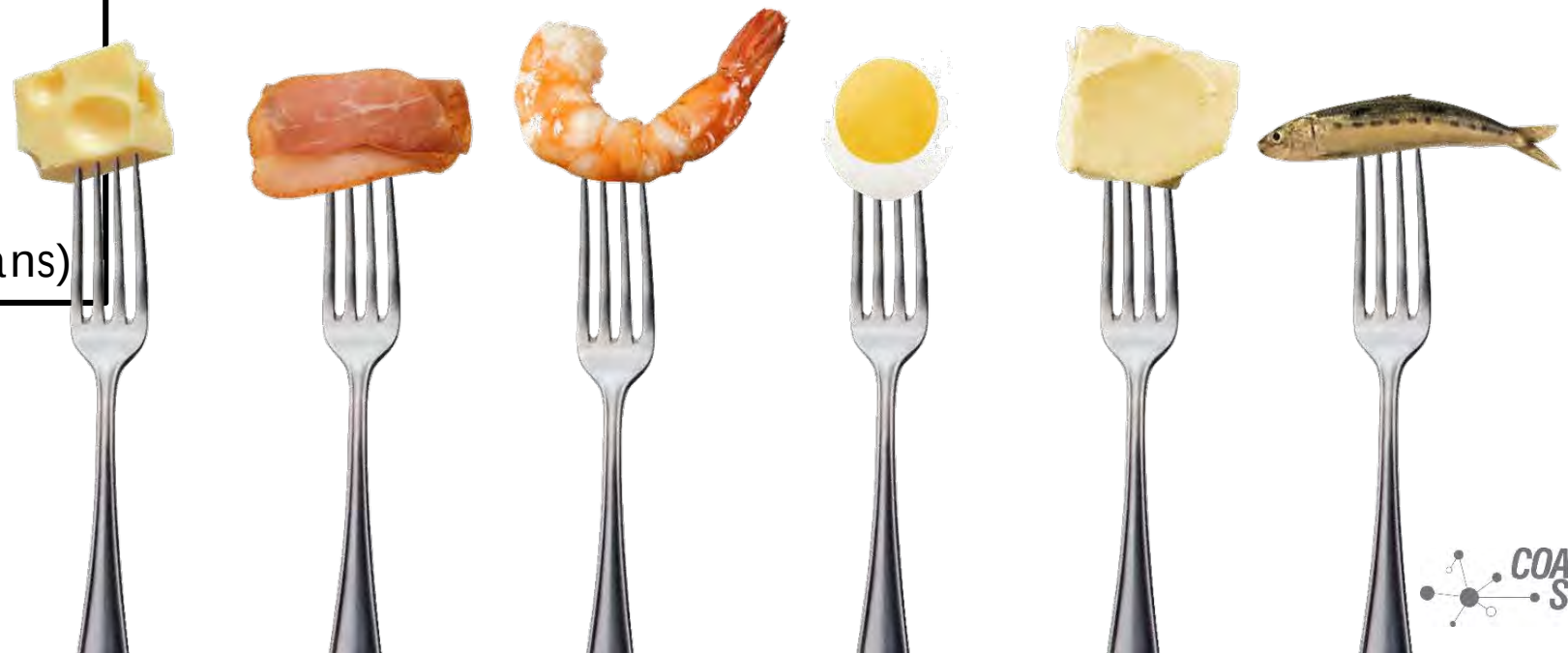

PROTEIN

What is the role of Protein?

Protein → **Amino Acids**

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

- Rebuilds torn down muscle tissue
- Supports immune system



COACH ROBB SOLUTIONS

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

COACH ROBB SOLUTIONS

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

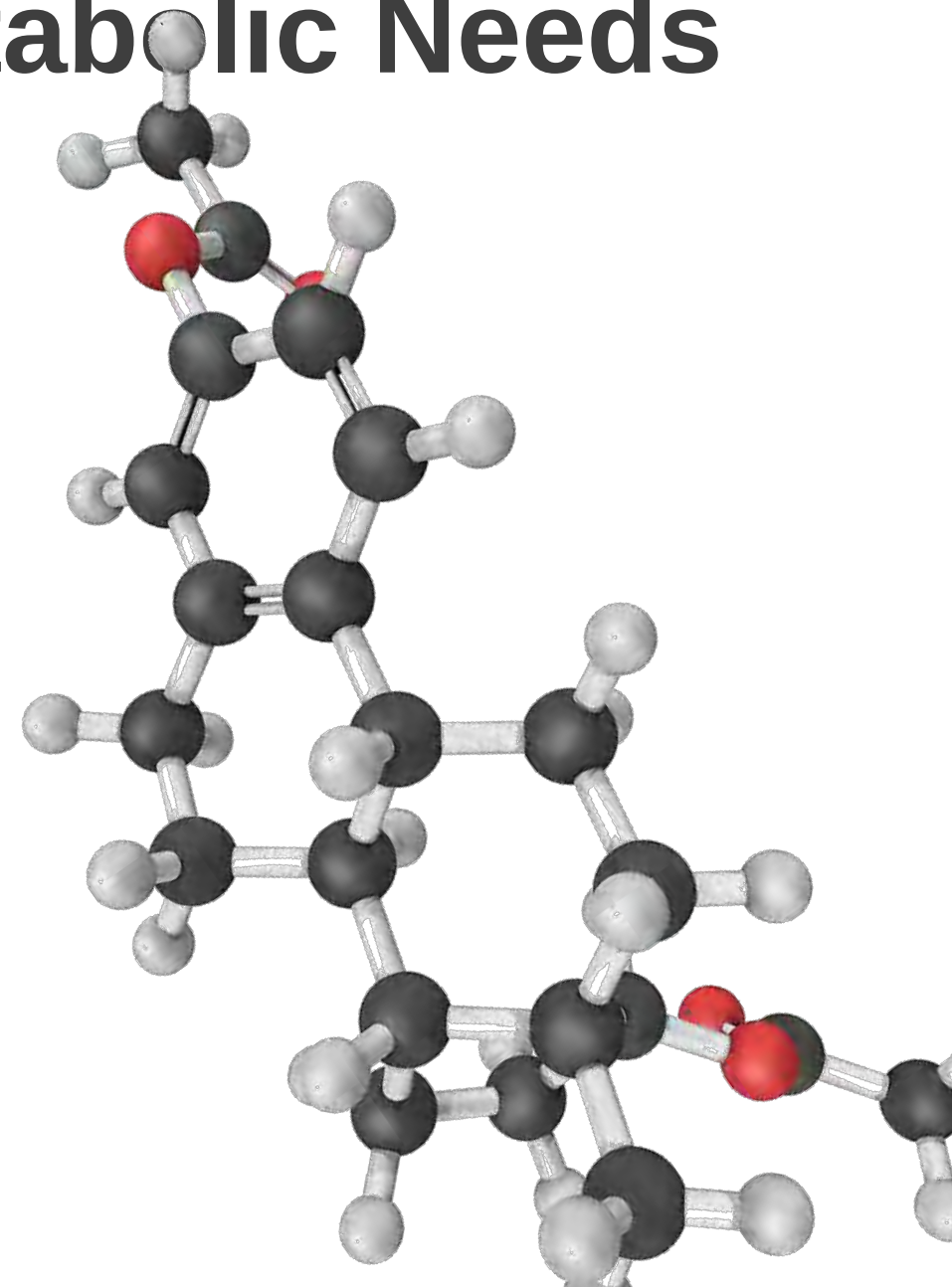

HEALTHY
FATS

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

COACH ROBB SOLUTIONS

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

COACH ROBB SOLUTIONS

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

COACH ROBB SOLUTIONS

What Should I Eat ?

Raw, real food every two hours!

COACH ROBB SOLUTIONS

Vitamins & Minerals

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

COACH ROBB SOLUTIONS

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

COACH ROBB SOLUTIONS

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

COACH ROBB SOLUTIONS

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
  - Osmolity 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

COACH ROBB SOLUTIONS

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)

COACH ROBB SOLUTIONS

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

COACH ROBB SOLUTIONS

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

COACH ROBB SOLUTIONS

1. Eat Good Food - QQ

2. Get Your Sleep - QQ

3. Balance Volume & Intensity

To <u>Naturally</u> Build Elite Level Performance

COACH ROBB SOLUTIONS

QUESTIONS & ANSWERS

ENDURANCE SPEED HYDRATION PERFORMANCE STRENGTH RECOVERY

Visit us at www.CoachRobb.com