



Nutrition Basics and Nutrition for Athletes

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Who am I? What is an RD/RDN?

- ❖ RD/RDN = Registered Dietitian/Registered Dietitian Nutritionist
- ❖ B.S. Food Science and Human Nutrition from Colorado State University
- ❖ Dietetic Internship at UC San Diego Health
 - 43 weeks total, 1-2 weeks in different rotations in dietetics
- ❖ Currently working at a LTC/Rehab facility



Topics

- ❖ What is Nutrition?
- ❖ Overall healthy eating and a healthy plate
- ❖ Nutrition specifics for athletes
- ❖ Takeaways
- ❖ Questions



**PSA: This will be an
interactive
presentation!**

What is Nutrition?



Nutrition is anything you
put in your body to give it **fuel**
to do activities



What do you know?



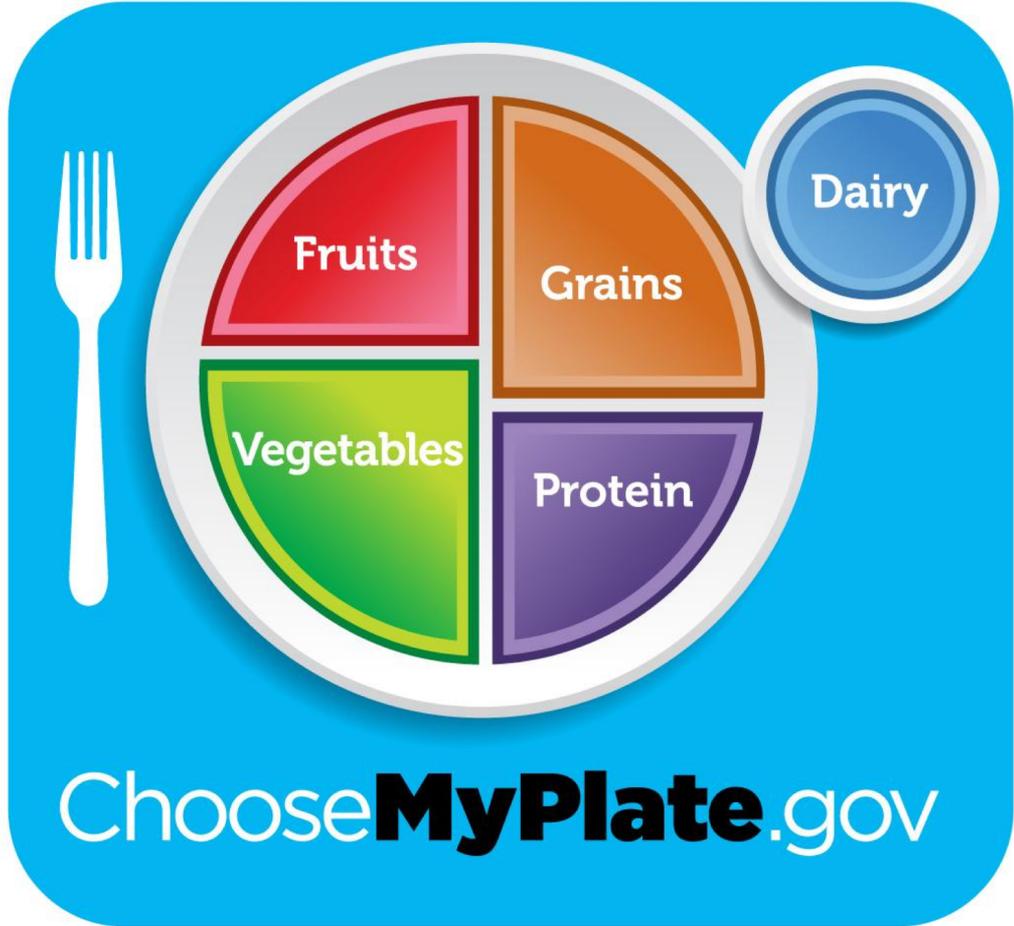
Definitions to know

- ❖ **Nutrient-dense:** foods that have a lot of nutrients in addition to calories (fiber, vitamins, minerals, etc.)
- ❖ **Non Nutrient-dense:** sometimes called “empty calories”, foods that have little nutrient value, just calories (very little fiber, vitamins, minerals, etc)

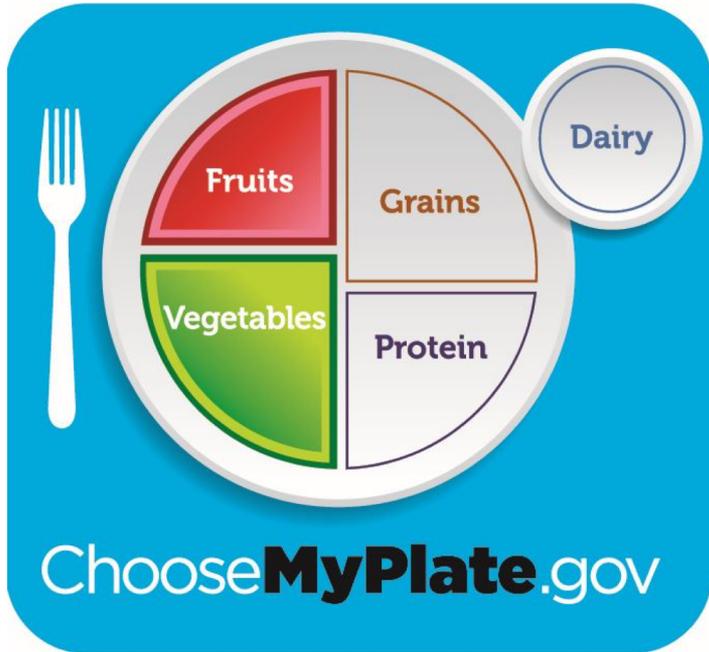
Overall healthy eating and a healthy plate



MyPlate



Fruits and Vegetables

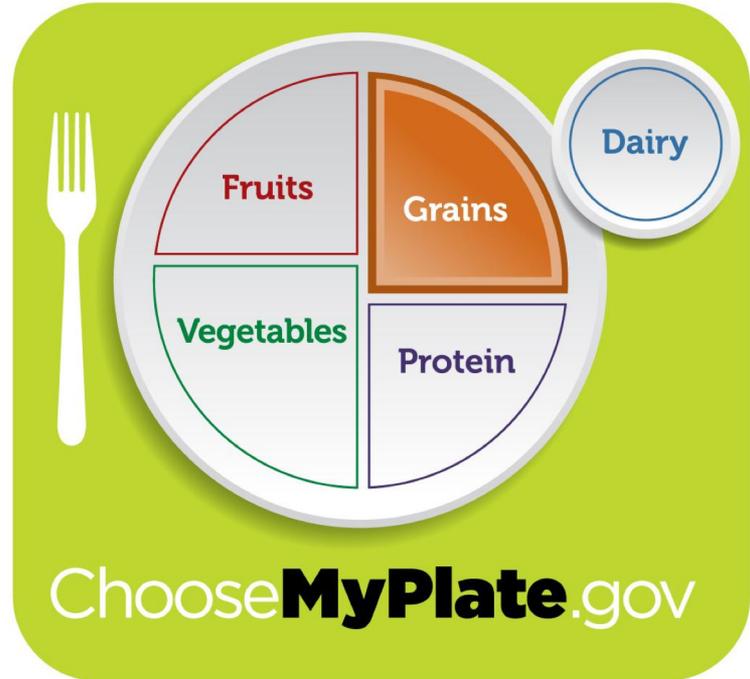


- ❖ Fruits
 - Fresh, frozen , canned
 - Dried**
 - Whole fruit > juice
- ❖ Vegetables
 - Fresh, frozen, canned
 - Leafy greens > starchy
 - Starchy veggies = potatoes
 - Whole veggies > juice

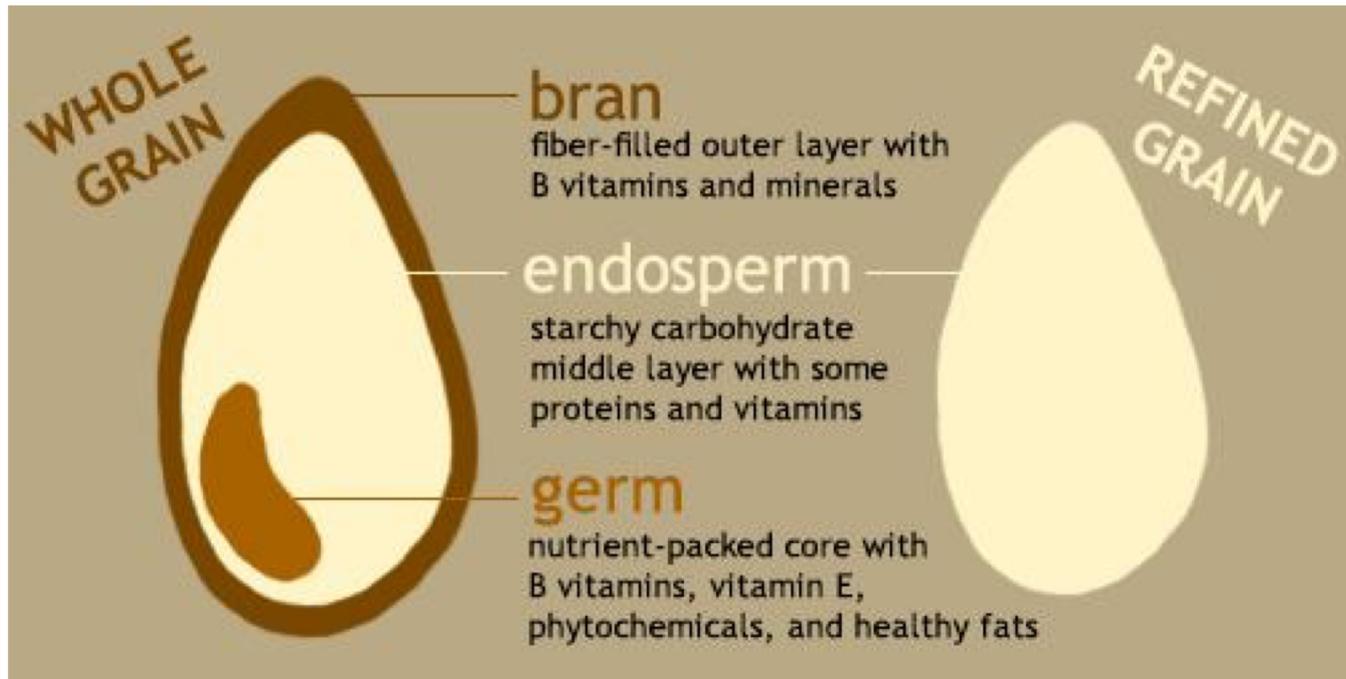
Grains

- ❖ Bread products
- ❖ Rice
- ❖ Pasta
- ❖ Cereal (hot/cold)

Try to have at least half of your grains be
WHOLE GRAINS



Whole Grains vs. Refined Grains





Sneaky Packaging

Terms for Whole Grains

- ❖ 100% whole grain
- ❖ Whole (Grain) flour
- ❖ Sprouted
- ❖ Cracked
- ❖ Oats/oatmeal
- ❖ Stoneground whole
- ❖ Graham flour

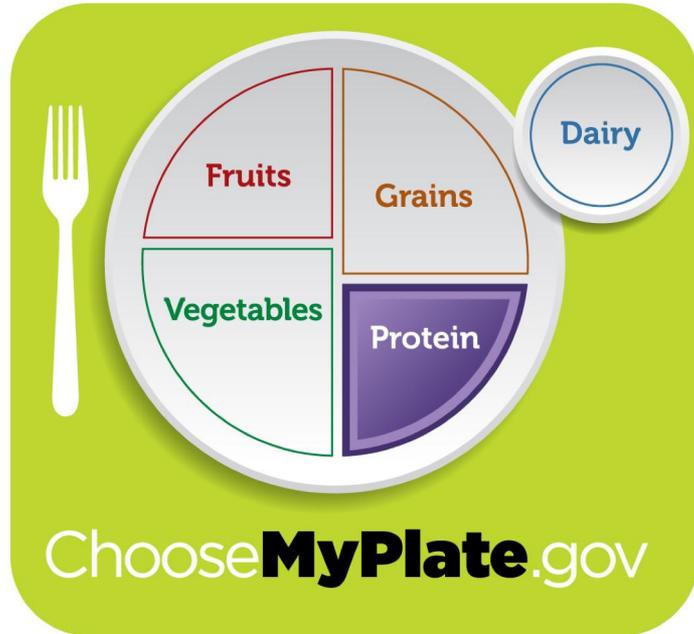
Maybe Whole Grains

- ❖ Wheat flour
- ❖ Unbleached
- ❖ Multi-grain

Terms for Refined Grains

- ❖ Bleached flour
- ❖ Enriched
- ❖ Bran
- ❖ Grits
- ❖ Wheat germ

Protein



- ❖ Poultry
- ❖ Fish
- ❖ Eggs
- ❖ Pork
- ❖ Beef
- ❖ Nuts/nut butters
- ❖ Beans/legumes

Lean proteins > high fat proteins

Try to eat fish 2x/week



Complete vs Incomplete Proteins

- ❖ 20 different Amino Acids make up protein
- ❖ “Complete Proteins” have all 20 Amino Acids
 - Animal protein is complete
- ❖ “Incomplete Proteins” are missing at least 1 Amino Acid
 - Plant protein is not complete



What are Complementary Proteins?

“**Complementary proteins**” = 2 different foods that are incomplete proteins on their own, but when combined have all 20 Amino Acids

Complementary Protein Examples

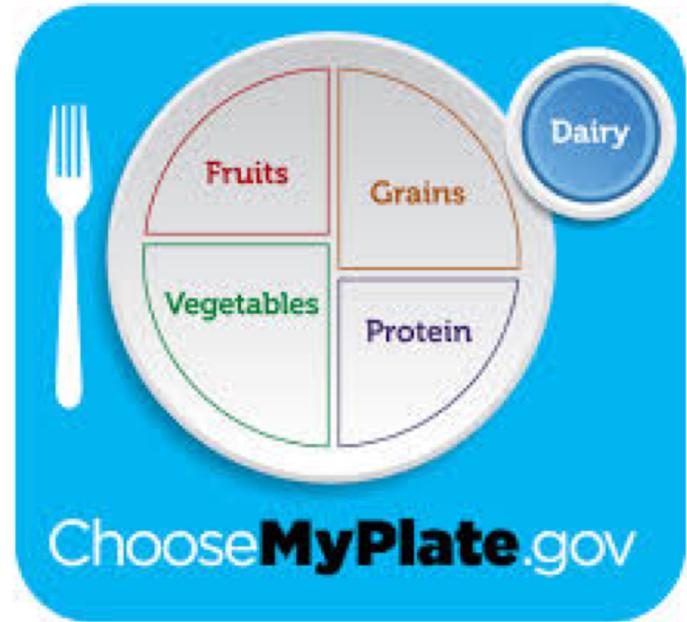
- ❖ Legumes with grains, nuts, seeds, or dairy
 - Beans with Rice or tortillas
 - Peanut butter (or other nut butter) sandwich
 - Hummus with pita
- ❖ Grains with dairy
 - Grilled cheese sandwich
 - Mac and cheese
 - Cereal (whole grain) with milk
- ❖ Dairy with nuts
 - Yogurt with nuts



Dairy

- ❖ Milk
- ❖ Yogurt
- ❖ Cheese
- ❖ Lactose Free Milk/cheese/yogurt
- ❖ Dairy free “milk”
 - Soy
 - Nut
 - Oat

Choose low fat (1%) or non-fat dairy products



Bone Health

Bone Mineral Density = how strong your bones are

- ❖ Bones get stronger with....
 - Calcium and Vitamin D
 - Weight-bearing exercise (DRYLAND!)
- ❖ 90% of peak bone mass is achieved by AGE 18 for girls and AGE 20 for boys





“All Foods Fit” Philosophy

- ❖ THERE ARE NO GOOD FOODS AND BAD FOODS
- ❖ Your relationship with food is important
 - Society has some negative relationships with food
 - “Rewards”
 - “Cheat days”
 - “I was bad today”
- ❖ 80/20
 - It is okay to have..... Pizza, cake, ice cream, dessert, chips..... Not all the time
 - 80% of the time = balanced plate, nutrient dense
 - 20% fill the craving*

Nutrition specifics for athletes



Macronutrients (Macros)

- ❖ **Carbohydrates** = main energy source
 - On your plate: grains, fruits, veggies, dairy
- ❖ **Fat** = concentrated energy source, protects your organs
 - On your plate: oil, butter, animal fat, nuts/seeds, avocado
- ❖ **Protein** = building blocks of muscles
 - Important to incorporate protein in snacks after workouts to help rebuild muscle
 - On your plate: poultry, beef, pork, eggs, fish, beans/legumes, dairy, nuts



5 Specifics for Sports Nutrition

1. Hydration
2. Fueling (Eating)
3. Refueling (Recovery)
4. Immune Health
5. Sports Food and Supplements

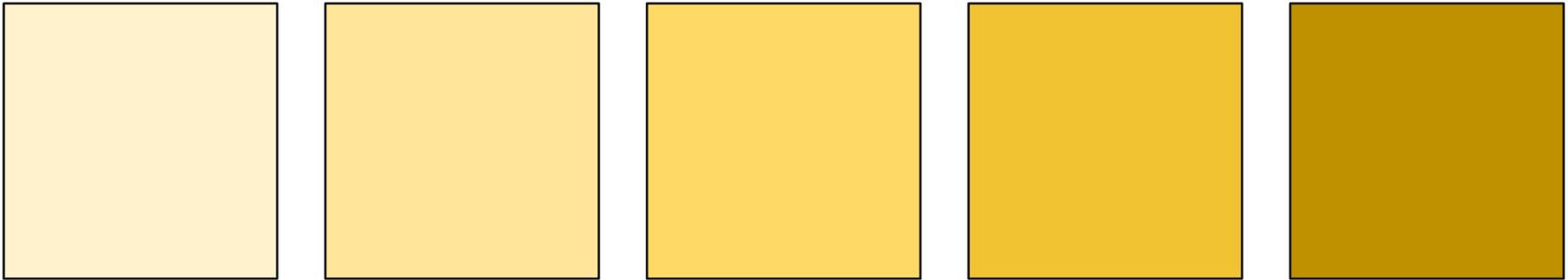


1. Hydration

- ❖ Important for physiological/mental function
 - Poor hydration leads to...
 - Slow reaction time
 - More effort for your body
- ❖ Especially important if you are outside
- ❖ Sweat Test
- ❖ Rehydration can take over 24 hours
- ❖ How do you know if you are hydrated??



What color is your pee??



- ❖ Your goal is the farther box on the left OR LIGHTER
 - Box 2 is still hydrated, anything darker is getting dehydrated
- ❖ The color of your pee when you first get up is a good indication of how you did the day before



2. Fueling (Eating)

- ❖ Keep fuel reserves full, have a plan
- ❖ Fuel before exercise
- ❖ Time meals and snacks based on training/competition schedule
- ❖ BREAKFAST! Important to eat even if working out early
- ❖ Balanced plate based on training load



MyPlate Revised

- ❖ Proportions of your plate should change depending on your training schedule
- ❖ Days off, easier days, and tapering days should have $\frac{1}{2}$ fruits and veggies, only $\frac{1}{4}$ carbohydrates
- ❖ More intense practices require more carbohydrates
- ❖ Misconception that you need to eat a lot of protein

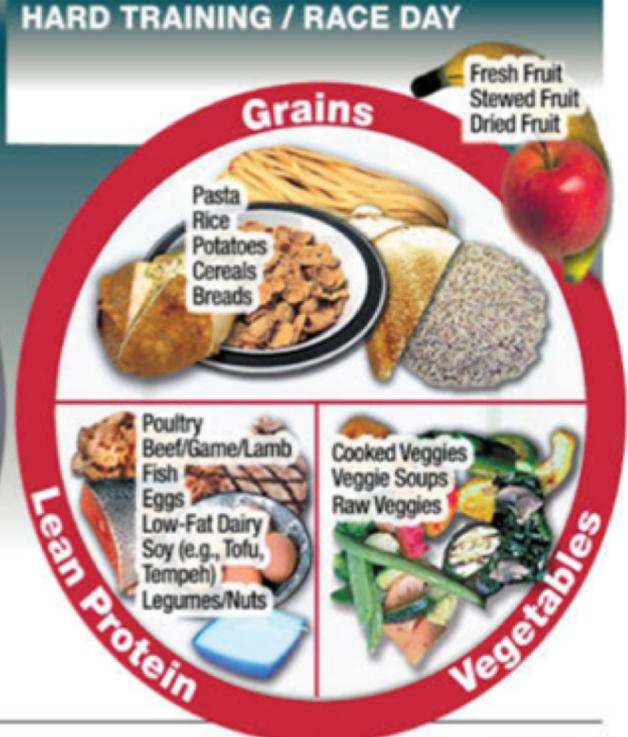
**EASY TRAINING /
WEIGHT MANAGEMENT**



MODERATE TRAINING



HARD TRAINING / RACE DAY



SOURCE: United States Olympic Committee Sport Dietitians
University of Colorado Sport Nutrition Grad Program

JOURNAL



How do I know what proportions to eat?

- ❖ Yardage
 - Low intensity = <4000 yards
 - Medium intensity = 4000-5500 yards
 - High Intensity = 5500-7500 yards
- ❖ Training schedule: short course season
 - Weeks 1-6 low-medium intensity (Sept-mid Oct.)
 - Weeks 7-12 high intensity (Mid Oct-December)*
 - Weeks 13 & 14 taper (Dec/Jan)
 - Weeks 15-20 highest volume (yardage) and intensity (Jan/Feb)
 - Weeks 21-25 high intensity, dropping volume (Feb/March)**
 - Weeks 24 & 25 taper (March)



3. Refueling (Recovery)

- ❖ Important to replenish glycogen stores and repair/rebuild muscles
- ❖ Carbs and protein 30-60 minutes post exercise
 - Chocolate milk
 - Turkey sandwich or peanut butter sandwich
 - Hard-boiled egg and fruit
 - Protein shake*
- ❖ Your body does not refuel as efficiently if you wait too long
- ❖ Rehydration, electrolyte replacement



4. Immune Health

- ❖ Heavy training loads = fatigue, weakened immune system
- ❖ Maintain gut bacteria = strong immune system
 - Probiotics = yogurt/kefir, kombucha, kimchi, miso
 - Fiber = whole grains, fruits, veggies
- ❖ Foundation of a diet to promote a good immune system
 - Lean protein
 - Variety of fruits and veggies
 - Nuts, seeds, vegetable oils, avocado (healthy fats)



5. Sport Foods and Supplements

- ❖ FOOD FIRST!!!
- ❖ Convenient for pre/during/post activity but should not be all/most of your diet
- ❖ Common sport foods:
 - Bars- check carbs, protein, and fat
 - recovery → carb + protein needed
 - Travel snacks → carbs, protein, and fat all needed
 - During/between races → higher carb, lower protein and fat
 - Protein > sugar
 - Gels/chews- quick energy source during meets
 - Sports drinks- should not be used throughout the day, for rehydration
 - Protein powders- should not be only source of protein, meant to be used as a supplement



Takeaways



If you only remember 3 things.....

1. **FOOD FIRST**
2. **All foods fit**
 - a. The more colorful your plate the better
 - b. Changes depending on training
 - c. 80/20
3. **Drink more water**

Questions?



Sources

- ❖ <https://www.choosemyplate.gov/start-simple-myplate>
- ❖ <https://www.hsph.harvard.edu/nutritionsource/what-should-you-eat/whole-grains/>
- ❖ <https://health.bastyr.edu/news/health-tips/2011/09/what-are-complementary-proteins-and-how-do-we-get-them>
- ❖ <https://www.nbcnews.com/better/health/plant-based-milk-vs-cow-s-milk-what-s-difference-ncna845271>
- ❖ <https://www.bones.nih.gov/health-info/bone/osteoporosis/bone-mass>
- ❖ <https://www.teamusa.org/nutrition>