



Sports Nutrition



PROTEIN

Rebuild & Repair



First Importance

- Makes up all muscles, organs, and most cells
- Runs all body processes
- Needed to maintain and rebuild
- Protein = muscle gains/growth
- Protein is the spark for your metabolism





Leucine Signal

- Proteins are made of Amino Acids (AA's) – building blocks
- Leucine is one of these AA's
- Leucine makes up ~10% of any high quality protein source (milk, egg, meat, etc.)
- Your body needs 2.5-3g Leucine so signal muscle growth



- ***You need 25-30 grams of high quality protein each meal to increase muscle strength/size***



High Quality Protein Sources



- Dairy (9.5%)
- Lean Meats (~9%)
- Eggs (9%)
- Soy/Beans (~8%)
- Grains, Nuts, Seeds (~7%)

- Protein synthesis after meal lasts ~2 hrs

Carbohydrates



- Main energy source for power athletes
- Great source of energy but it gets used up quickly → constantly need to replenish
- Complex carbs last longer for sustained energy



Fruits & Vegetables

- Every meal/snack has one or the other
- Different colors have different nutrients
- Make sure to get a variety and shoot for a combined 5 F&V's every day



Whole Grains

- Longer lasting energy & more nutrients
- Fiber keeps you full longer and slows digestion
- Great sources of whole grains are:
 - Potatoes (any kind, esp. sweet)
 - Brown Rice
 - Whole Wheat
 - Oats
 - Beans
 - Cereals
 - Other Grains



Fats

- ❑ Long term energy source
- ❑ Want to avoid bad fats (saturated & trans)
- ❑ Get plenty of good fats (mono- and poly-unsaturated, omega 3's)



GOOD FAT SOURCES

- ❑ Fish
- ❑ Nuts/Seeds
- ❑ Vegetable Oils
 - Olive
 - Canola
- ❑ Avocado
- ❑ Eggs Yolks*



BAD FAT SOURCES



- ❑ Trans fats = Hydrogenated Oil
- ❑ Fried Foods
- ❑ Butter/Margarine
- ❑ Cheese/Milk Fat
- ❑ Meat Fats
- ❑ Egg Yolks*



Meal Planning

- **Step 1: Choose Lean Protein**
 - Meals=fish, lean meat, egg whites, beans, soy
 - Enough to fill 1/4-1/3 of your plate
 - Snacks=dairy (milk, yogurt), nuts/seeds
 - Fatty Fish also counts as Good Fat

- **Step 2: Choose Fruits & Veggies**
 - Try different colors throughout the day
 - Always have one serving per meal/snack
 - Try to fill 1/3 of plate with F&V per meal

- **Step 3: Choose Whole Grains/Carbs**
 - About 1-2 cups of cooked pasta/rice/etc.
 - Should fill the last 1/3 of your plate

- **Step 4: Add in “Good Fats”**
 - About 1 Tablespoon per meal, 1 teaspoon per snack for oils
 - 1 T. oil = 2T. PB/ ~15 nuts/ ~1/2 avocado
 - 1 t. oil = <1T. PB/ ~5 nuts/ ~1/6 avocado



Meal Ideas



Hydration

- Water makes up 70% of your body
- Most of that water is used to operate your metabolism, break down foods, rebuild muscles, and absorb nutrients
- Energy production requires water
- >96 oz. per day, ideally 128 oz. (1 gallon)/day

Nutrient Timing



- One of the most important aspects of sports nutrition
 - Allows your body to become efficient
 - Proper rebuilding/refueling
- Lets you build faster and store more energy

Plan Around Workout/Games

- 1-2 Hours before game/workout
 - Meal/snack with lean protein & complex carbs (limit fats)
- 15-30 Minutes Before game/workout
 - Quick carb drink w/ small amount of protein (no fat), and electrolytes (Na, K, Ca, Mg)
 - Low-acid Juice (apple), gatorade, etc.
 - About 5g protein per 20g carbs (4:1 ratio)
- During game/workout
 - Water!!!
 - Don't wait until you're thirsty
 - More quick carbs ~45min-1hr. into workout/game
 - Pitchers & Catchers Burn 50% more cal's in a game than position players (does not include pitchers that aren't pitching) – Eat accordingly

Recovery

- 15-30 minutes after game/workout
 - *If Lifting: 2:1 Carb to Protein Drink*
 - 40g Carbs, 20g protein @ 175-200 lbs.
 - 30g Carbs, 15g protein @ <175 lbs.
 - *After game/conditioning: 3:1 Ratio*
 - 30g Carbs, 10g protein
 - Can be drink or food
- *Try to eat every 2-3 hours after practice/game/lifting/conditioning to maximize muscle growth & recovery*



Periodization

- Innovative new method in sports nutrition
- Nutrition matches training cycles
- For Sports:
 - *In-Season: 50/25/25*
 - *Pre-Season: 60/20/20* (lower cal)
 - *Off-Season: 60/20/20* (higher cal)

Periodization Example: 180 lbs

- In-Season
 - 180g protein, 360g carbs, 80g fat
 - 2880 cals total
- Off-Season (Adding Muscle)
 - 180g protein, 540g carbs, 80g fat
 - 3600 cals total
- Pre-Season (Maintain muscle)
 - 150g protein, 450g carbs, 67g fat
 - 3000 cals total
- ***FOCUS ON RATIOS, NOT NUMBERS***