

Three bright green apples are arranged on a white background. One apple is in the foreground, slightly to the right, and is the most prominent. Behind it, two other apples are visible, one to the left and one to the right, partially obscured. The apples have a smooth, glossy texture and a small stem at the top. The text 'Sports Nutrition & a Healthy Diet' is overlaid in a bold, green, sans-serif font across the middle of the image. The bottom of the image features a solid green horizontal bar.

Sports Nutrition & a Healthy Diet

Take care of your body. It's the only place you have to live. – Jim Rohn



Physical Body Awareness

Nutrition & a Healthy Diet

Rest & Sleep

PHYSICAL HEALTH EDUCATION LITERACY

Medical Services

Preventative Practices

Physical Activity & Fitness



Physical Health Education Literacy

“Individuals who are physical health educated and literate have developed an understanding and application of what holistically makes up their physical body by using these skills in multiple environments that benefit the healthy development of the whole person.”



modified from Physical & Health Education Canada

3 Essential Components of a Nutritious Diet

- To provide sufficient amounts of energy to satisfy the needs of physical activity or training and any desired adaptations physical fitness may create.
- To provide a healthy balance of macro & micro nutrients from a variety of natural whole foods that are as close to their natural state as possible to nourish the body.
- To provide sufficient fluid and hydration levels in order to maintain body fluid levels and replace fluid loss.



DiETING, Supplements, & Nutrition Facts

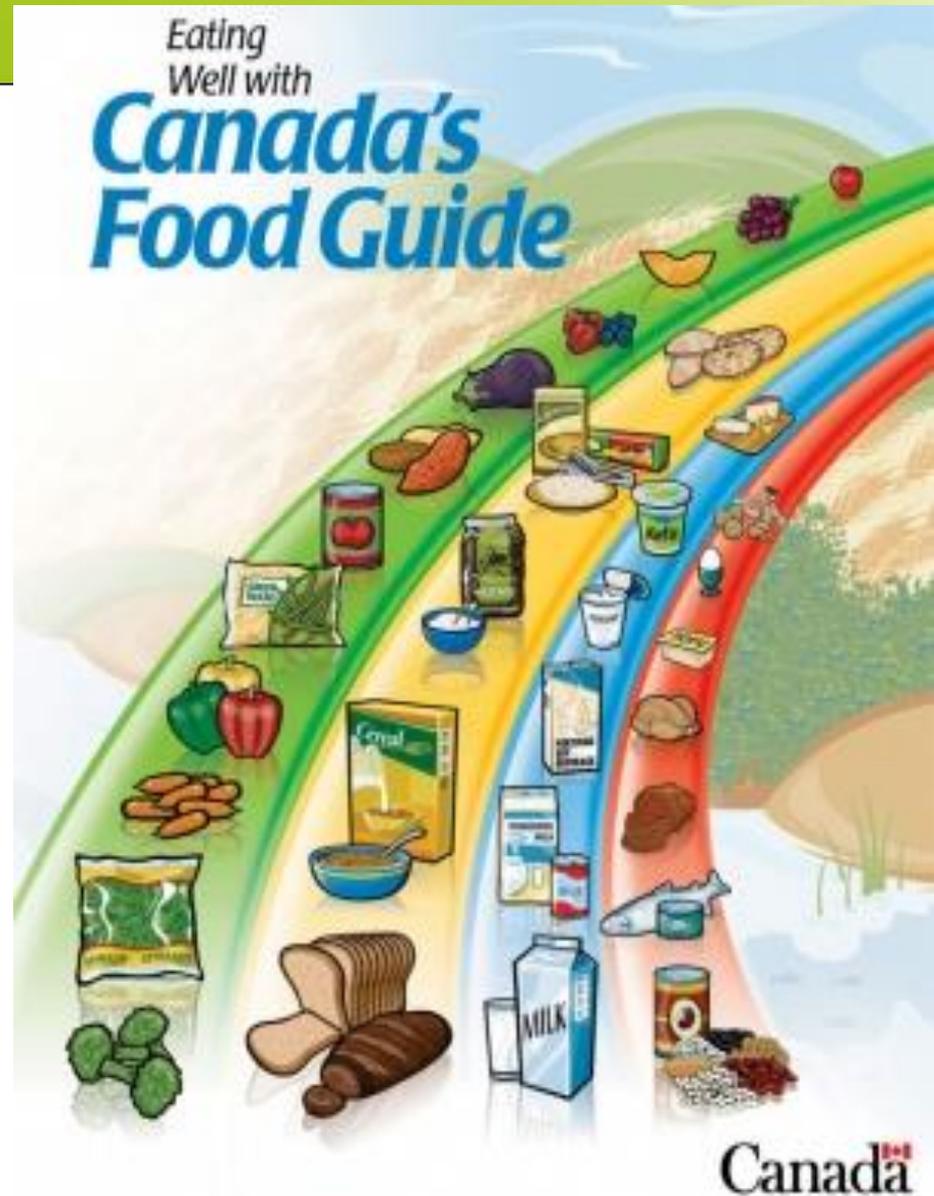
- Fitness, Dieting & Supplements industry revenue is over \$60 billion a year in North America.
- There are over 45 books a year published on dieting & nutrition.
- There is no such thing as healthy dieting only a HEALTH DIET!



DO NOT MAKE NUTRITION & A HEALTHY DIET COMPLICATED!

Canada's Food Guide

- DO NOT make nutrition complicated
- Use the food guide as a base to meet and balance your nutritional needs
- Eat a variety of natural whole foods that are as close to their natural state as possible
- Eat mindfully!



Recommended Number of Food Guide Servings per Day

Age in Years	Children			Teens		Adults			
	2-3	4-8	9-13	14-18	19-50		51+		
	Girls and Boys			Females	Males	Females	Males	Females	Males
Vegetables and Fruit	4	5	6	7	8	7-8	8-10	7	7
Grain Products	3	4	6	6	7	6-7	8	6	7
Milk and Alternatives	2	2	3-4	3-4	3-4	2	2	3	3
Meat and Alternatives	1	1	1-2	2	3	2	3	2	3

What is One Food Guide Serving?

Look at the examples below.



Fresh, frozen or canned vegetables
125 mL (½ cup)



Leafy vegetables
Cooked: 125 mL (½ cup)
Raw: 250 mL (1 cup)



Fresh, frozen or canned fruits
1 fruit or 125 mL (½ cup)



100% Juice
125 mL (½ cup)



Bread
1 slice (35 g)



Bagel
½ bagel (45 g)



Flat breads
½ pita or ½ tortilla (35 g)



Cooked rice, bulgur or quinoa
125 mL (½ cup)



Cereal
Cold: 30 g
Hot: 175 mL (¾ cup)



Cooked pasta or couscous
125 mL (½ cup)



Milk or powdered milk (reconstituted)
250 mL (1 cup)



Canned milk (evaporated)
125 mL (½ cup)



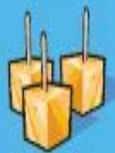
Fortified soy beverage
250 mL (1 cup)



Yogurt
175 g (¾ cup)



Kefir
175 g (¾ cup)



Cheese
50 g (1 ½ oz.)



Cooked fish, shellfish, poultry, lean meat
75 g (2 ½ oz.)/125 mL (½ cup)



Cooked legumes
175 mL (¾ cup)



Tofu
150 g or 175 mL (¾ cup)



Eggs
2 eggs



Peanut or nut butters
30 mL (2 Tbsp)



Shelled nuts and seeds
60 mL (¼ cup)

The chart above shows how many Food Guide Servings you need from each of the four food groups every day.

Know Your Nutrients!

Essential Macro & Micro nutrients are those found in food that are vital for the normal growth, maintenance and development of the body. There are six essential nutrients everyone needs to know!

- **Carbohydrates**
- **Fat**
- **Protein**
- **Vitamins**
- **Minerals**
- **Water**



Understand Your Nutrients!

- **Carbohydrates (4 calories/ g):** provides energy for muscles and brain. Carbohydrates are the limiting energy substrate for athlete's performance. 55-65% of your diet should come from carbohydrates, which should be mainly complex carbs. They are mainly found in the Fruit & Vegetable and Grain Product food groups.
- **Fat (9 calories/ g):** Fats play a vital role in absorbing fat soluble vitamins, maintaining healthy skin and hair, insulating body organs against shock, maintaining body temperature, and promoting healthy cell function. They also serve as energy stores for the body and are a dense energy source that can provide the body energy for low exertion physical activity. 20-30% of your diet should be coming from fat with no more than 10% coming from saturated fat. They are mainly found in the Milk and Meat Alternatives food groups as well as oils.
- **Protein (4 calories/ g):** Protein makes up most of the cell structure including the cell membranes and are vital in maintaining and building body tissues. 15-20% of your diet should be coming from protein. They are the third and last source of energy and are only used in cases of extreme starvation or malnutrition with the protein in the muscles of the body being used to provide energy causing called muscle wasting.



Understand Your Nutrients!

- **Vitamins:** Vitamins are essential for normal metabolism, growth and development, and regulation of cell function. They work together with enzymes and other substances that are necessary for normal functioning of cells for a healthy life. These functions can be antioxidants such as Vitamin C and E or required in blood clotting like Vitamin K. Vitamins are either *fat-soluble* or *water-soluble*. Fat-soluble Vitamins can be stored in the fatty tissues in the body when in excess, and are not excreted easily. This means that you do not need to eat them as often as water-soluble vitamins. Water-soluble are excreted in urine when in excess and they are need in your diet daily. Water soluble vitamins include Vitamin B and C. Green leafy vegetables and some whole grain products are rich in Vitamin B, whereas Vitamin C is found abundantly in citrus fruits. Fat soluble vitamins are Vitamin A, D, E and K. Green leafy vegetables, milk and dairy products and plant oils provide these vitamins. Vitamins cannot be synthesized in the body, so they must be taken in the diet.

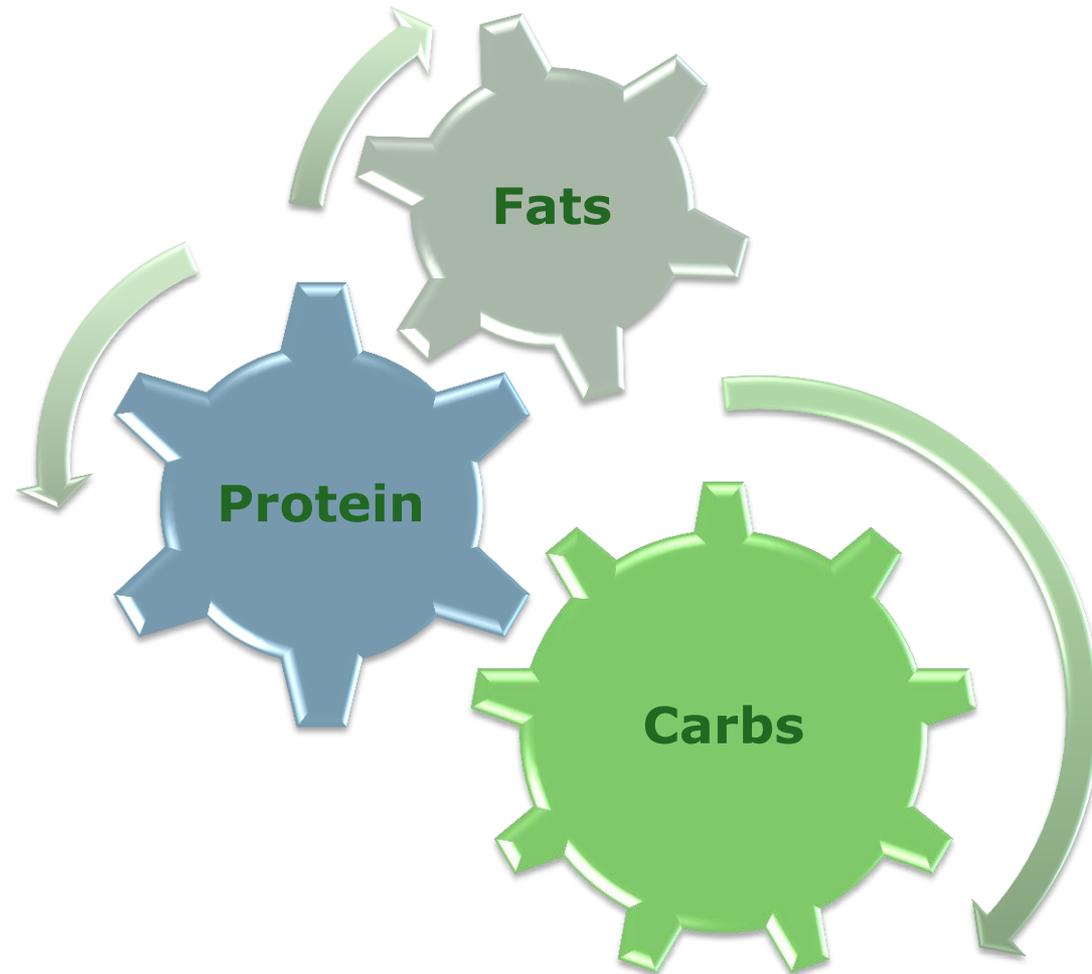


Understand Your Nutrients!

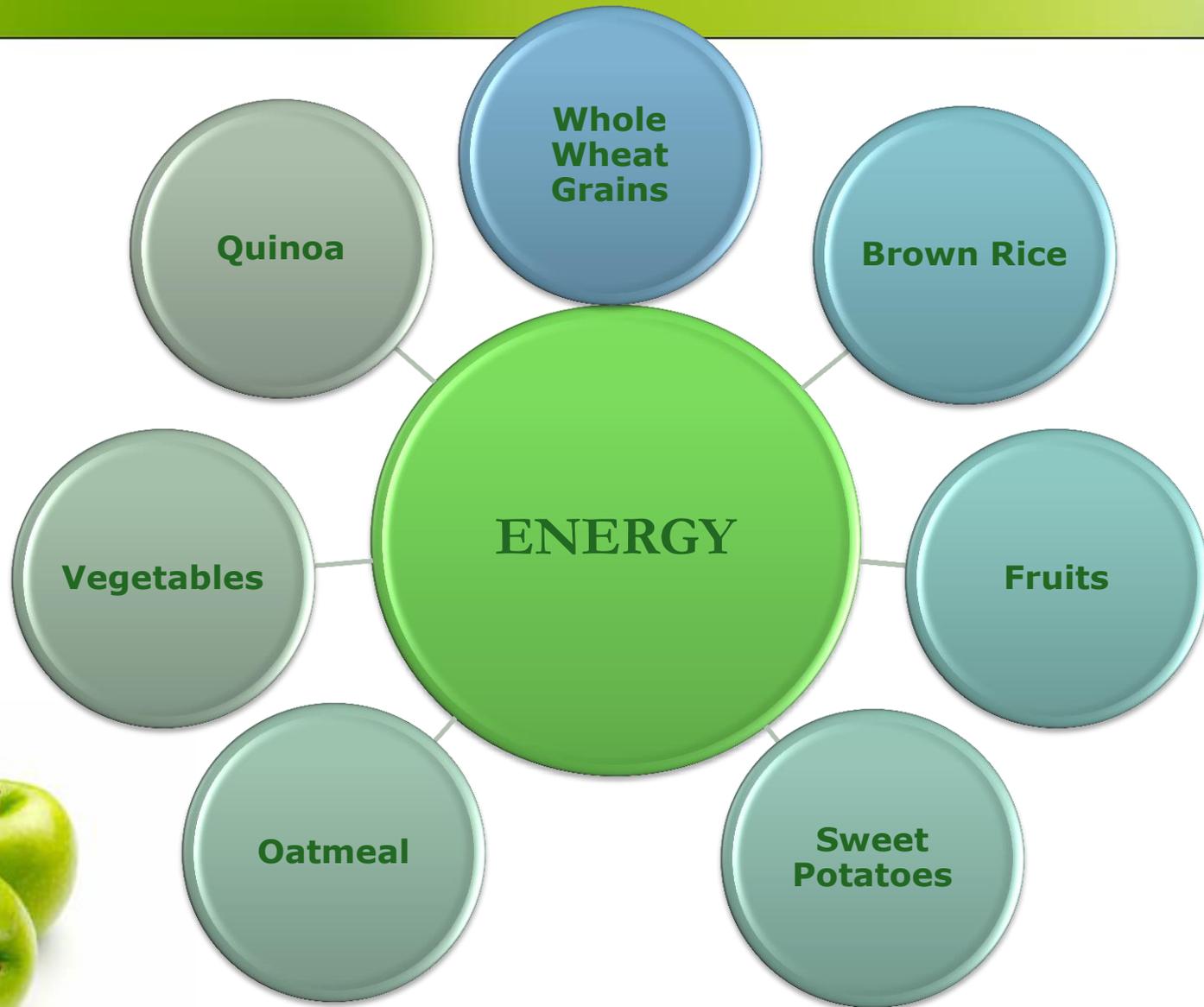
- **Minerals:** Minerals are needed in small amounts to activate enzymes in the body and are essential in co-regulation of energy. Some main minerals present in the body include Calcium, Potassium, Iron, Sodium and Magnesium. Some other minerals needed in smaller amounts include Copper, Zinc, Cobalt, Chromium and Fluoride. One main mineral Iron is a base of Hemoglobin which is present in blood and vital in the use of oxygen in the body . Approximately 4% of the body's mass consists of minerals and are found in different quantities in all food groups.
- **Water:** Is the most important nutrient! Provide no calories but serves as a carrier, distributing nutrients to cells and removing wastes through urine, which are essential in all cells, organs, and tissues. Water helps regulate temperature, create an ionic balance to carry nutrients in and out of cells, lubricants and shock absorbs, and is completely essential for the body's metabolism.



Macronutrients: the building blocks



Healthy Carbohydrates



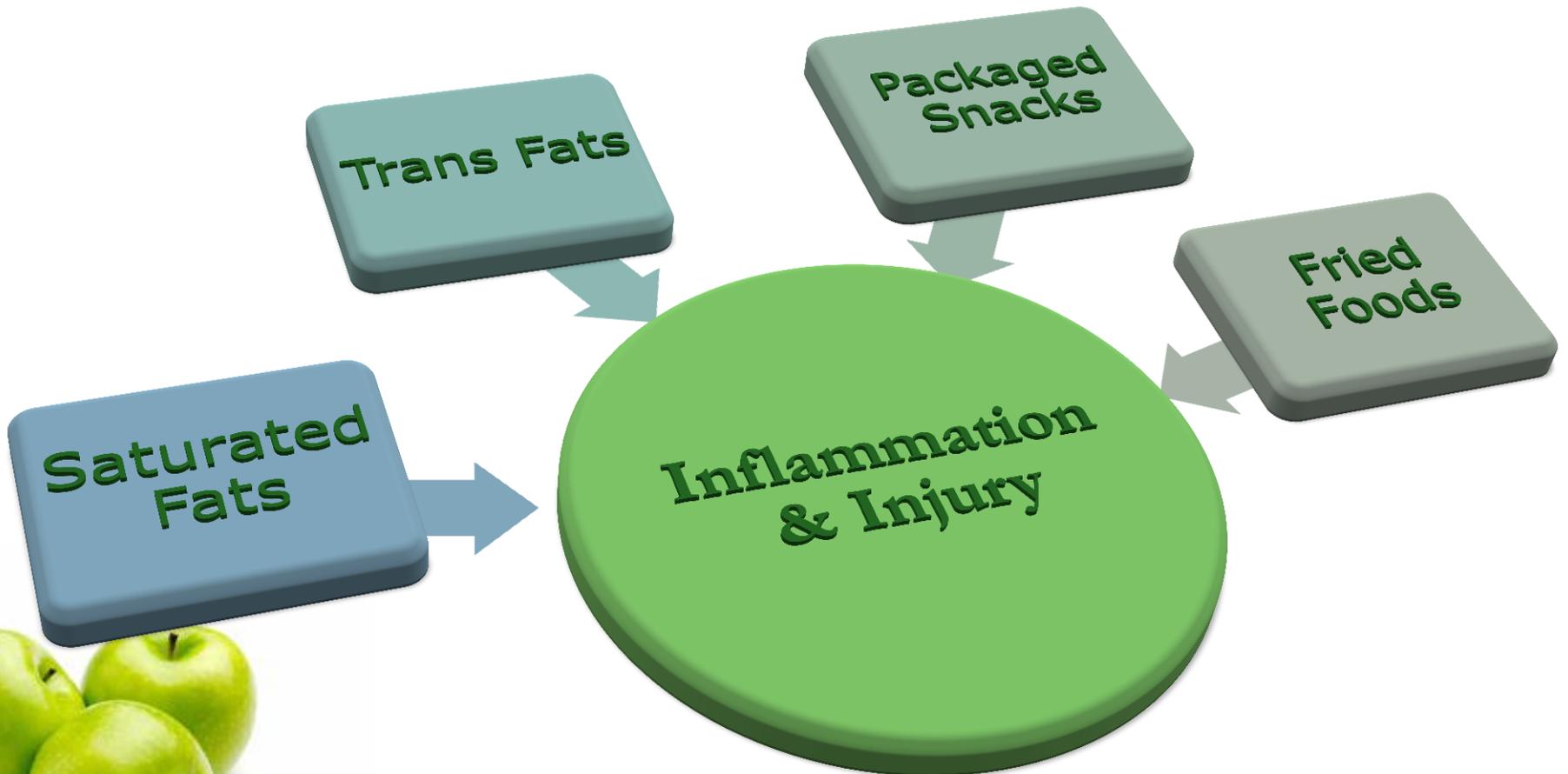
Unhealthy Carbohydrates



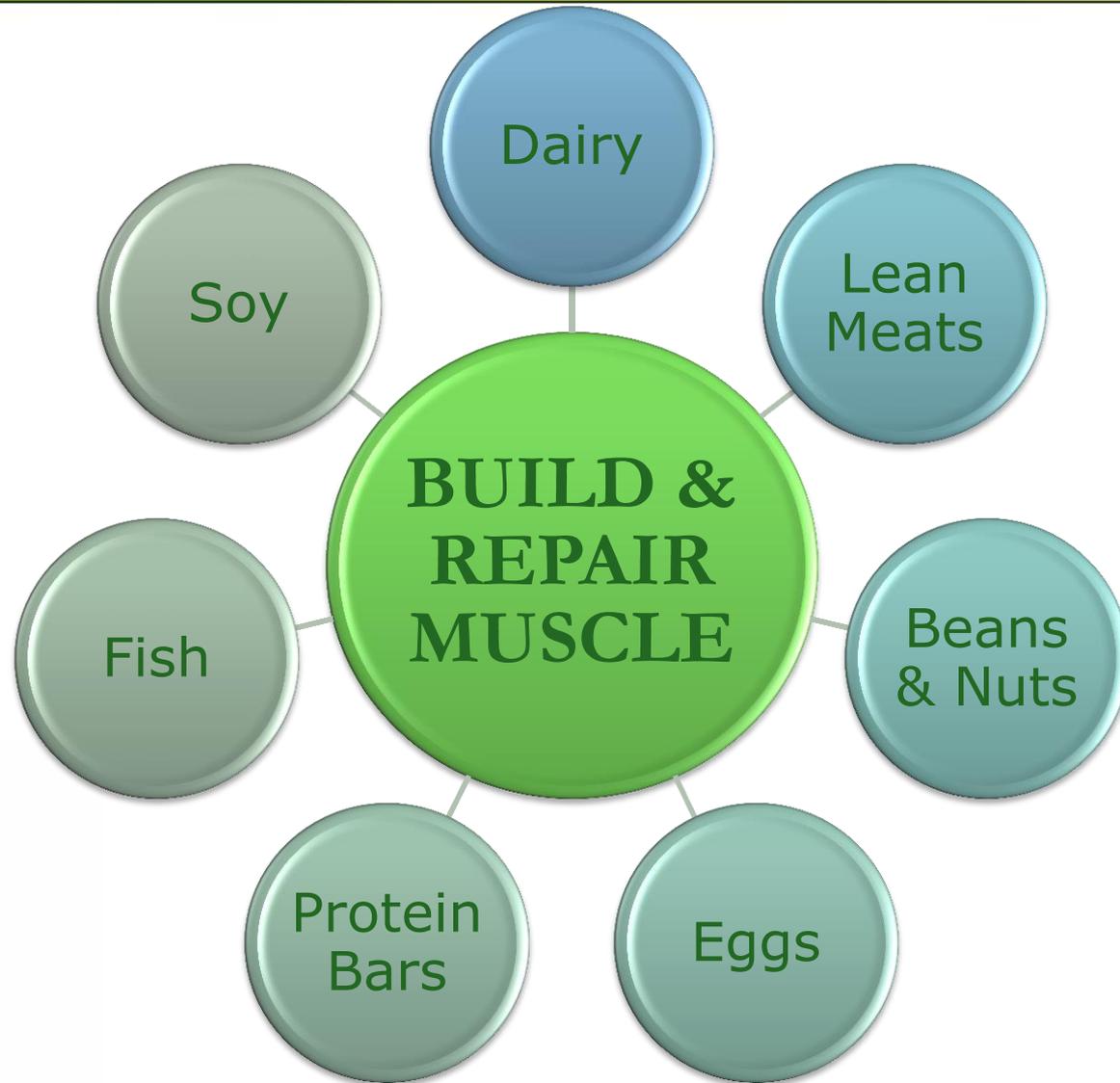
Healthy Fats



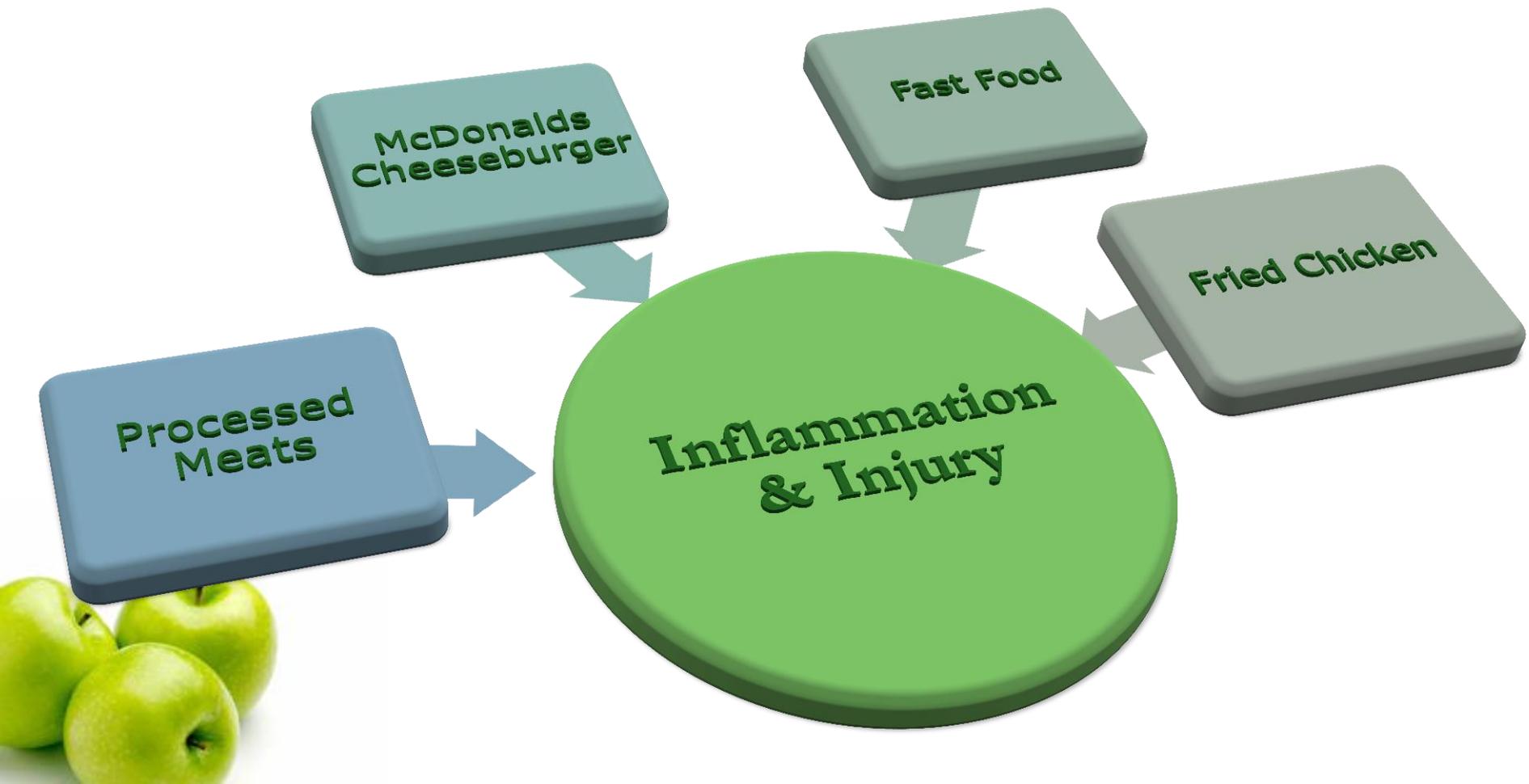
Unhealthy Fats



Healthy Proteins



Unhealthy Proteins



Hydration



- <https://www.youtube.com/watch?v=kNuElQqmlZ4>

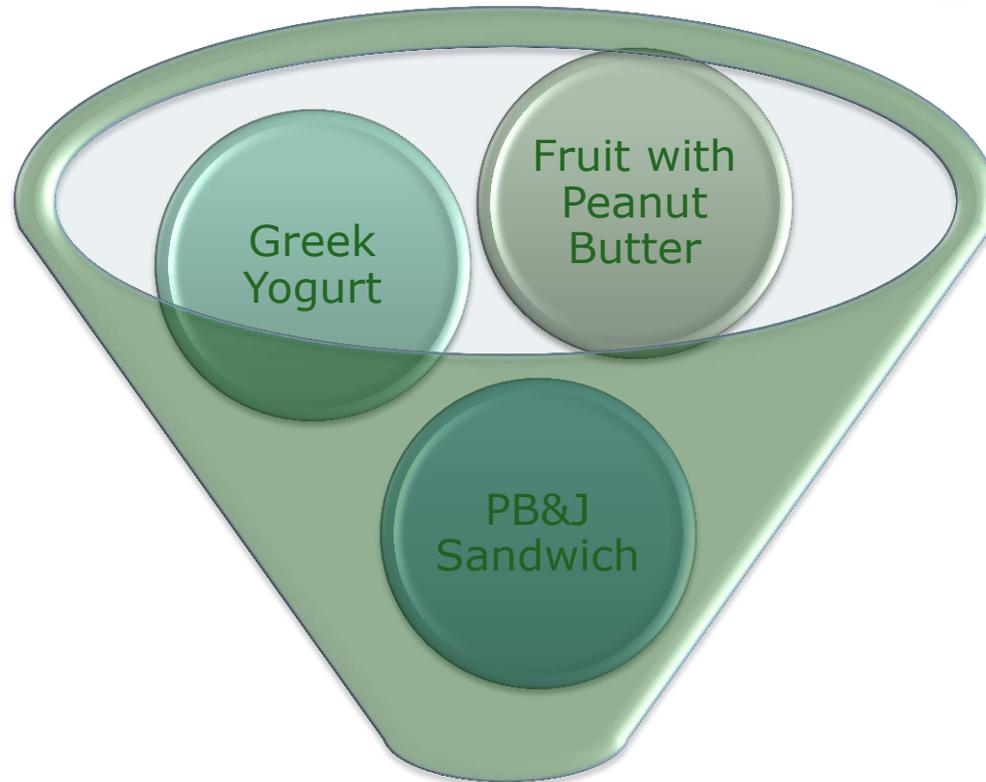


Metabolism-fuel your body



Pre Workout Meal

30-60 minutes before session



**Fuel Your Workout &
Preserve LMM**



POST Workout Meal

Immediately after session

Triggers hormones to stop the process of breaking down LMM

Provides the building blocks to build Lean Muscle Mass (LMM)

Repairs Damaged Muscle Tissue

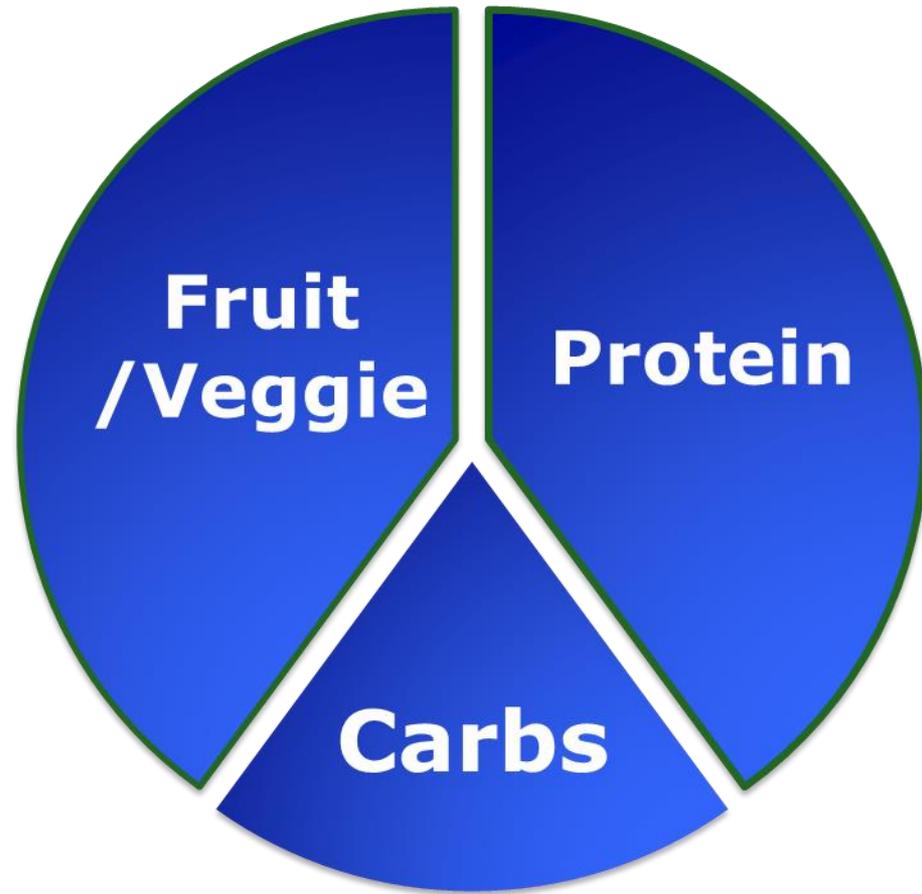
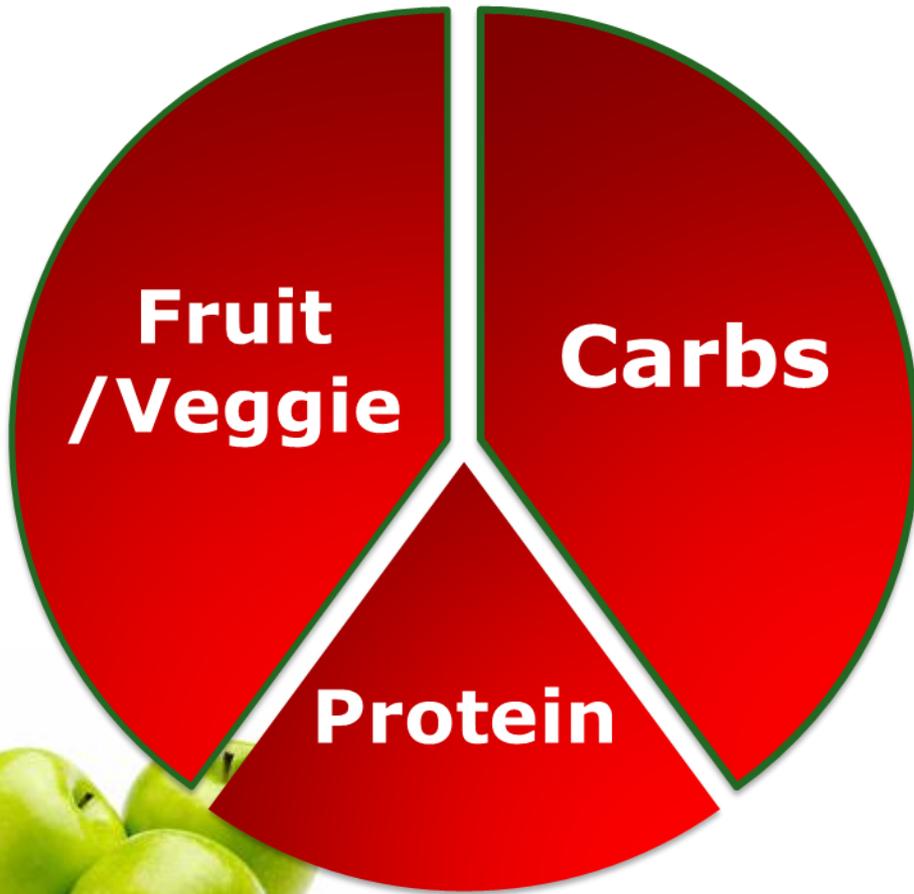
Increases Fat Oxidation

Eliminates Toxins & Inflammation

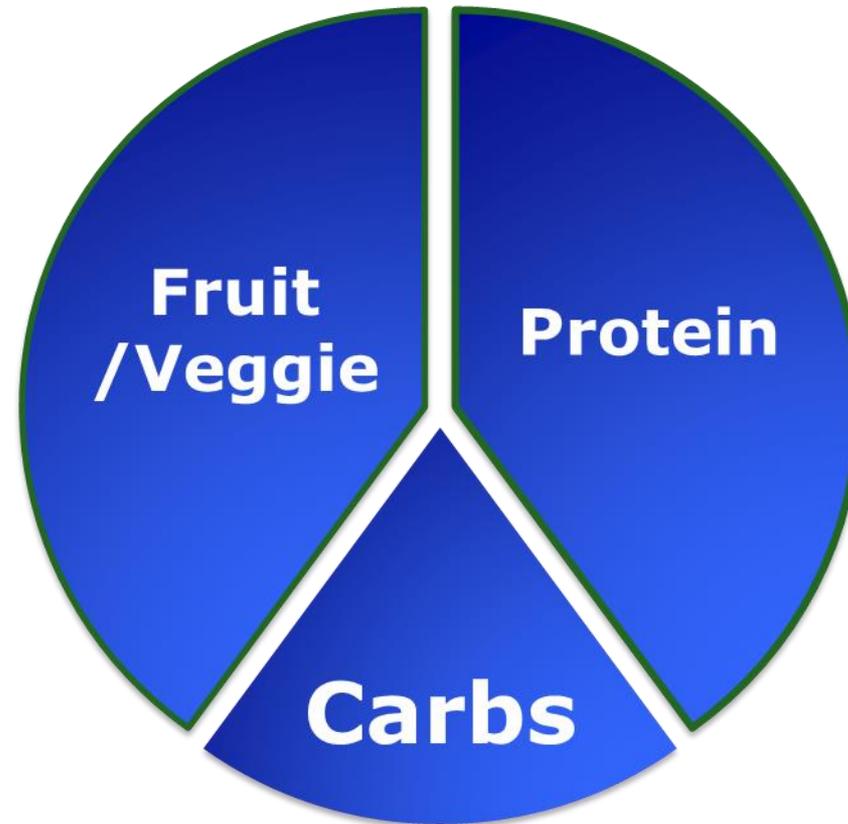


INCREASE BODY
MASS

DECREASE % BODY
FAT



Decrease % Body Fat

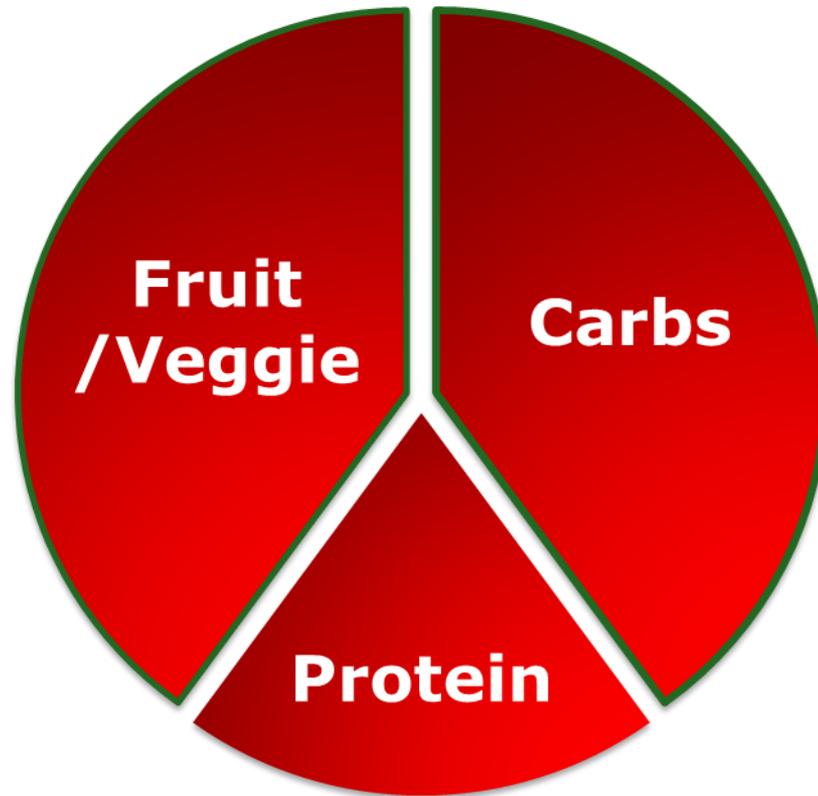


POST WORKOUT MEAL:

- NF Milk, Greek Yogurt, Trail Mix with Nuts, Protein Bar



Increase Mass



POST WORKOUT MEAL:

- NF Milk, PB&J Sandwich, Trail Mix, Granola Bar



Training Day Meal Planning

3:00 training session

Breakfast

- 7:00 am

Snack

- 9:30 am

Lunch

- 11:30 am

Pre-Workout Meal

- 2:30 pm

Workout/Practice

- 3:00 – 4:30 pm

Post-Workout Meal

- 4:30 pm

Dinner

- 6:00-7:00 pm

Snack

- 9:00 pm



How Should You Eat

Timing of Consumption

Typical

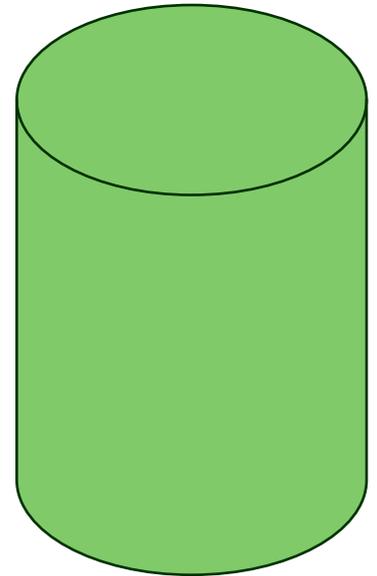
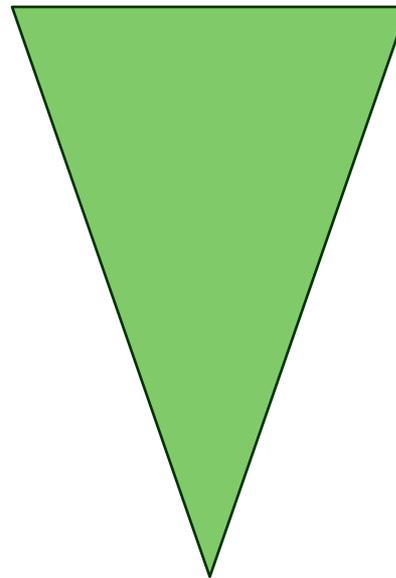
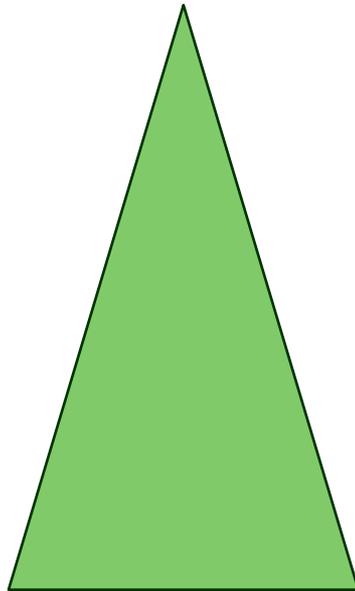
Should

Athlete

Morning

Lunch

Dinner



HEALTHY BREAKFAST

DECREASE % BODY FAT

INCREASE MASS

Egg,
cheese &
Veggie
Burrito

Egg,
cheese
on thin
bread

Non-Fat Greek
Yogurt w/
Kashi

PB & J
Toasted
Bagel

Egg &
Cheese
Breakfast
Sandwich

Egg, veggie,
cheese
omelets

Oatmeal

Protein
Bar

Oatmeal &
PB

Omelets
with
toast
and PB

Greek Yogurt &
Granola

Kashi
Cereal

Kashi
Cereal
Bar

Non-Fat Cottage
Cheese & Fruit

Peanut
Butter
Waffles

High
Calorie
Protein
Bars



HEALTHY LUNCH

DECREASE % BODY FAT

INCREASE MASS

Turkey & Mozzarella Wrap

Pesto Chicken Wrap

Non-Fat Greek Yogurt

PB & J Bagels

Trail Mix

String Cheese & Crackers

Veggies & Hummus

Granola Bars

Cheese & Crackers

Hummus or PB & Pretzels

Greek Yogurt & Granola

Sandwich using bagel thins

Fruit

Non-Fat Cottage Cheese & Fruit

Meat & Cheese Sandwich

Fruit & Peanut Butter

High Calorie Protein Bars



HEALTHY DINNER

DECREASE % BODY FAT

INCREASE MASS

Chicken &
Brown
Rice

Fish &
Veggies

Ground
Turkey
Spaghetti

Steak and
Sweet
Potatoes

Tacos with
Ground
Turkey

Turkey
Patties
on Thin
Bread

Thin Crust
Pizza
Option

Meat
Spaghetti

Meat
Lasagna/
Ravioli

Pesto
Chicken
Pasta

Chicken,
Brown
Rice,
bread

Fish, Brown
Rice, Bread

Ground
Turkey
Mac and
Cheese

Steak,
sweet
potatoes
, bread



HEALTHY SNACKS

DECREASE % BODY FAT

INCREASE MASS

Turkey &
Mozzarella
a Wrap

Trail Mix

Non-Fat
Greek Yogurt

String
Cheese &
Crackers

Veggies
&
Hummus

Granola
Bars

Peanut
Butter &
Crackers

Fruit

Non-Fat
Cottage
Cheese &
Fruit

PB & J
Bagels

Trail Mix

Whole
Wheat
Muffins

Hummus
&
Pretzels

Greek
Yogurt &
Granola

Peanut
Butter
Waffles

Fruit &
Peanut
Butter

High Calorie
Protein Bars



Super Foods

Cinnamon

- (Add to oatmeal, yogurt, sweet potato, quinoa, cottage cheese)

Quinoa

- (Quinoa salads, eat with fruit, quinoa protein muffins, add cinnamon)

Chia & Flax Seed

- (Add to protein shakes, oatmeal, apple sauce, yogurt)

Peanut or Almond Butter

- (PB&J sandwich; add to bananas, apples, celery, dark chocolate, protein shakes, oatmeal, crackers)

Ginger

- (Lightly sprinkle on meats, vegetables; add to hot herbal teas)



Super Foods, continued...

Greek Yogurt

- (Add fruit, oats/granola; add to protein shakes, oatmeal, salads)

Trail Mix

- (Nuts, seeds, dried fruit, dark chocolate morsels)

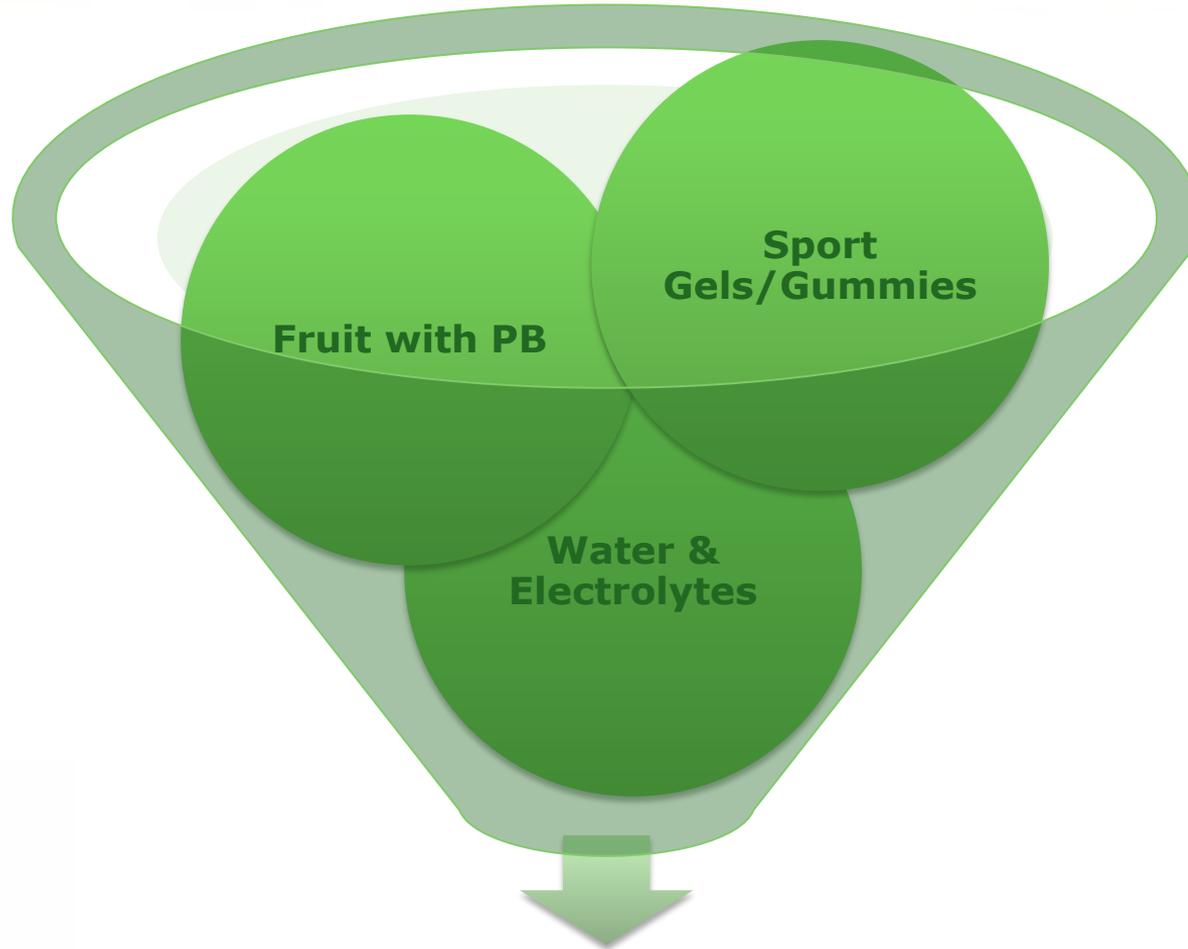
Garlic

- (Add to chicken, salads, quinoa, whole wheat pasta, veggies)

Sweet Potato

- (Baked, steamed, mashed, baked wedges (fries); add cinnamon & honey, add spices, mix with veggies)

Half Time Re-Fueling



RE-FUEL ENERGY LEVELS

UNDERSTAND CALORIES

Calories are a measure of energy. Food contains calories and we burn calories when doing activities. In order to maintain or change body size one of three things needs to happen:

Calories in = Calories out: maintain weight

Calories in > Calories out: gain weight

Calories in < Calories out: lose weight

The healthy way to lose or gain weight would be to change your calorie intake by 500 calories a day, which over a week would translate into 1 pound of weight loss or weight gain

3500 Calories = 1 pound

Carbohydrates (4cals/ g)

Fat (9cals/ g)

Protein (4cals/ g)

Alcohol (7cals/ g)



Calorie Needs

- Basal Metabolic Rate (BMR)

- Males:

Body wt. (Kg) x 1 x 24hr. = BMR/ day

- Females:

Body wt. (Kg) x 0.9 x 24hr. = BMR/ day



Calorie Needs with Activity Level per Day

- **10% of BMR + BMR =**
 - Sedentary all around
- **20% of BMR + BMR =**
 - Sedentary work & fairly active personal life
- **30% of BMR + BMR =**
 - Sedentary work & very active personal life
- **40% of BMR + BMR =**
 - Fairly active work & active personal life
- **50% of BMR + BMR =**
 - Very active work & very active personal life
- **60% + of BMR + BMR =**
 - Extremely Active



Understanding Calories

- On average you eat 21 meals per wk.
- How do you eat or drink?
- An average North America drinks 700 cans of pop a year (one can= 140-200 cal)

150 cal x 365 days = 54,750 cal a year
54,750 / 3500 cal = 15.6lbs a year in fluids



Recommendations for Athletes

- Hydrate with water
- Eat Complex (whole food) Carbohydrates
- Eat nutrient balanced foods right after a workout
- Use the Gas tank model for fueling up
- Keep grease, sweet, and salty foods to a minimum
- Don't get sucked in by supplements
- Eat a good balanced meal in the morning and throughout the day



Recommendations for Parents

- Get rid of grease, sweet, and salty foods at home
- Less trips to fast foods
- Put fresh fruits out
- Purchase more real whole foods as close to their natural state as possible
- Make sure everyone has a water bottle
- Have smaller serving portions at night if needing to reduce calorie intake
- Pack health snacks for practice & games
- Teach & eat with variety



References

- Health Canada: <http://www.hc-sc.gc.ca>
- World Health: <http://www.who.int/en/>
- National Strength & Conditioning Association: <http://www.nasca.com/>
- APX Sport Nutritionist Janell Buchkoski: <http://www.apxstrength.com/>
- Optimum Sports Nutrition: Dr. M. Colgan
- Sport Nutrition Guidebook: N. Clark RD
- Eating Well for Optimum Health: Dr. A. Well
- Health & Wellness: L. Meeks, et. al.
- A Wellness Way of Life: G. Robbin, et. al.

