PRINCIPLES OF A PERFORMANCE NUTRITION PROGRAM

MIKE MINNIS MS, RD, CSCS

OBJECTIVES

- Provide an overview of the goals, philosophy, and principles of our performance nutrition program
- Provide information for practical application in your program
  - Not everything will be practical to everyone
  - Context specific (i.e. – what can YOU take away?)

OUTLINE

- **Goals**
  - Protect
  - Fuel
  - Build
- **Principles**
  - Energy Balance
  - Hydration
  - Nutrient Timing
  - Biomarker Assessment
  - Supplementation

HUMAN COMPONENT

Factors That Influence Food Choice

- **Physiological/Biological**
  - Hunger & Appetite; LBM & REE; Taste & Food Preference; GI Distress; Food Allergies & Sensitivities
- **Lifestyle/Beliefs/Knowledge**
  - Motives for Participating in Sport; Health Beliefs; Nutrition Knowledge
- **Psychological**
  - Body Image & Weight Control
- **Social**
  - Meal Patterns; Culture; Religion
- **Economic**
  - Cost & Income

TRUST!!!

GOALS

GOALS

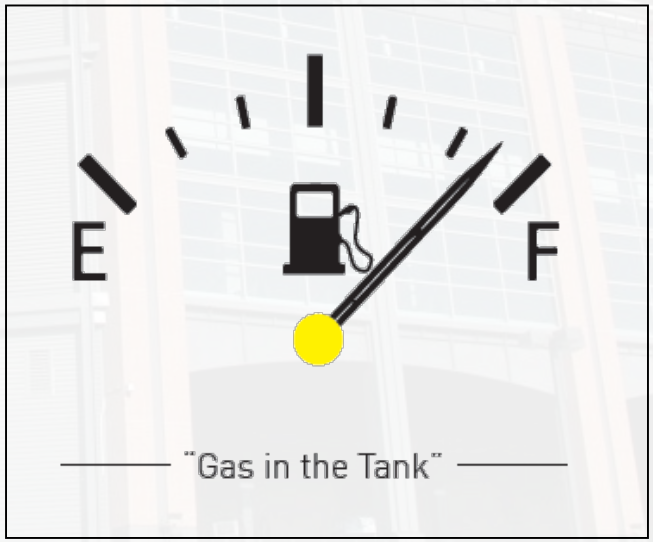
PROTECT **FUEL** **BUILD**

- Enhance the immune system
- Adopt effective hydration protocols
- Decrease markers of inflammation & muscle damage
- Decrease incidence of soft-tissue injuries
- Support recovery from immobilization, concussion/traumatic brain injuries, and soft tissue injuries

GOALS

PROTECT **FUEL** **BUILD**

- Provide the neuromuscular system the **energy** to compete at a high-level throughout the yearly training and competitive schedule
- Meet **energy** demands of each individual athlete



GOALS

PROTECT **FUEL** **BUILD**

- Support adaptations of:
  - Strength
  - Power
  - Speed
  - Lean Body Mass
- Support specific body composition goals of each individual athlete

PROTECT FUEL BUILD

Fruits & Veggies

Apples
Pineapple
Berries
Oranges
Grapes
Watermelon
Broccoli
Kale
Bell Peppers
Onions
Mushrooms
Spinach
Brussel Sprouts
Carrots
Asparagus

Healthy Fats

Olive Oil
Coconut Oil
Nut Butters
Seeds
Almonds
Walnuts
Pecans
Cashews
Low-Fat Dairy
Avocado
Salmon
Tuna

Fluids

Water
Low-Fat Milk
100% Fruit Juice
G2

PROTECT FUEL BUILD

Carbohydrate

Rice
Pasta
Potatoes
Oatmeal
Bread
Tortillas/Wraps
Low-Fat Dairy
Beans
Couscous
Quinoa

PROTECT FUEL BUILD

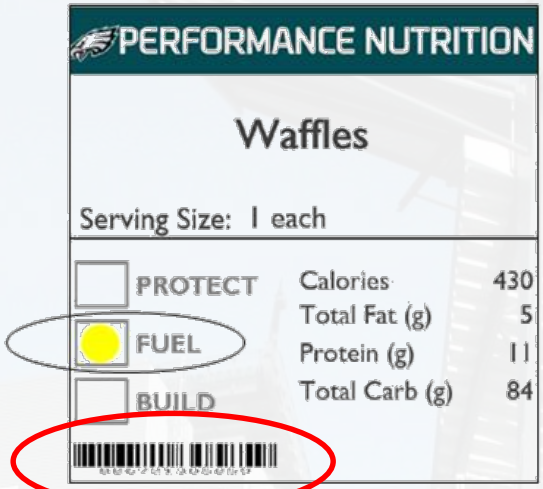
Lean Protein

Grilled Chicken
Lean Beef
Turkey
Fish
Eggs/Egg Whites
Low-Fat Milk
Yogurt
Whey Protein Powder

STEP 1 – PROTECT

Enhances Health & Recovery

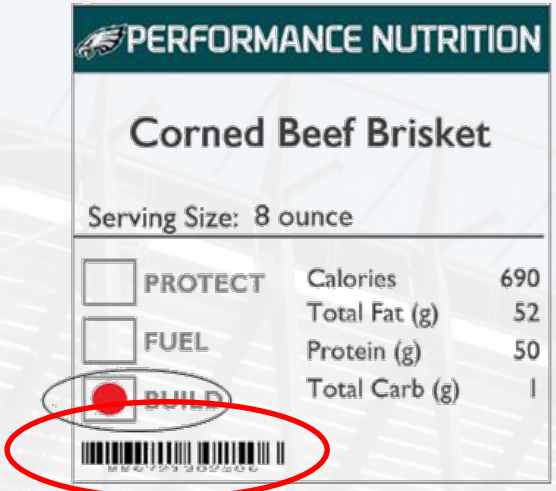
Consume more often for optimal performance and recovery



STEP 2 – FUEL

Energy for Brain & Muscle

Consume in moderation



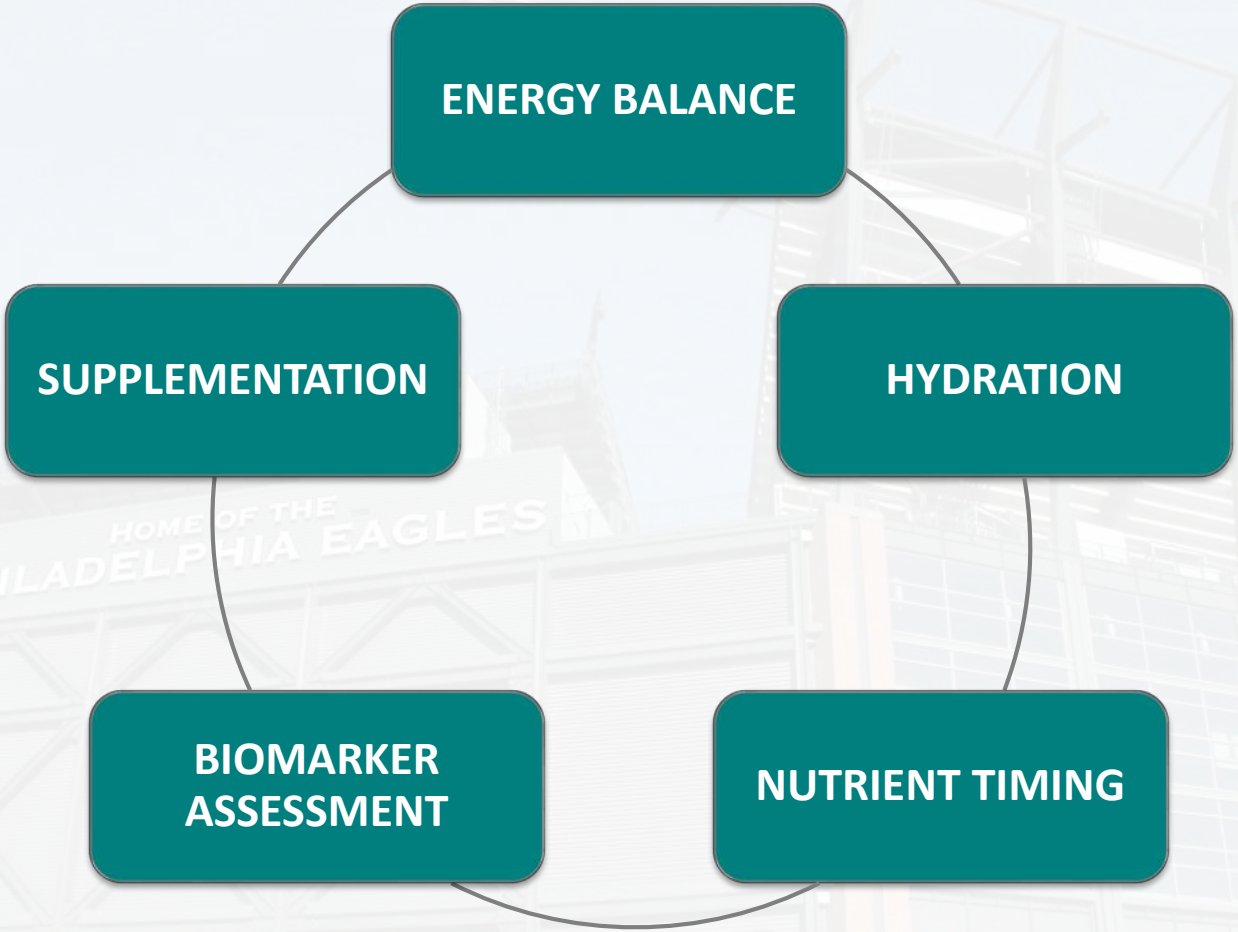
STEP 3 – BUILD

Enhances Muscle Growth & Repair

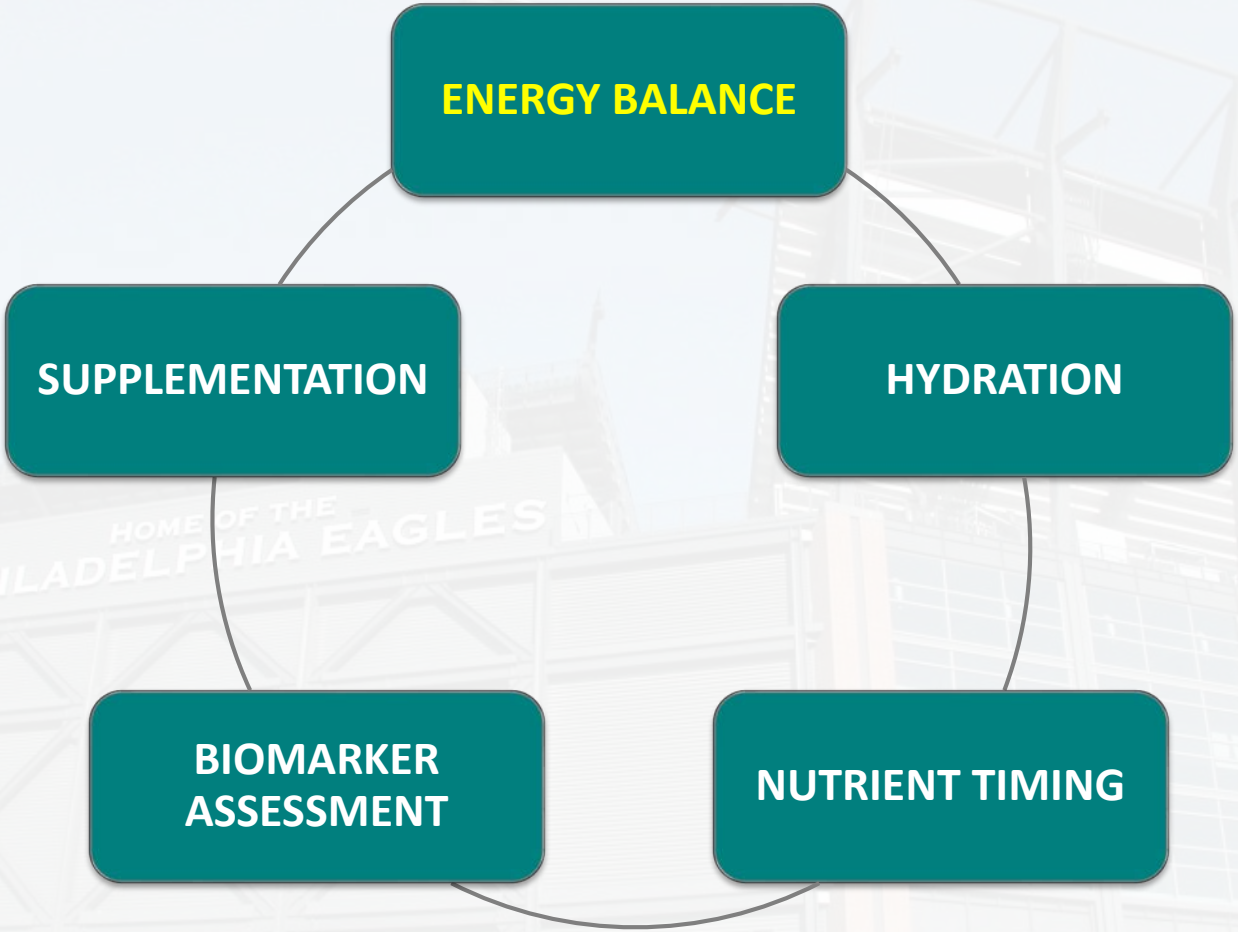
Limit consumption unless trying to gain weight

My Fitness Pal

PRINCIPLES


ENERGY BALANCE
HYDRATION
NUTRIENT TIMING
BIOMARKER ASSESSMENT
SUPPLEMENTATION

PRINCIPLES


ENERGY BALANCE
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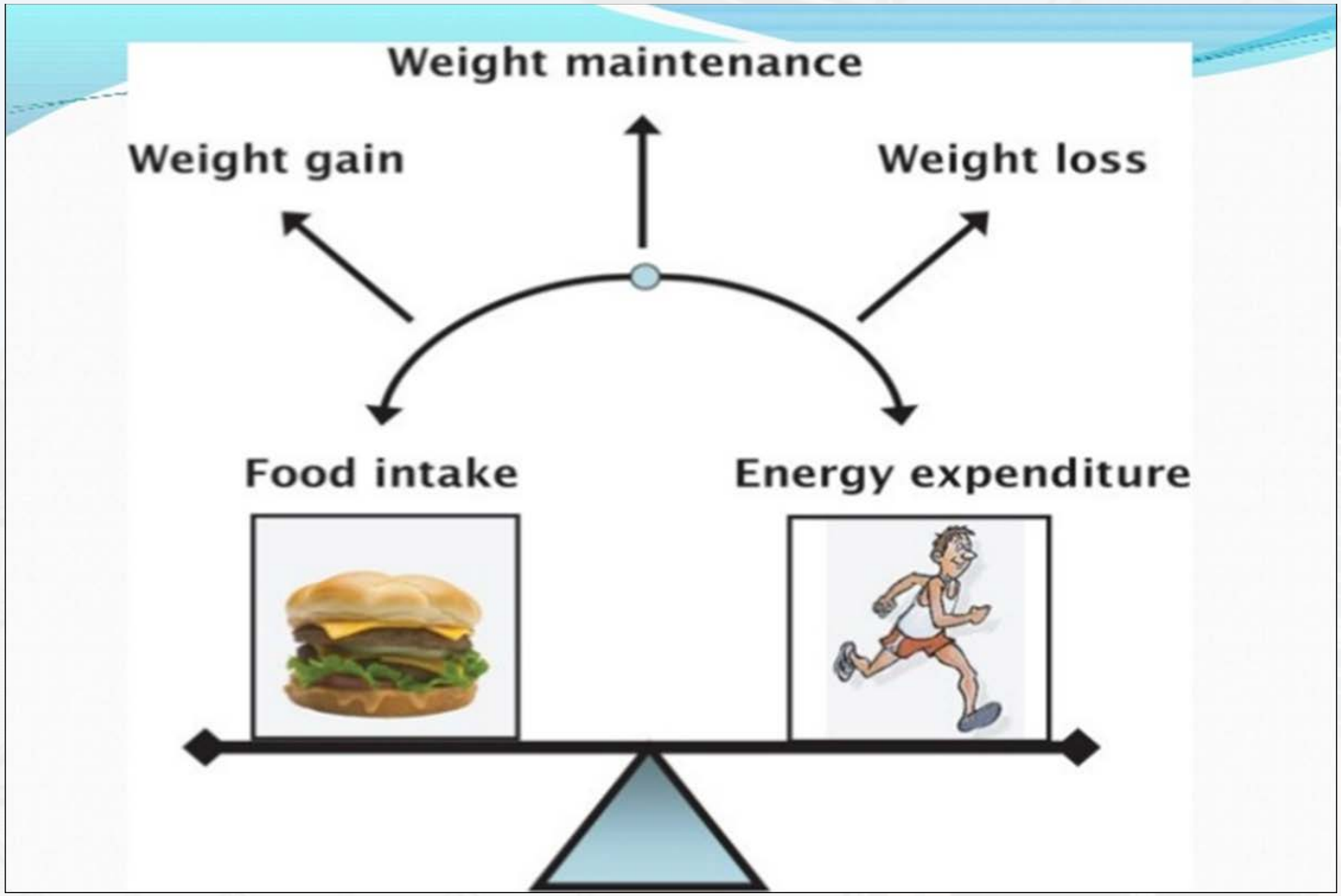
Lifting, Practice, Film Study, etc. = MONEY OUT OF THE BANK

Nutrition = MONEY IN THE BANK


Weight maintenance
Weight gain
Weight loss
Food intake
Energy expenditure

ENERGY BALANCE

What is the <u>individual</u> payment for the cost of work…?

- **Uncontrolled Energy Surplus (Paying back too much)**
  - ↑ Body fat, ↑ Stress, ↑ Risk of Injury/Illness = ↓ Athletic Performance
- **Uncontrolled Energy Deficit (Not paying back enough)**
  - ↓ Muscle Mass & Strength, ↑ Stress, ↓ Energy, ↑ Risk of Injury/Illness = ↓ Athletic Performance

The payment for the cost of work depends on:

- Height
- Weight
- Body Fat %
- Lean Body Mass
- Training Volumes & Intensities
- NEAT (Non Exercise Activity Thermogenesis)
- Metabolic Health

ENERGY BALANCE

Why is Body Weight/Body Composition Important?

LEAN MASS

- Increases in lean mass have direct correlation to strength, speed, and explosiveness
- More lean mass shown to predict strength and power performance that can be transferred to sport and enhance on-field performance
- More lean mass = higher metabolism = more fat burn

FAT MASS

- Increases in fat mass leads to decreased speed (average and peak velocity)
- Increases in fat mass leads to decreased endurance and increased rate of fatigue
- Increases in fat mass can lead to excess strain on joints

ENERGY BALANCE

Resources to Address Energy Balance

- Determine Individual Energy Needs
- Individualized Nutrition Plans
- Menus/Meals & Snacks
  - What are your opportunities to provide energy/calories to your athletes?
- Nutrient Timing*
  - Pre/During/Post Training
- Travel Nutrition
- Education on Resources Outside the Building
  - Private Chefs
  - Delivery Meal Services
  - Preferred Restaurants
  - Cooking Demos/Grocery Store Tours/Grocery Store Lists
- Body Weight Analysis
- Body Composition Testing & Analysis

TRENDS!!

ENERGY BALANCE

Calculating Energy Needs

Our Example: Male, 180lb., 5'8", 22 Y.O., Very Active (1.7 AF)

Method: **Harris-Benedict Equation** *(DON'T NEED BODY COMP*)*

- Step 1: Calculate Resting Metabolic Rate (RMR) using **Harris-Benedict Equation**
- Step 2: Assign an Activity Factor (Subjective – Have to play with it)
- Step 3: Determine Maintenance Calories (RMR x Activity Factor)
- Step 4: Assign Macronutrient Distribution
  - Protein Needs (g)
  - Fat Needs (g)
  - Carbohydrate Needs (g)

Activity Factor	Activity Level	Activity Level Definition
1.2	Sedentary	Little or no exercise. Desk job.
1.375	Lightly Active	Light exercise or sports 1-3 days per week.
1.55	Moderately Active	Moderate exercise or sports 3-5 days a week.
1.725	Very Active	Hard exercise or sports 6-7 days a week.
1.9	Extremely Active	Hard daily exercise or sports and physical job.

Remember: **CALORIES ARE KING**

ENERGY BALANCE

Calculating Energy Needs

Our Example: Male, 180lb., 5'8", 22 Y.O., Very Active (1.7 AF)

- Step 1: RMR = **1886** *(From Online Calculator*)*
- Step 2&3: 1866 x AF (1.7)= **3206**
- Step 4:
  - ***Protein → 1g/lb. BW***
    - 180g/day
      - 720 Calories Worth (180*4)
  - ***Fat → 20-35%***
    - 90g/day (*25%*)
      - 810 Calories Worth (90*9)
  - ***Carbohydrate → Fill in the rest***
    - 420g CHO (52% of Calories)
      - 3206-(720+810)/4 = 1680 Calories

Calories needed to maintain current BW

Nutrient	Calories per Gram
Carbohydrate	4
Protein	4
Fat	9
Alcohol	7

ENERGY BALANCE

Body Weight/Body Comp Trend Analysis

Name	Goal	%BF	Report BW	FRI 09/08/17 BW	FRI 09/15/17 BW	FRI 09/22/17 BW	FRI 09/29/17 BW	FRI 10/06/17 BW	SAT 10/21/17 BW	FRI 10/27/17 BW	%REP
	305 - 310	25.4	315.5	309.6	310.2	310.2	310.5	310.0	309.4	310.5	-1.6
	343 - 348	22.5	351.0	347.8	346.8	347.6	346.9	345.7	343.2	344.7	-1.8
	320 - 325	27.2	332.0	316.8	319.5	319.3	319.8	321.9	324.8	319.2	-3.9
	320 - 325	15.8	322.5	324.8	321.9	321.6	321.1	320.9	322.6	320.3	-0.7
	292 - 297	21.1	297.0	291.4	293.1	292.4	291.6	291.3	288.0	287.3	-3.3
	307 - 312	23.5	304.5	309.1	310.7	311.5	311.3	310.3	311.6	311.7	2.4
	320 - 325	22.8	329.0	321.3	320.7	322.4	322.2	320.9	321.0	320.0	-2.7
	328 - 333	25.3	328.5	325.2	326.9	326.3	324.4	324.4	321.7	326.9	-0.5
	313 - 318	21.2	316.0	312.4	314.6	315.5	317.1	315.4	316.2	316.8	0.3

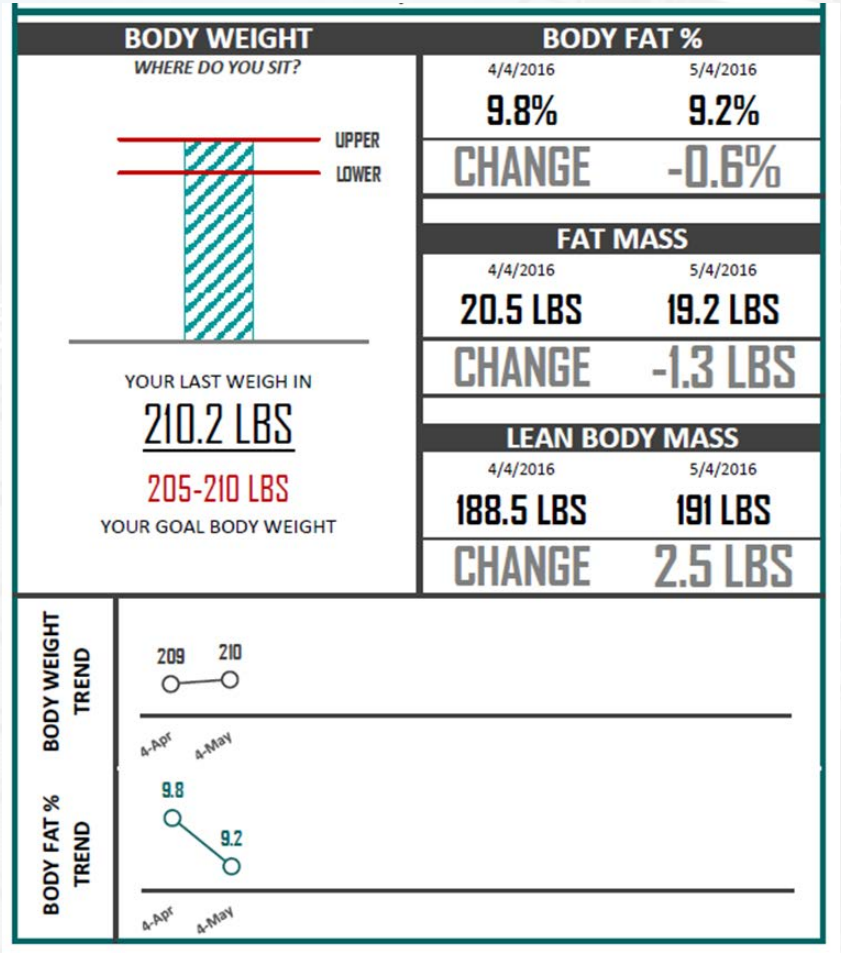
ENERGY BALANCE

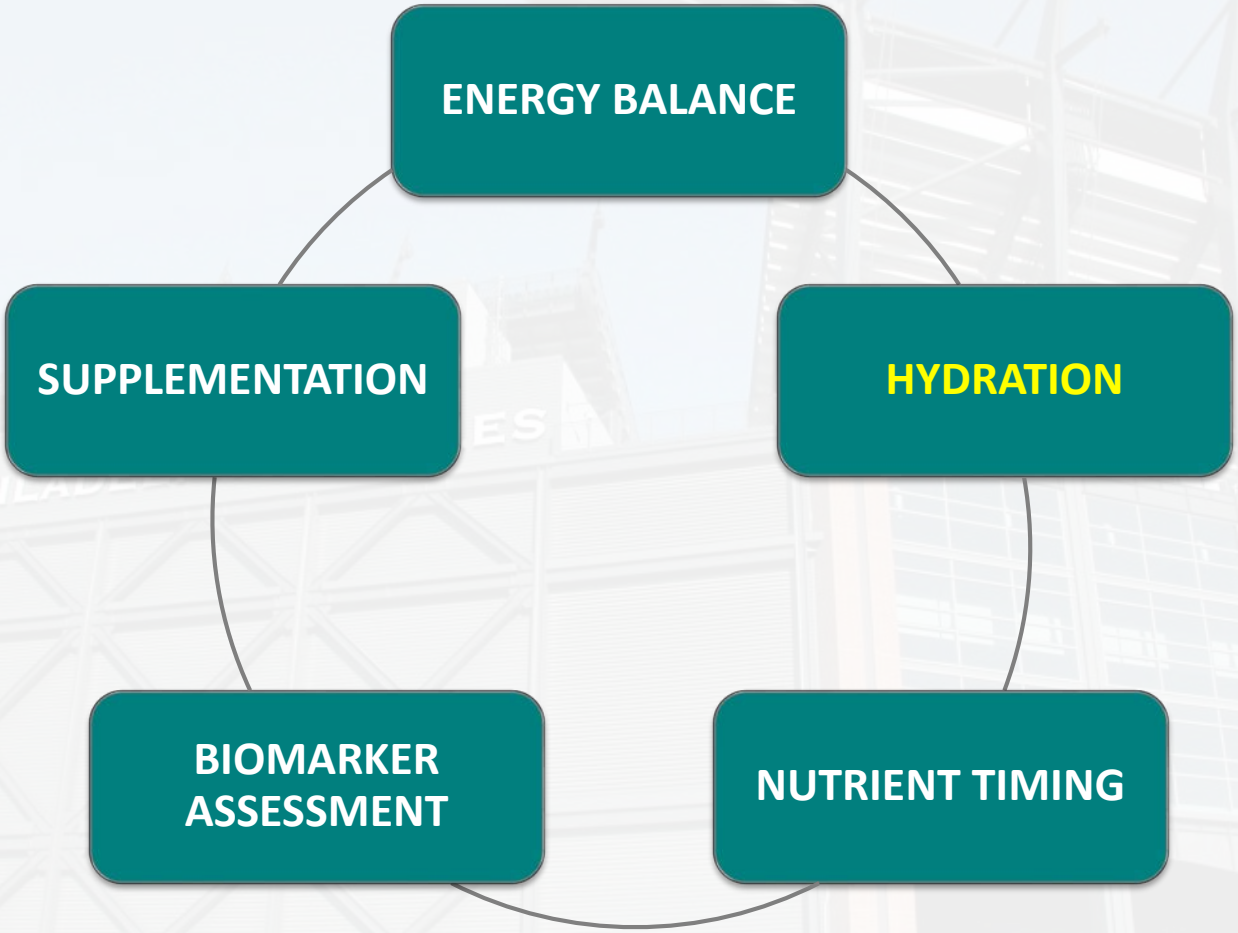
Body Weight/Body Comp Trend Analysis

[redacted]	Date	Wt	Age	C	TRI	SS	MA	SI	AB	TH	SUM	Density	%BF (Siri+Wagner)	%BF (Wagner)	%BF	FM	LBM
	3/20/2018	180.5	25	3.2	4.2	10.2	8.4	7.6	12.6	5.2	51.4	1.083888	8.0	9.4	**9.4**	16.9	163.6
	1/4/2018	187.5	24	4.0	4.4	11.0	8.2	10.2	15.1	5.3	58.2	1.081628	9.0	10.3	**10.3**	19.4	168.1
	9/5/2017	183.5	24	3.4	4.9	9.5	6.3	7.6	12.0	5.0	48.7	1.085202	7.5	8.8	**8.8**	16.2	167.3

ENERGY BALANCE

Body Weight/Body Comp Trend Analysis




ENERGY BALANCE
HYDRATION
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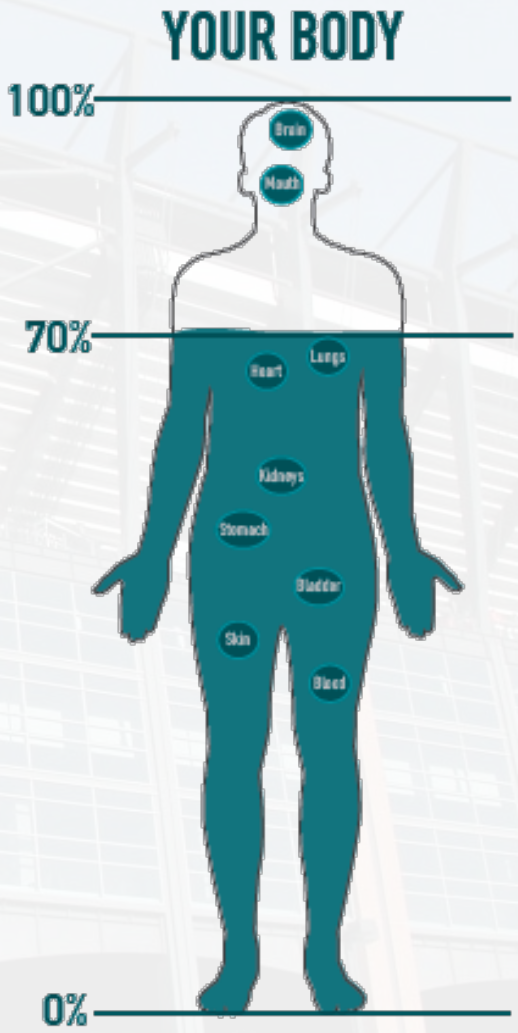
HYDRATION

Humans are about 70% water weight and muscles are 75% water when well-hydrated

- Reduce risk of soft tissue injury
- Improve movement patterns and mental focus
- Inhibit muscle cramping
- Maintain healthy heart rate and normal body temperature
- Reduce fatigue
- Lower perceived exertion
- Enhance muscle building: A hydrated muscle is able to grow bigger than a dehydrated muscle



HYDRATION

Which one is more likely to pull apart or tear under stress?

Dehydrated

Hydrated

HYDRATION

Resources to Address Hydration

- Education
- Pre & Post Body Weight Analysis
  - Training Camp
- Sweat Testing
  - Sodium & Chloride Loss
- Urine Specific Gravity Testing
- Product Selection
  - Athlete Taste Preference is big consideration
  - Electrolyte Content
  - Balance between Electrolytes & Sugar
  - Remember Salty foods**

HYDRATION

PERFORMANCE NUTRITION

HOW MUCH SHOULD I BE DRINKING?

- ½ Your body weight in ounces +
- 32 ounces <u>per hour</u> of training

EXAMPLE

- If you weigh 200lbs. = **100 ounces** +
- 2 -Hr Training = **64 ounces**
- Total: 100 + 64 = **164 ounces OR 5 Gatorade (32 oz.) bottles/day**

KNOW THE NUMBERS

20 OZ = 

32 OZ = 

1		Good
2		Good
3		Fair
4		Dehydrated
5		Dehydrated
6		Very dehydrated
7		Severe dehydration

'STALL STORY'

HYDRATION

Pos	#	Name	Goal	%BF	Report BW	WED 07/26/17	THU 07/27/17			FRI 07/28/17			SAT 07/29/17			SUN 07/30/17			TUE 08/01/17		
						PRE	PRE	POST	%PRE	PRE	POST	%PRE	PRE	POST	%PRE	PRE	POST	%PRE	PRE	POST	%PRE
			195 - 200	6.8	194.0	194.0	197.0	189.4	-3.9	197.0	189.7	-3.7	195.0	188.6	-3.3	195.9	187.4	-4.3	194.1	189.9	-2.2
			195 - 200	8.3	197.2	200.6	200.2	200.8	0.3	199.8	197.4	-1.2	200.3	197.9	-1.2	199.0	200.6	0.8	200.3	198.8	-0.7
			215 - 220	7.6	212.8	219.0	217.5	214.4	-1.4	216.8	215.4	-0.6	217.8	215.5	-1.1	216.3	214.0	-1.1	220.2	219.6	-0.3
			217 - 222	8.6	222.0	222.0	221.5	218.8	-1.2	221.7	217.0	-2.1	220.9	223.8	1.3	223.5	219.7	-1.7	218.2	214.9	-1.5
			210 - 215	8.1	206.0	211.8	210.0	208.2	-0.9	208.8	206.4	-1.1	208.4	208.5	0.0	212.3	208.0	-2.0	208.1	207.4	-0.3

HYDRATION

Weight		Hydration					Sodium Na+				Chloride Cl-			
CHANGE	Δ IN kg	% Dehy	Fluids (L) consumed	Gross Swt loss liters	SwtR l/hr	%replaced	Swt Na+ mmol/l	Na+ loss (mg/l)	Total Na+ loss (mg)	Na+ loss per hr (mg)	Swt Cl- mmol/l	Cl- loss (mg/l)	Total Cl- loss (mg)	Cl- loss per hr (mg)
4.3	2.0	1.8	1.22	3.17	1.476	38.4	33	759	2409	1121	37	1310	4158	1934
4.7	2.1	2.0	1.65	3.78	2.068	43.5	78	1792	6780	3705	71	2499	9458	5168
3	1.4	1.4	1.50	2.87	1.334	52.4	90	2070	5936	2761	96	3398	9745	4533
3.5	1.6	1.6	0.12	1.71	0.932	6.8	46	1065	1817	993	45	1602	2733	1494
2	0.9	1.0	0.21	1.12	0.859	18.6	42	966	1079	830	39	1381	1542	1186
4.5	2.0	1.8	2.74	4.79	2.617	57.3	37	858	4109	2245	40	1411	6756	3692
1	0.5	0.5	1.67	2.12	1.06	78.6	39	897	1902	951	41	1451	3078	1539
9	4.1	3.9	1.70	5.79	2.895	29.4	63	1449	8391	4196	62	2195	12710	6355
1.2	0.5	0.5	2.10	2.65	1.448	79.4	65	1498	3970	2169	83	2952	7822	4274
4.4	2.0	2.2	1.05	3.05	1.667	34.4	85	1963	5989	3273	93	3303	10077	5507
1.6	0.7	0.8	1.31	2.03	1.111	64.2	65	1498	3047	1665	62	2200	4473	2444
8	3.6	3.5	0.82	4.46	2.436	18.4	82	1877	8366	4571	96	3398	15148	8278
4.1	1.9	1.9	1.55	3.42	1.867	45.5	97	2220	7583	4144	97	3450	11786	6441
4	1.8	2.2	1.68	3.50	1.749	48.0	63	1449	5067	2534	57	2018	7057	3528
3.7	1.7	1.8	1.90	3.58	1.791	53.0	67	1541	5520	2760	65	2301	8242	4121
11	5.0	4.7	0.88	5.88	3.211	14.9	91	2085	12253	6696	101	3565	20950	11448
6	2.7	3.0	1.22	3.95	2.156	30.9	70	1619	6390	3492	81	2869	11323	6187
5.4	2.5	2.5	1.61	4.06	2.219	39.6	75	1718	6978	3813	67	2354	9561	5225

HYDRATION

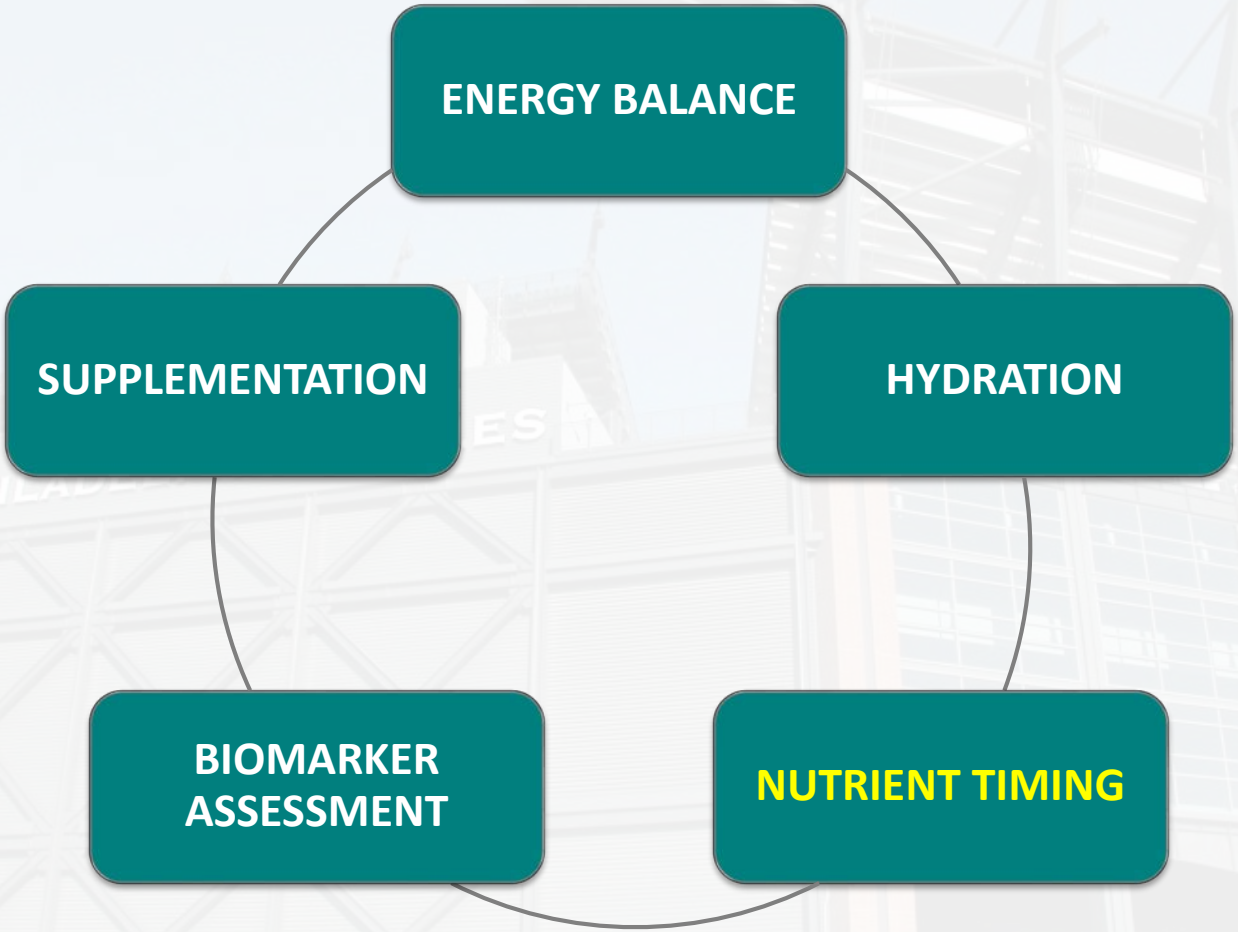
Urine Specific Gravity (USG)

- Ratio of the density of your urine to the density of water
- Density of water = 1.000
- Normal density = 1.000-1.060
- The higher the number, the more ‘dehydrated’ you are
- More accurate than judging color of urine
  - May be affected by vitamin intake
- **OBJECTIVE MEASURE!**

HYDRATION

Urine Specific Gravity (USG)

- Process
  - Provide sample in sterilized cup pre-training
  - Test with refractometer
  - Provide hydration score
  - Ideal: <1.020 or “20”
  - Provide objective information & track trends
    - Athlete should get <20 multiple days in a row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NUTRIENT TIMING

Nutrient Timing Refers to:

- ~30 Min Pre Training/Competition
- During Training/Competition
- Immediately Post Training/Competition

IMPORTANT CONSIDERATIONS

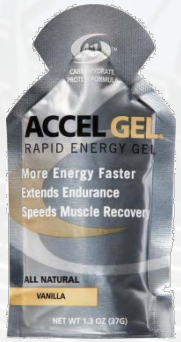
- Availability & Convenience
- Customization
  - Personal Preference
  - Accountability (Tracking?)

NUTRIENT TIMING

Pre-Training/Competition

Primary Goals

1) **Fuel** – "Top off the tank". Provide the body carbohydrate to sustain intensity during activity
   - 15-30g Easily Digested Carbohydrate
     - Sports Gels/Sports Chews
     - Fruit (Bananas)
     - Fruit Chews
     - Granola Bar
     - Fluids w/ Sugar
2) **Hydrate (Protect)** – Must start activity in hydrated state
   - ~16-20 oz. + Electrolytes



NUTRIENT TIMING

During Training/Competition

Primary Goals

1) **Fuel** – Maintain blood sugar levels & conserve energy stores. MAINTAIN INTENSITY.
   - 30-60g/HOUR Easily Digested Carbohydrate
     - Sports Gels/Sports Chews
     - Fruit Chews
     - Fluids w/ Sugar

2) **Hydrate (Protect)** – Replenish Fluids & Electrolytes Lost; Lower Perceived Exertion; Sustain Mental Focus & Movement Patterns
   - ~16-32 oz./HOUR

KILL 2 BIRDS WITH 1 STONE!

NUTRIENT TIMING

Post Training/Competition

Primary Goals

1) **Re-Fuel** – Replenish lost energy stores.
   - 1g/kg. Carbohydrate (CHO)
     - Example: 180lb. = 80g CHO

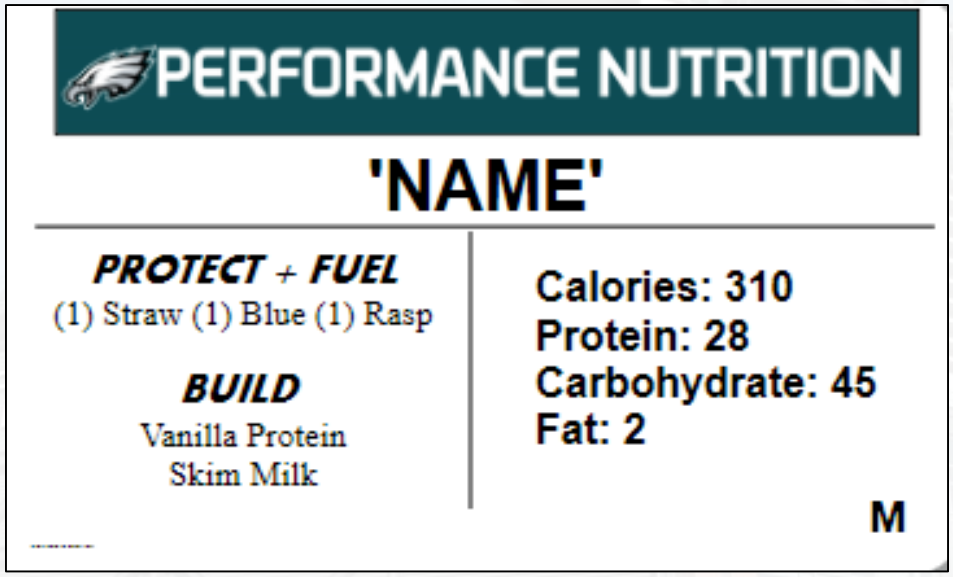
2) **Re-Build**– Repair damaged muscle and other soft tissue.
   - 0.40g/kg. Protein (PRO)
     - Example: 180lb. = 30g PRO

3) **Re-Hydrate (Protect)** – Replenish Fluids Lost; Bring Core Temp Back to Normal.
   - 16-20 oz. per lb. lost

Best Options

- Smoothies
- RTD Protein Shakes
- Protein Bars
- Sandwiches

NUTRIENT TIMING



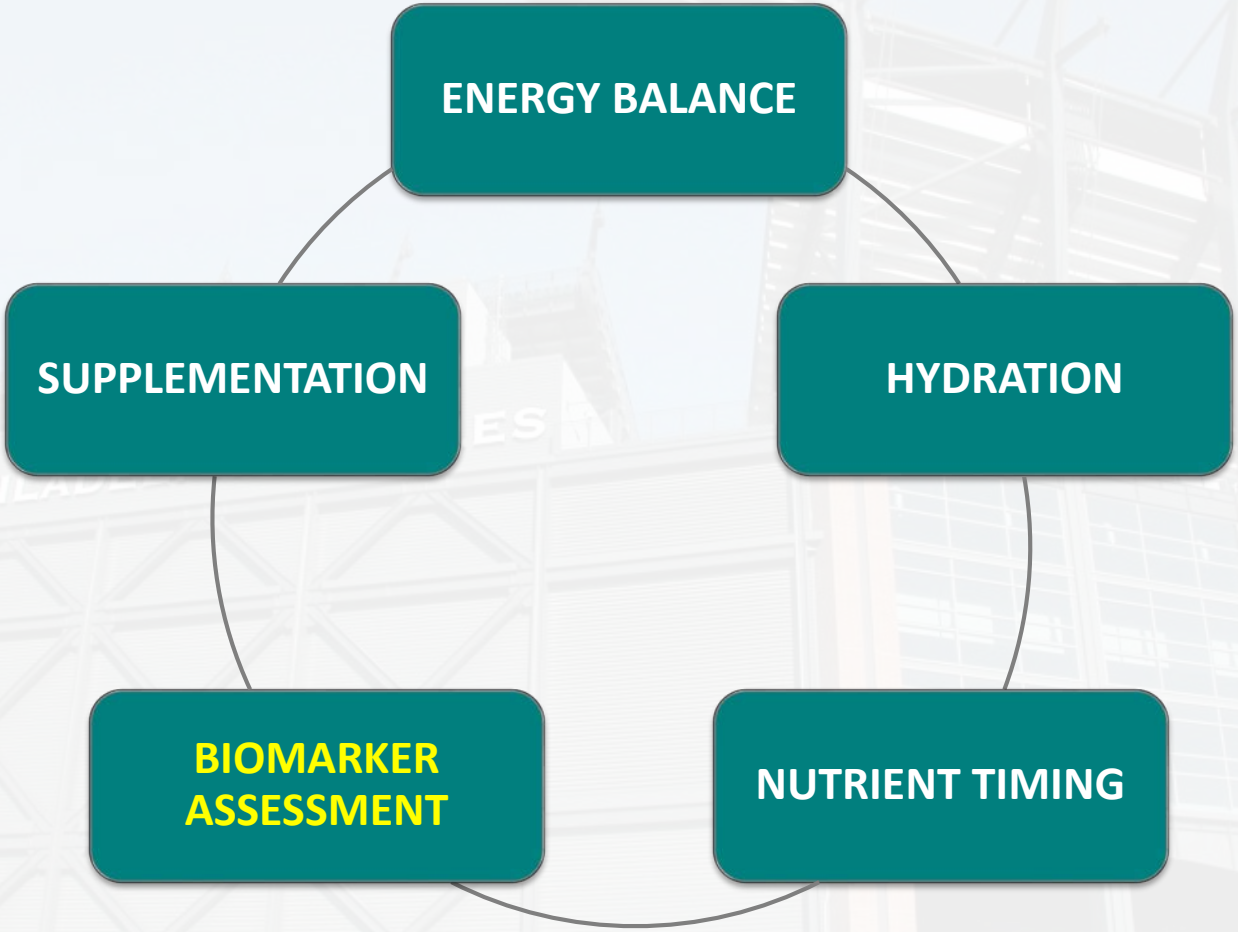
IMPORTANT CONSIDERATIONS

Availability

Convenience

Customization

- Personal Preference
- Accountability (Tracking?)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BIOMARKER ASSESSMENT

- Blood
- Urine
- Sweat
- Saliva*
  - Hormones
  - Nutrigenomics

INDIVIDUALIZATION!!

Some Examples of Markers We Look At:…

- Vitamin D
- Omega 3:Omega 6
- Magnesium
- Iron
- Cortisol (*Stress*)
- Creatine Kinase (*Muscle Damage*)
- C-Reactive Protein (*Inflammation*)

BIOMARKER ASSESSMENT

Elevated Cortisol (>19.4 ug/dL)

- Impaired Cognitive Performance
- Decreased Energy
- Weakened Immune System
- Loss of Muscle Tissue
- Sleep Problems
- Fat Gain
- Depressed Mood/Lack of Motivation

BIOMARKER ASSESSMENT

Elevated Cortisol – Potential Interventions

Nutrition

- Energy Balance
- Carbohydrate Intake
- Nutrient Timing
  - Post Training Carbohydrate + Protein
- Decrease Caffeine Intake

Lifestyle

- Meditation/Relaxation
- Yoga
- Massage
- Sleep

BIOMARKER ASSESSMENT

Elevated Creatine Kinase (>204 U/L)

- Excess Muscle Damage
- Decreased Isometric Strength
- Inflammation/Soreness
- Muscle Cramping
- Fatigue
- Delayed Recovery

BIOMARKER ASSESSMENT

Elevated Creatine Kinase – Potential Interventions

Nutrition

- Nutrient Timing
  - Post Training Carbohydrate + Protein
- Fish Oil/Omega-3
- Creatine Monohydrate/Creatine-Containing Foods
- Turmeric/Curcumin

Lifestyle

- Cold Water Immersion
- Massage Therapy
- Compression Garments
- Longer Rest Periods Between Sets

BIOMARKER ASSESSMENT

Elevated C-Reactive Protein (>4.9 mg/L)

- Impaired Immune System
- Excess Muscle Damage
- Decreased Muscular Performance & Strength
- Inflammation/Soreness from Cell Damage
- Fatigue
- Delayed Recovery
- Worsened Cardiovascular Health

BIOMARKER ASSESSMENT

Elevated C-Reactive Protein – Potential Interventions

<u>Nutrition</u>

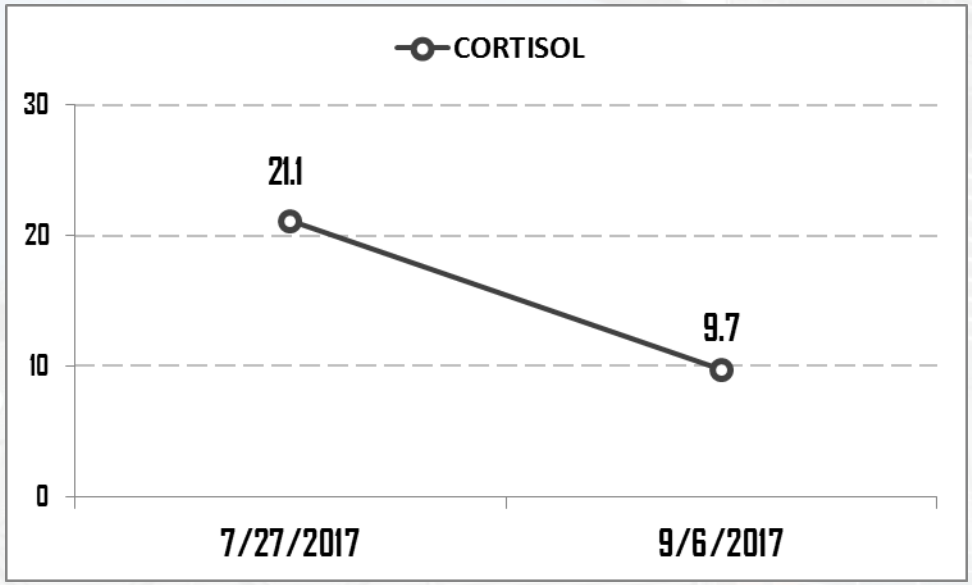
- Fruit & Vegetable Intake
- Tart Cherry Juice
- Carbohydrate Intake
  - Whole Wheat/Whole Grain
- Beet Juice
- Omega-3/Fish Oils
- Turmeric/Curcumin
- Vitamin D

<u>Lifestyle</u>

- Cold Water Immersion
- Sleep Quality

BIOMARKER ASSESSMENT

Case Studies

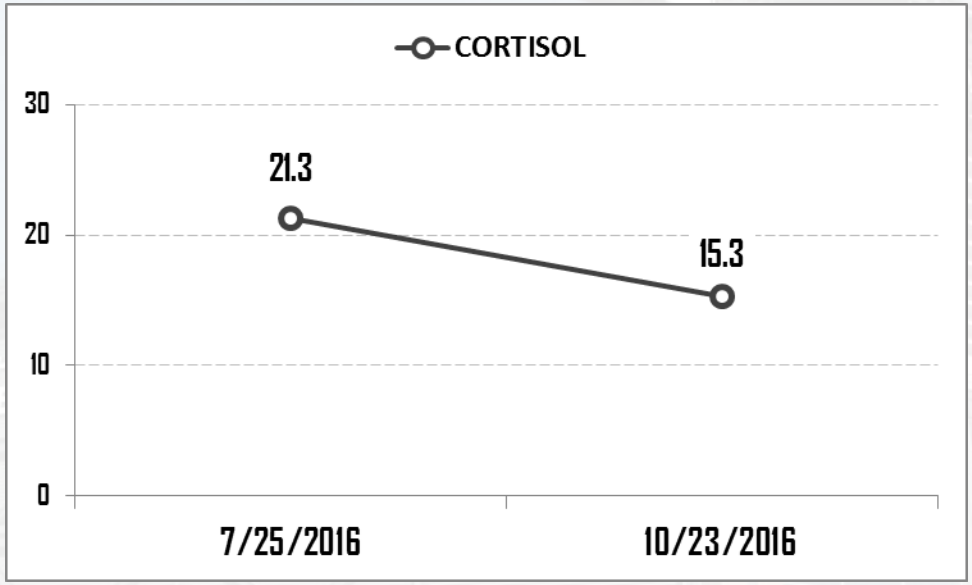


INTERVENTIONS

- Increased Energy Intake/Body Weight
- Educated on Sleep Quality
- Emphasized Post-Training Nutrition

BIOMARKER ASSESSMENT

Case Studies

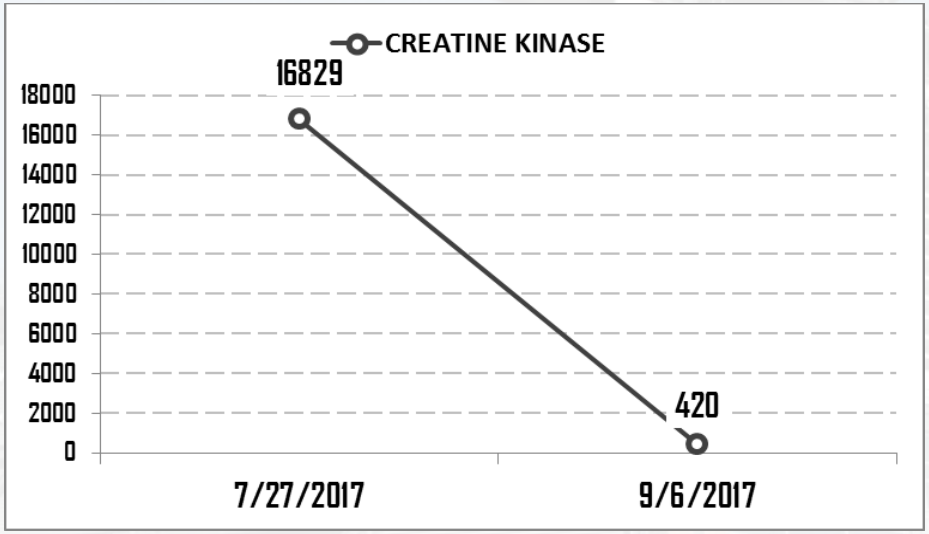


INTERVENTIONS

- Emphasized Carbohydrate Intake, Specifically During Training
- Sleep Education

BIOMARKER ASSESSMENT

Case Studies

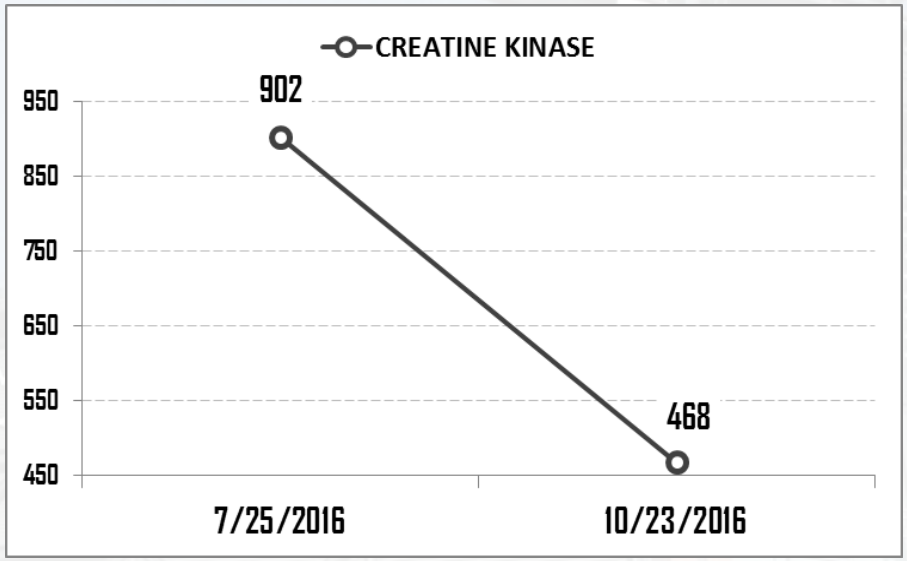


INTERVENTIONS

- Emphasized Post Training Protein + Carbohydrate Intake
- Emphasized Cold Water Immersion Post-Training
- Included Turmeric Shot Post Training

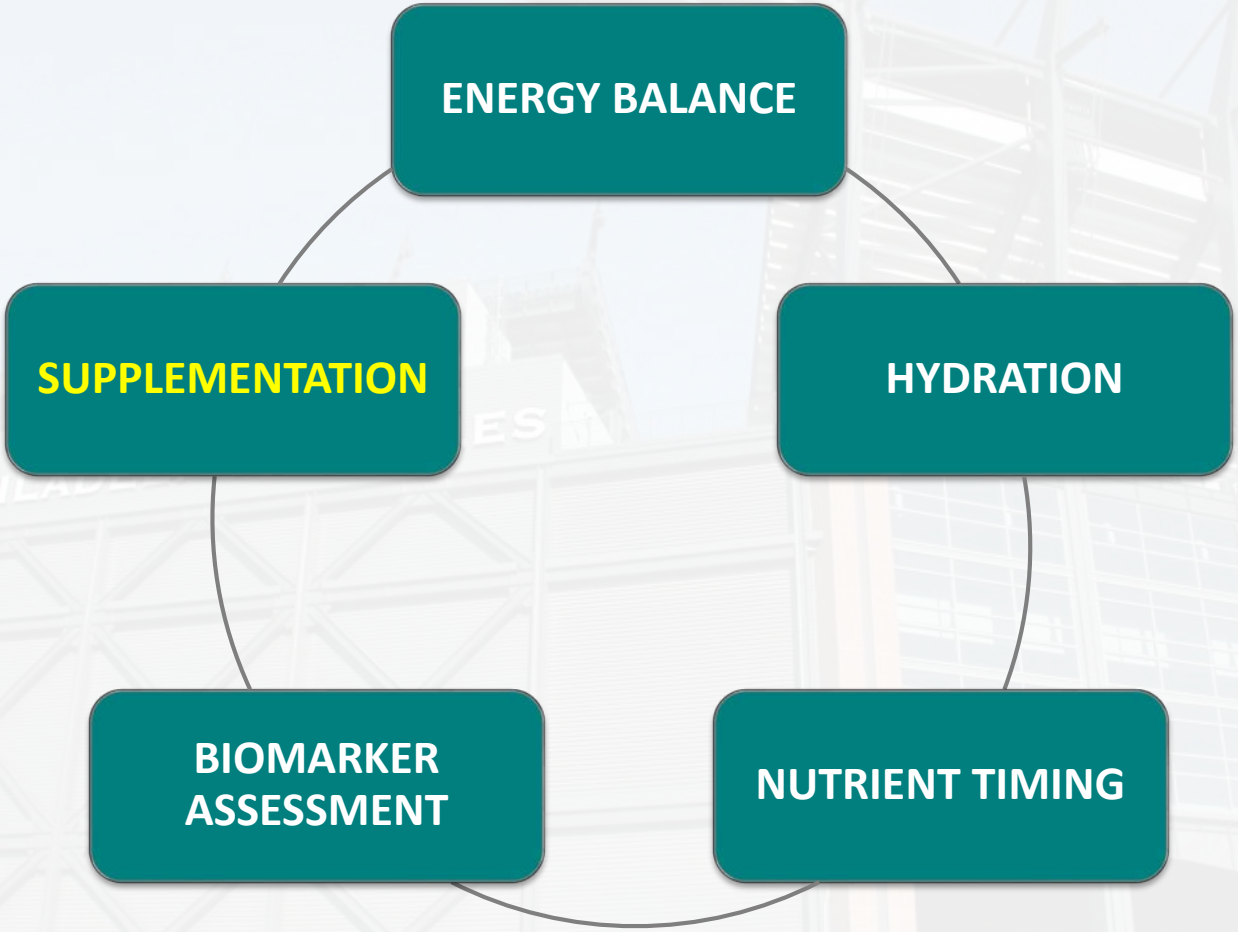
BIOMARKER ASSESSMENT

Case Studies



INTERVENTIONS

- Emphasized Post Training Protein + Carbohydrate Intake
- Emphasized Cold Water Immersion Post-Training
- Emphasized Massage Therapy


ENERGY BALANCE
HYDRATION
NUTRIENT TIMING
BIOMARKER ASSESSMENT
SUPPLEMENTATION

SUPPLEMENTATION

What You Need to Know

- There are only a **handful** of supplements that are effective and can give you the extra 1%...**BUT**
- The supplement industry is **NOT** regulated
- **Most** supplements simply do not work & make "too good to be true" claims

SUPPLEMENTATION

[redacted] offensive lineman [redacted] is suspended for the first four games of the 2016 after violating the league's policy on performance enhancing drugs.

In a statement released Monday, [redacted] said he took a "recommended supplement" to battle inflammation, and it contained an ingredient on the league's banned substance list.

The [redacted] announced Thursday the NFL suspended running back [redacted] for the first four games of the 2017 regular season after he violated the league's performance-enhancing drug policy.

The [redacted] have waived cornerback [redacted], who is suspended for the first four games of the 2017 season for violating the NFL's policy on performance-enhancing drugs.

"As a dedicated member of this team, it is very disappointing to have to miss the first four games of the season and not be out there with my teammates," [redacted] wrote. "I sincerely apologize to my family, the entire [redacted] organization, my teammates and our fans for this situation. It is my responsibility to know the ingredients of every supplement that I use, so I take full responsibility for what happened and will work as hard as I can to be ready to contribute when I return."

SUPPLEMENTATION

Potential Scenarios…

Scenario 1

- Player wants to build muscle so he goes and buys a protein supplement at the supplement store
- The label says “100% whey isolate protein” so the player suspects this is safe and takes the supplement
- The supplement actually contains the anabolic agent “Danazol” which is not mentioned on the label
- Player tests positive for illegal anabolic agent and gets suspended

Scenario 2

- Player wants to burn fat so he buys a “fat burner” online
- Label states all 25 ingredients (proprietary blend) in supplement but the player does not realize “Heptaminol” is on the banned substance list
- Player tests positive for an illegal stimulant and is suspended

SUPPLEMENTATION

Potential Scenarios…

Scenario 3

- Player A is in need of some pre-workout – a little extra kick before practice
- Player A borrows Player B's pre-workout from his locker without Player B's consent
- Player B is prescribed "Adderall" and has crushed it up into his pre-workout for ease of use
- Player A tests positive for an illegal stimulant and is suspended

Scenario 4

- Player has taken supplement "x" for 4 years – Supplement "x" isn't certified but he has been tested multiple times and never has popped positive for anything
- A disgruntled employee for supplement "x" decides to put "Methylephedrine" in this batch to cause trouble and get back at the company
- Player takes bad batch of supplement "x", tests positive for an illegal stimulant, and is suspended

SUPPLEMENTATION

What Can We Do?

- Education
- Regulation

SUPPLEMENTATION

NSF CERTIFICATION

- NSF program tests for ~ 245 athletic banned substances
- NSF's banned substances testing is completed on a lot-by-lot basis
- All "NSF Certified for Sport" products are tested each year for ingredient confirmation & label claims
- Test report is comprehensive and based on absolute transparency, detailing each substance that was tested for, and the detection level

SUPPLEMENTATION

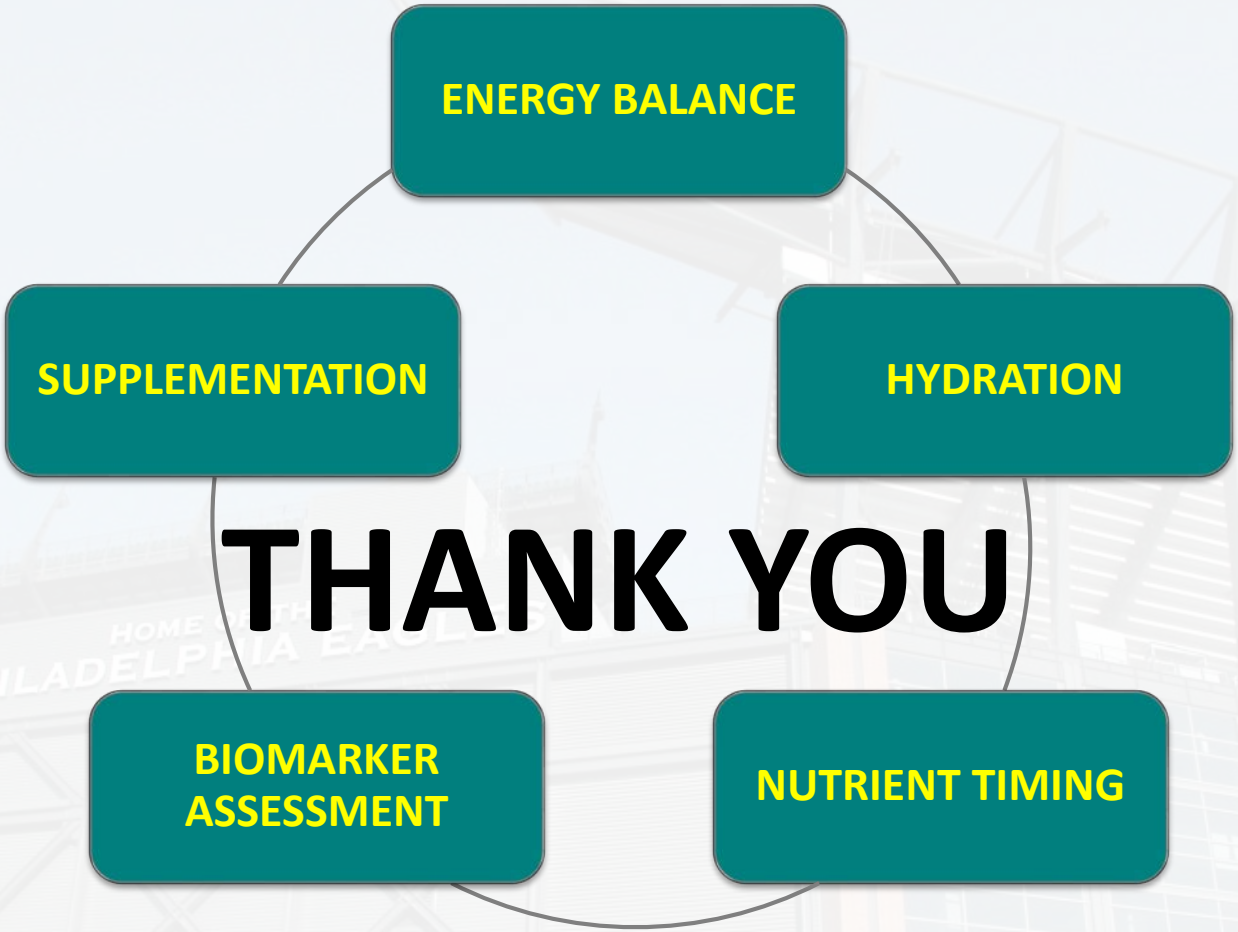
Effective Supplements (Athletes >18 Y.O.**)

Supplement Facts Label

- Whey Protein
- Creatine Monohydrate
- Fish Oil/Omega-3
- Vitamin D
- Probiotics
- Caffeine*

Nutrition Facts Label

- Carbohydrate Powders
- Beetroot Juice/Shots
- Tart Cherry Juice
- Gelatin + Vitamin C*
- Turmeric/Curcumin
- Caffeine*


ENERGY BALANCE
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THANK YOU