



PERFORMANCE NUTRITION: FUELING FOUNDATIONS

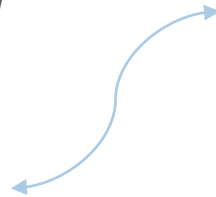
Rachel Gorham MA, RD, LD, ISAK 1
Sports Dietitian at Training HAUS

September 21, 2022

NUTRITION IMPACT

PERFORMANCE

- Maintain *energy* levels
- Increase *strength, power, speed*
- *Injury prevention* and recovery
- Improve body *composition*
- *Immune* system function



HEALTH

- Proper *growth* and development
- Hormone communication and balance
 - Muscle + brain connection
- Improving brain health, focus and mental clarity – school performance!
- Decreases risk of chronic disease (Diabetes, Heart Disease, etc.)
- **KEEPS YOU DOING WHAT YOU LOVE**

“Nutrition can make an average athlete great, or a great athlete average”

-Academy of Nutrition & Dietetics



MACRONUTRIENTS

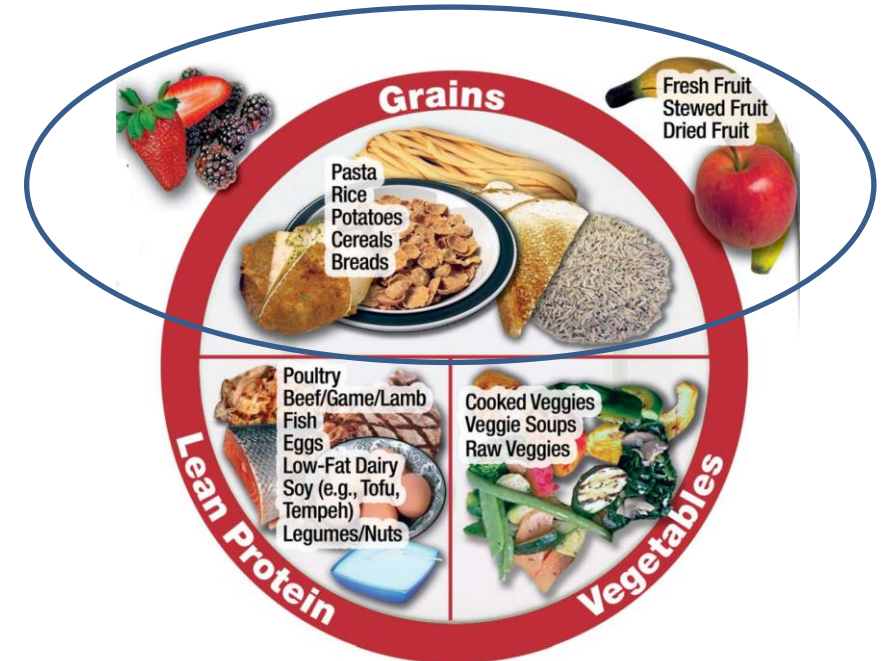
CARBOHYDRATES

NECESSARY FOR PERFORMANCE

- **Key fuel source** for exercise
 - Continuous or high-intensity
 - POWER, SPEED, EXPOSIVNESS
- Delivers protein to muscles after training
 - ↑ Recovery
- Brain fuel – stay in the zone!

What if I don't have enough carbohydrates?

- Fatigue
- Exercise feels harder (perceived exertion increases)
- Delayed reaction times
- Reduced immune system function
- ↑ risk of injury
- **IMPAIRED PERFORMANCE**



CARBOHYDRATE SOURCES

COMPLEX	SIMPLE
<ul style="list-style-type: none">• Whole Grains<ul style="list-style-type: none">• Oats, brown rice, whole wheat products, quinoa• Starchy Vegetables<ul style="list-style-type: none">• Corn, peas, potatoes• Beans and legumes<ul style="list-style-type: none">• Pinto beans, black beans, lentils	<ul style="list-style-type: none">• Fruits• Milk products<ul style="list-style-type: none">• Yogurt, cottage cheese• Refined grains<ul style="list-style-type: none">• White bread, cereals• Processed treats<ul style="list-style-type: none">• Cakes, cookies, candy• Sports Products (sports drinks, energy chews, gels, etc.)

- ✓ Grains
- ✓ Fruits
- ✓ Dairy
- ✓ Desserts
- ✓ Beverages
- ✓ Starchy Vegetables



CARBOHYDRATE NEEDS: DEPENDS!

1. Training intensity



3. Athlete goals



2. Duration of exercise



4. Game day schedule

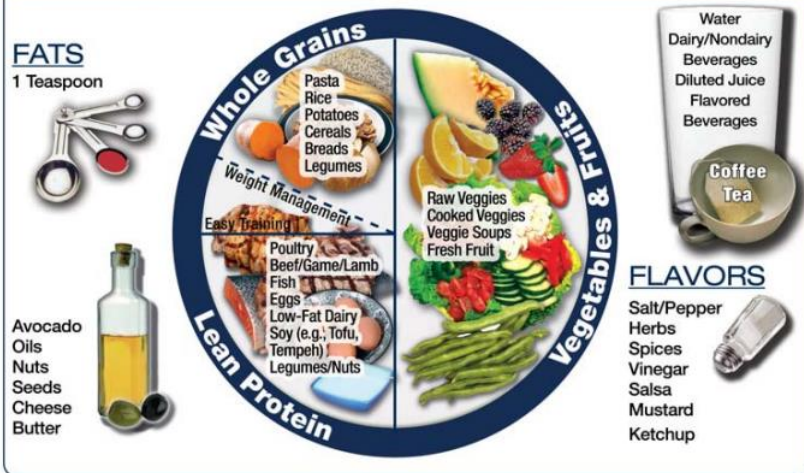


TRAINING	SPORT EXAMPLES	CARBOHYDRATE NEEDS	EXAMPLE 175# (79.5 KG ATHLETE)
Light, low intensity exercise Skill based movements	Golf, Baseball, Softball	3-5g CHO/kg	235g-555g
Moderate-intensity exercise (~1 hour/day)	Soccer, Rowing, Hockey, Gymnastics, Field Events, Weight Lifting, Wrestling, Figure Skating	5-7 g CHO/kg	395g-555g
Endurance athletes Moderate to High intensity (1-3 hours/day)	Distance Running, Cycling and Swimming, Hockey, Football, Basketball, Tennis	6-10 g CHO/kg	475g-795g
Extreme commitment Moderate to High-intensity (4-5 hours a day)	Football, Distance Running, Cycling and Swimming	8-12 g CHO/kg	635g-955g

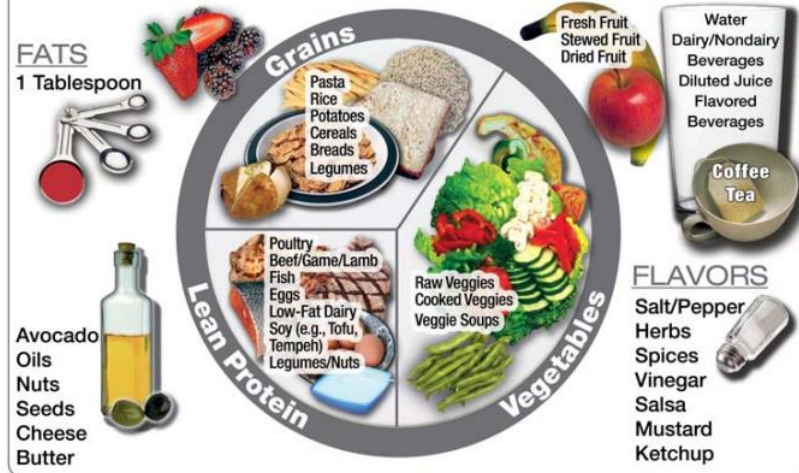
**Speak to a Training HAUS sports dietitian to determine your individual needs!

CARBOHYDRATE NEEDS BY PLATE

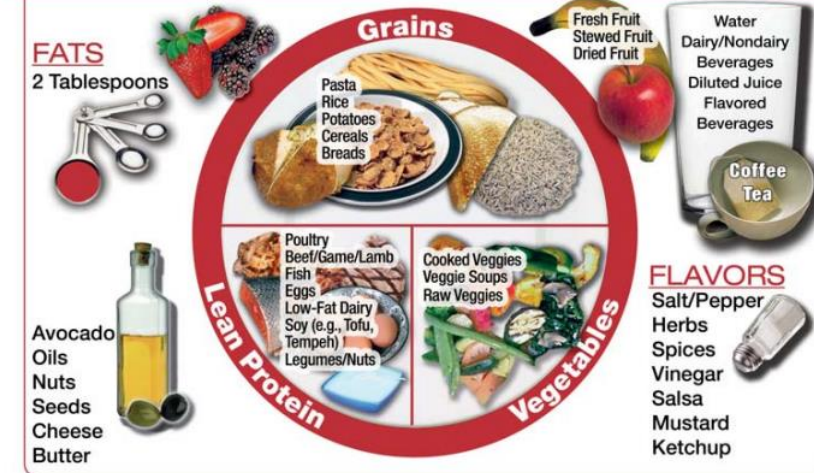
EASY TRAINING / WEIGHT MANAGEMENT:



MODERATE TRAINING:



HARD TRAINING / RACE DAY:



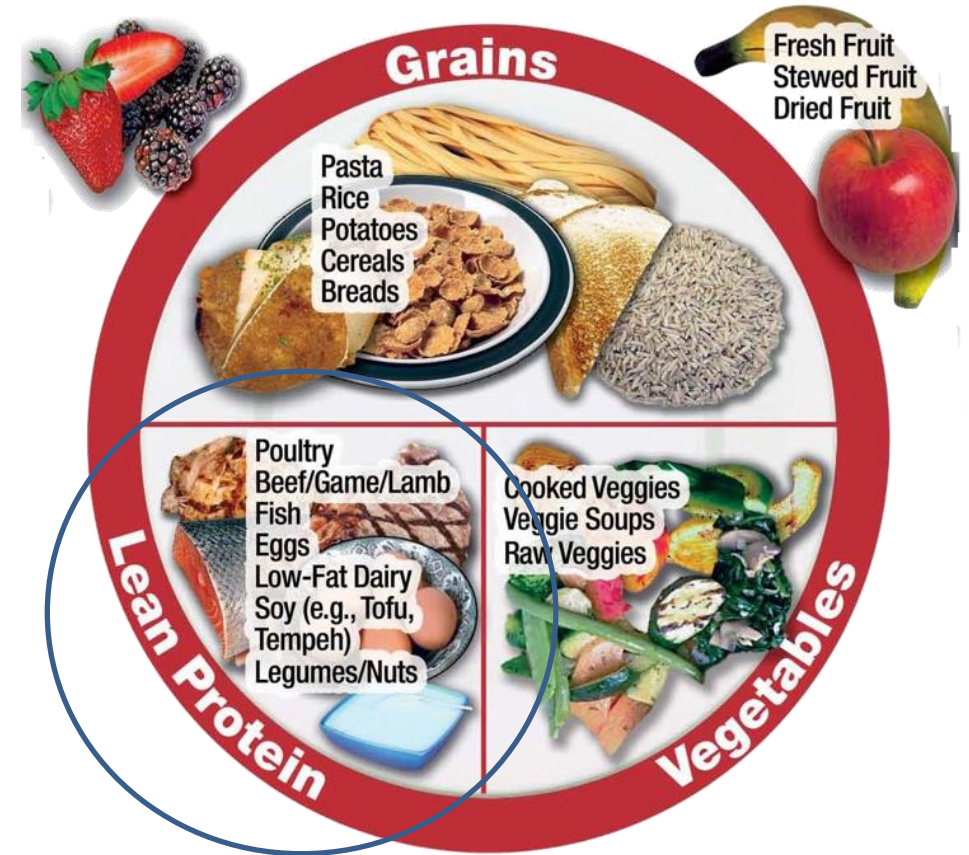
PROTEIN

KEY TO IMPROVMENT

- **Building blocks for muscle growth & recovery**
- Hormone production
 - growth, digestion, mental health and more!
- Immune support
- Feel satisfied and control energy levels

What can't protein do???

- Protein is NOT an efficient fuel source
- Takes time to digest!





PROTEIN SOURCES

Animal	Non-animal
<ul style="list-style-type: none">• Chicken• Turkey• Fish (Salmon, Shrimp, Cod, Tuna)• Beef• Pork• Milk• Dairy Products (cottage cheese, yogurt)• Eggs	<ul style="list-style-type: none">• Beans• Lentils• Nuts & Seeds• Soy Products (Tofu, Edamame, Soy Milk + Yogurt)• Tempeh• Quinoa



PROTEIN NEEDS: DEPENDS!

- **Training** (stimulus) determines protein needs 
 - Reminder: Protein facilitates the repair of muscles from exercise
- Effected by **growth & development** 

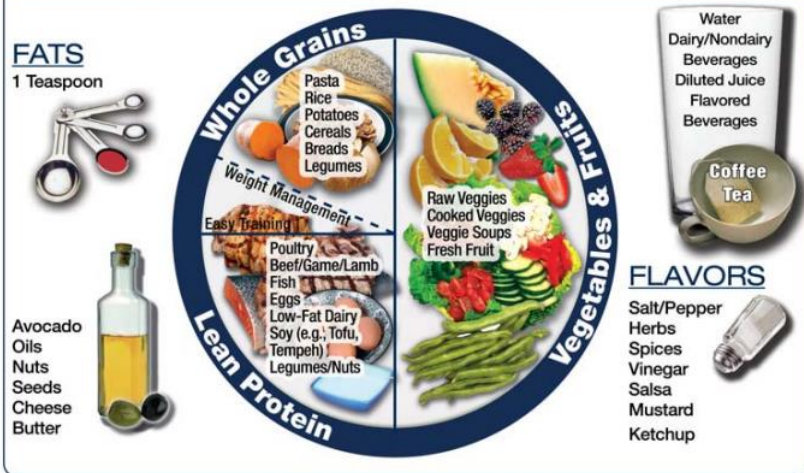
Training	Protein needs	175# Athlete Example
Endurance	1.2-1.4 g/kg/day	95-110g
Resistance	1.6-1.7 g/kg/day	125-135g

*Protein *timing* is essential to muscle growth, repair and adaptation! **More ≠ Better**

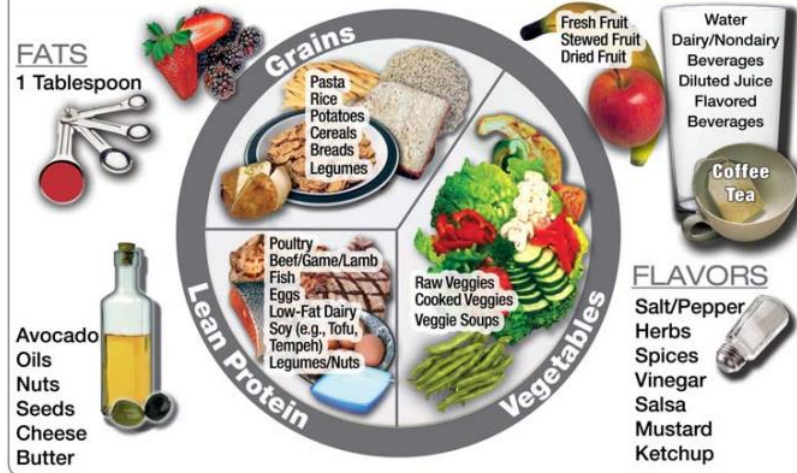
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PROTEIN NEEDS BY PLATE

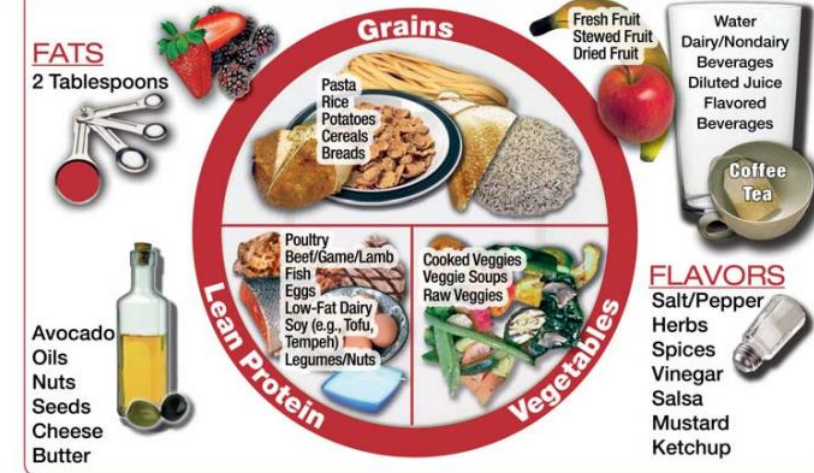
EASY TRAINING / WEIGHT MANAGEMENT:



MODERATE TRAINING:



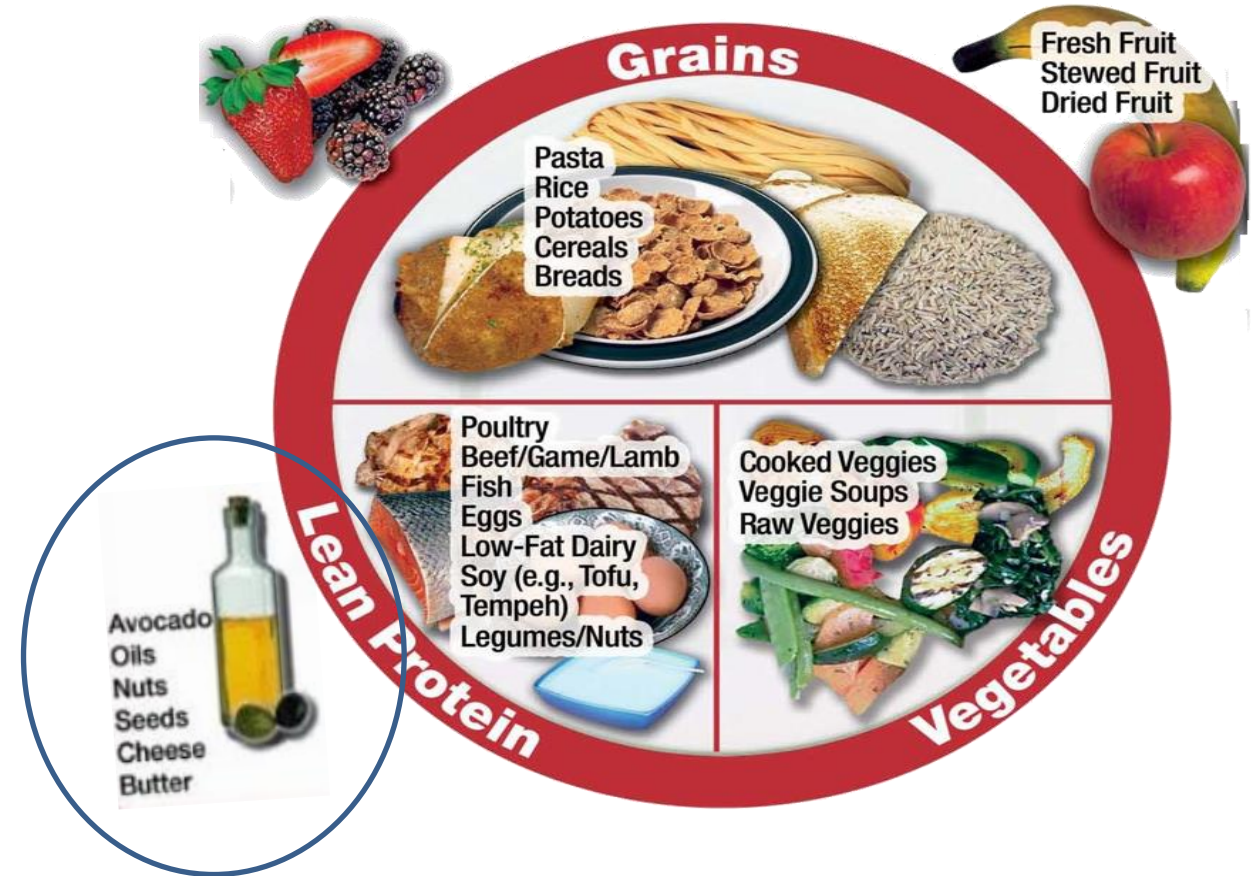
HARD TRAINING / RACE DAY:



FAT

ESSENTIAL TO MAINTAIN YOUR GAME

- Thermoregulation → controls sweat losses
- Hormone Production
 - growth, digestion, mental health and more!
- Provides essential vitamins (Vitamin A, D, E, K) for storage unique to fats!
- Feel satisfied and control energy levels
- **FUEL** source for low-intensity work
- Impacts inflammation & soreness



FAT SOURCES & NEEDS

FUNCTIONAL FATS

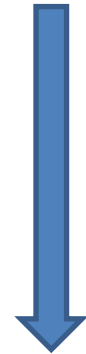
- **Monounsaturated & Polyunsaturated Fats**
- Fatty Fish (Salmon, Tuna, Cod)
- Olive Oil
- Avocados
- Hummus
- Nuts/nut butters
- Flaxseed
- Chia seeds
- Some fats in animal products



Protection
&
Recovery

LESS FUNCTIONAL FATS

- **Trans & Saturated Fats**
- Fried foods
- Creams, half-and-half
- Processed treats
- Margarine
- Some fats in animal products
- Coconut Oil



Recovery

- Overall Needs: 20-35% of daily calorie intake
- Endurance athletes: >1g/kg/day

FAT NEEDS BY PLATE

EASY TRAINING / WEIGHT MANAGEMENT:

FATS
1 Teaspoon

Whole Grains
Pasta
Rice
Potatoes
Cereals
Breads
Legumes

Lean Protein
Poultry
Beef/Game/Lamb
Fish
Eggs
Low-Fat Dairy
Soy (e.g., Tofu, Tempeh)
Legumes/Nuts

Vegetables & Fruits
Raw Veggies
Cooked Veggies
Veggie Soups
Fresh Fruit

FLAVORS
Salt/Pepper
Herbs
Spices
Vinegar
Salsa
Mustard
Ketchup

Water
Dairy/Nondairy
Beverages
Diluted Juice
Flavored
Beverages
Coffee
Tea

Avocado
Oils
Nuts
Seeds
Cheese
Butter

1 Teaspoon -----

MODERATE TRAINING:

FATS
1 Tablespoon

Grains
Pasta
Rice
Potatoes
Cereals
Breads
Legumes

Lean Protein
Poultry
Beef/Game/Lamb
Fish
Eggs
Low-Fat Dairy
Soy (e.g., Tofu, Tempeh)
Legumes/Nuts

Vegetables
Raw Veggies
Cooked Veggies
Veggie Soups

FLAVORS
Salt/Pepper
Herbs
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Water
Dairy/Nondairy
Beverages
Diluted Juice
Flavored
Beverages
Coffee
Tea

Avocado
Oils
Nuts
Seeds
Cheese
Butter

1 Tablespoon

HARD TRAINING / RACE DAY:

FATS
2 Tablespoons

Grains
Pasta
Rice
Potatoes
Cereals
Breads

Lean Protein
Poultry
Beef/Game/Lamb
Fish
Eggs
Low-Fat Dairy
Soy (e.g., Tofu, Tempeh)
Legumes/Nuts

Vegetables
Cooked Veggies
Veggie Soups
Raw Veggies

FLAVORS
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Water
Dairy/Nondairy
Beverages
Diluted Juice
Flavored
Beverages
Coffee
Tea

Avocado
Oils
Nuts
Seeds
Cheese
Butter

----- 2 Tablespoons

VEGETABLES

All of our plates include vegetables... but why?!

1. Color → vitamins/minerals

- **Green** = vitamin A, K, Magnesium and vitamin C
→ Muscle performance, decreasing soreness, vision/reaction time



2. Fiber content

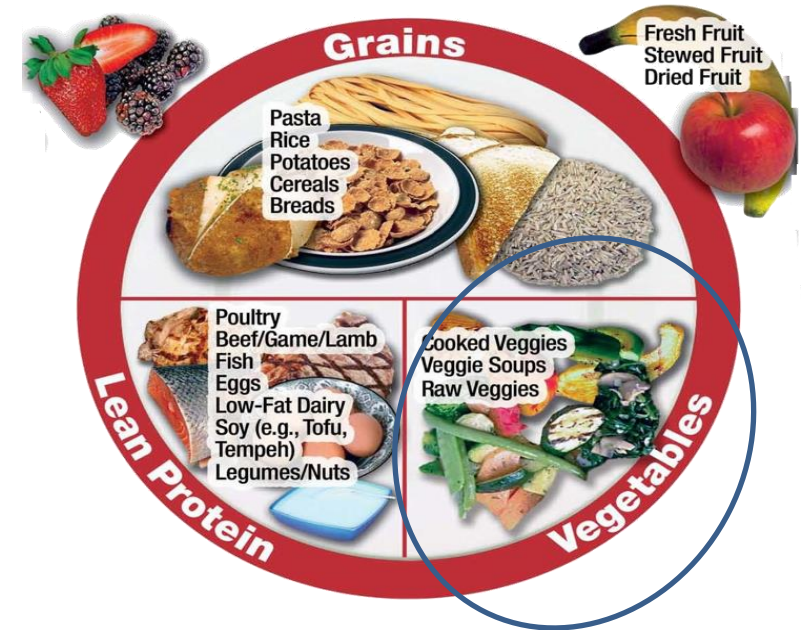
- Keeps you full and pooping normally

3. Immune function

- Keeps you in your game!

4. Long term health

- Phytonutrients and phytochemicals



HYDRATION

- Transports nutrients → Access your energy!
- Eliminates waste → Decrease inflammation!
- Lubricates our joints so they move easier
 - Dehydrated: ↑ risk for injury and ↓ performance capacity
 - This stress on our bodies can lead to inflammation. Reduce your risk by staying properly hydrated!



ESTIMATE YOUR BODY'S WATER NEEDS:

Body weight (in pounds) divided by 2 = Starting goal!

Ex: 200# athlete would need 100oz fluid/day

**Speak to a Training HAUS sports dietitian to determine your individual needs!



NUTRIENT TIMING

FUEL+TRAIN SCHEDULE

6:00 AM – Wake up

6:30 AM – **Breakfast:** Eggs with spinach and cheese, wheat toast with PB, fruit + water

9:00 AM – **Snack:** applesauce + trail mix

12:00 PM – **Lunch:** Turkey and cheese sandwich on wheat bagel (topped with tomato, onion, lettuce, carrots + hummus + 1 fruit + milk

3:00 PM – **Pre-practice Snack:** Clif bar + banana + water

4:00-6:00 PM – PRACTICE/TRAIN

6:15 PM – **Recovery:** protein shake/bar

7:00 PM– **Dinner:** 2 fist of rice/pasta/potato + 2 palms of meat + 1 palm of veg

9:30 PM - **Snack:** Yogurt parfait (yogurt, granola and berries)

10:30 PM – SLEEP



Timing is KEY to
Maximize Performance

PRE-EXERCISE FUELING

Purpose:

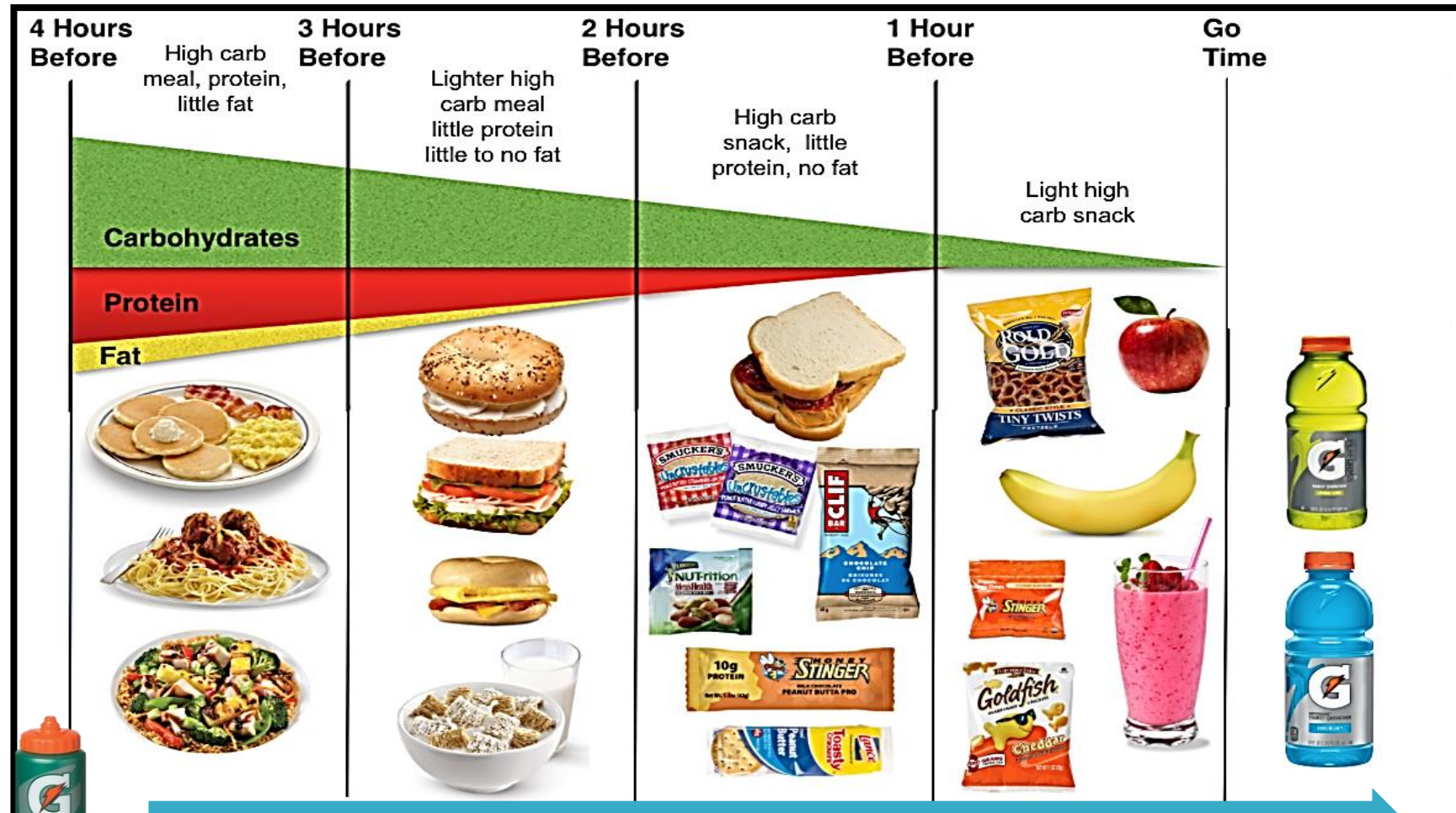
- Carbs are **FUEL** for your muscles → more energy to train harder!
- Prevents injury by giving muscles energy to contract and release
- Decreases breakdown, overuse, and burn out

Best Choice:

- 3-4 hour: meal
- 1-2 hours: simple carbohydrates and some lean protein
- 30 minutes to 1 hour: simple carbohydrates in quick digesting or liquid form

Low Performance Choices:

- High fat
- High fiber



CARBOHYDRATE AND PROTEIN TIMING

CARBOHYDRATES:

SUSTAIN energy levels through frequent meals/snacks

Complex=fiber full

Simple= quick energy

PROTEIN:

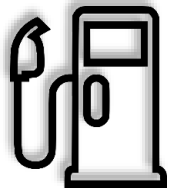
Spreading out protein intake throughout the day will maximize muscle repair, recovery and growth

- **Breakfast** → **Snack** → **Lunch** → **Recovery** → **Dinner** → **Snack**
- 30g Pro → 15g Pro → 30g Pro → 20g Pro → 30g Pro → 15g Pro



DURING EXERCISE FUELING

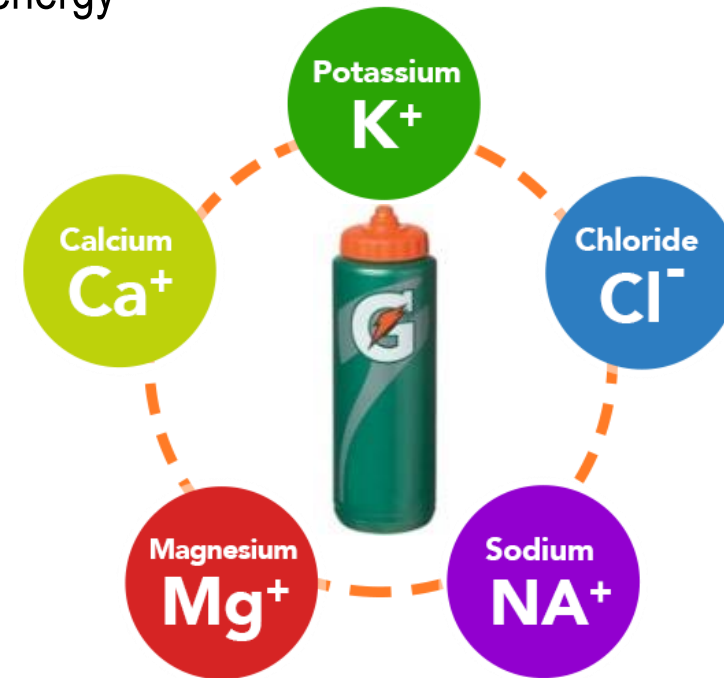
Purpose: maintain euhydration, electrolyte balance and adequate energy availability - *Carbohydrate, Water, Electrolytes.*



Carbohydrate provides additional supplies of the preferred energy source during prolonged exercise (ex. glucose in Gatorade, energy gels, etc.)



Water intake critical for regulation of body temperature. Should be paired with source of electrolytes to replace what is lost in sweat

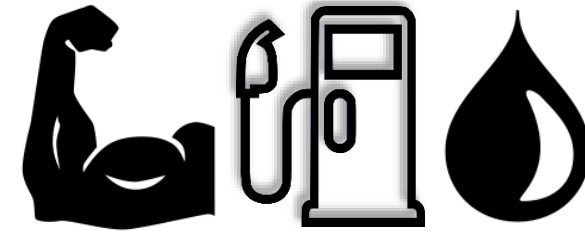


DRINK ADEQUATELY in surrounding hours and throughout the day to aid in performance

POST-EXERCISE (RECOVERY) FUELING

Purpose:

- **REPLENISH** energy stores
- **REPAIR** and rebuild muscle
- **REPLACE** fluid and electrolytes



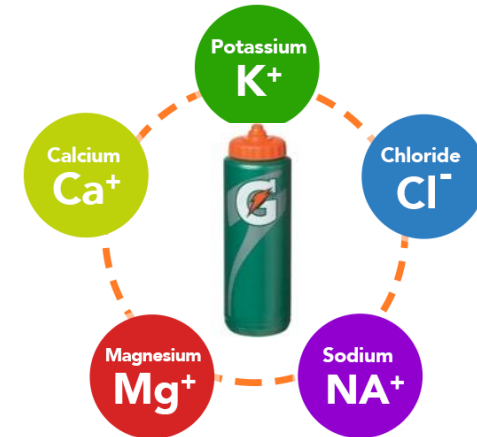
What to do:



- Eat within 30 minutes post training
 - High-carbohydrate foods
 - With Protein – 25 g
 - **Examples:** Fruit and Greek yogurt, Clif bar and milk, turkey wrap, protein smoothie, protein shake, chocolate milk and protein granola bar
- Eat within 2 hours
 - Balanced meal (complex carbohydrates and protein)
 - Examples: Turkey sub, Stir-fry, Chicken Burrito

3:1

Carbs : Protein



OR



HYDRATION TIMING

BEFORE EXERCISE:

Consume fluids regularly with meals.

Aim to drink 16-20 oz. at least 4 hours before activity.

Drink another 8-16 oz. 1-2 hours before activity.



DURING EXERCISE:

It is best to drink according to your thirst sensation.

For endurance exercise >90 minutes, consuming fluids that are 6-8% carbohydrate (e.g. sports drinks) is beneficial to maintain energy levels.

Drink at least 1 GULP (4 oz) every 10-30 minutes.



POST EXERCISE:

Drink to recover!

Full rehydration within 6 hours.

Urine should be pale **yellow** within 2-3 hours post exercise



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Write out YOUR
FUEL+TRAIN Schedule!

ACTION ITEMS

WRITE DOWN 3 REASONS
WHY NUTRITION IS
IMPORTANT FOR YOUR
BODY AND GOALS

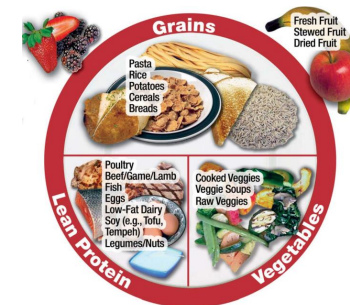
1. Focus in school
2. Energy for sport
3. Injury prevention

NAME ALL 4
MACRONUTRIENTS AND
WHAT THEY DO FOR YOUR
BODY

Carbohydrates: Energy
Protein: Build
Fat: Protect
Fluid: Hydration

BUILD A BALANCED
PERFORMANCE PLATE
FOR BREAKFAST

Oatmeal topped with greek
yogurt, almonds,
strawberries and peanut
butter



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FUEL+TRAIN Schedule!

QUESTIONS?

Looking to Refer for Nutrition Support?

Call:

952-456-7650

Email:

SportsNutrition@TrainingHAUS.com

Website:

TrainingHAUS.com/Sports-Nutrition

We are available in-person & virtually!



COMING UP NEXT!

Topic 2 – Athletic Injury Basics

October 19, 2022 | 6:30 – 7:30 PM

Topic 3 – Fueling Logistics: Preparing Student-Athletes to Conquer Nutrition Barriers

November 16, 2022 | 6:30 – 7:30 PM



THANK YOU!

Reach out with any questions:
Sportsnutrition@traininghaus.com