

Fuel It Up

Fundamentals of Sport Nutrition: Fuelling Masters Athletes



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Healthy Solutions

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Overview

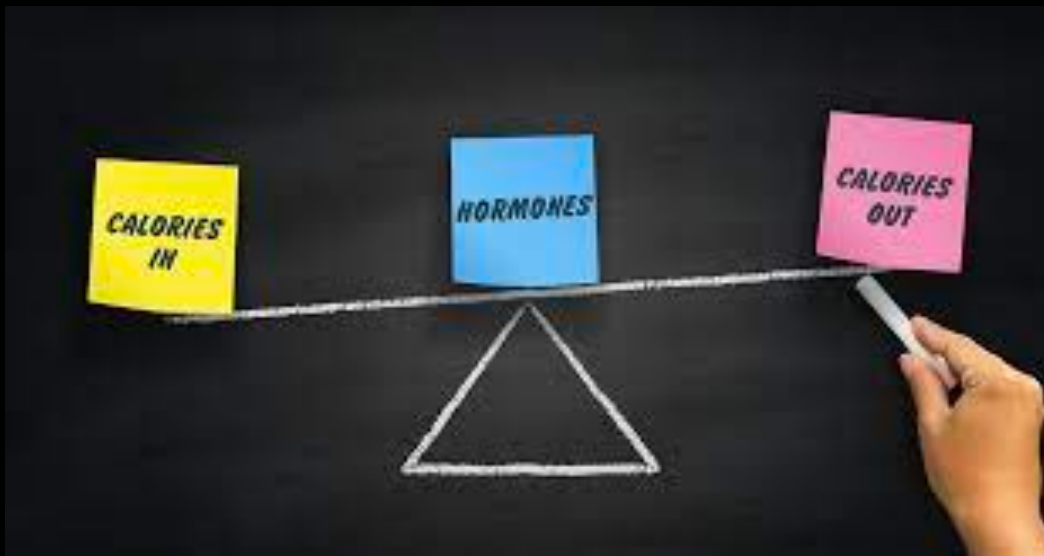
“A great diet cannot make an average athlete elite, but a poor diet can make an elite athlete average.”

– Dr. Dave Costill, professor of exercise science

- ✦ Energy Needs and Triathletes
- ✦ Macros, Micros and Energy Pathways for Sport
- ✦ General Eating Guidelines: The Athletes Plate
- ✦ Nutrient Timing, Fuelling and Recovery Nutrition
- ✦ Considerations for the Masters Athlete
- ✦ Snack Ideas, Supplements and More

Sport Nutrition Topics

- OPTIMAL PERFORMANCE
- SPORT SPECIFIC: FUEL AND RECOVERY
- AGE and NUTRITION CONSIDERATIONS
- MACRO NUTRIENT GOALS/NUTRIENT TIMING, ENERGY NEEDS
- HYDRATION
- MAKING GAINS, BODY COMP for your SPORT
- HEALTH, DEFICIENCY, IMMUNE FUNCTION
- INJURY PREVENTION
- DECREASE INFLAMMATION



Energy Requirements for Triathletes is VERY High

Low Energy Availability (LEA)

Relative Energy Deficiency in Sport (REDS)

- Meeting Calorie Needs is #1
- Eat a lot, Frequently, around training
- Nutrient dense + Calorie dense foods
- Recognizing Signs and Symptoms of LEA/REDS
- Risks of REDS
- LEA 30- 40 kcal/kg FFM / day Min
- Harder to DX in Masters Athletes
- Weight not a good marker (RMR adjusts)
- Lighter isn't necessarily better

Resting Energy Needs:
1500-1900 kcal

Avg 1 hour endurance
session: 500-900 kcal

Avg 2 session/day
expenditure: 900-1200 kcal

Avg 4 hour session
expenditure: 1200-2500+

Daily Activities
expenditure: 200-600 kcal

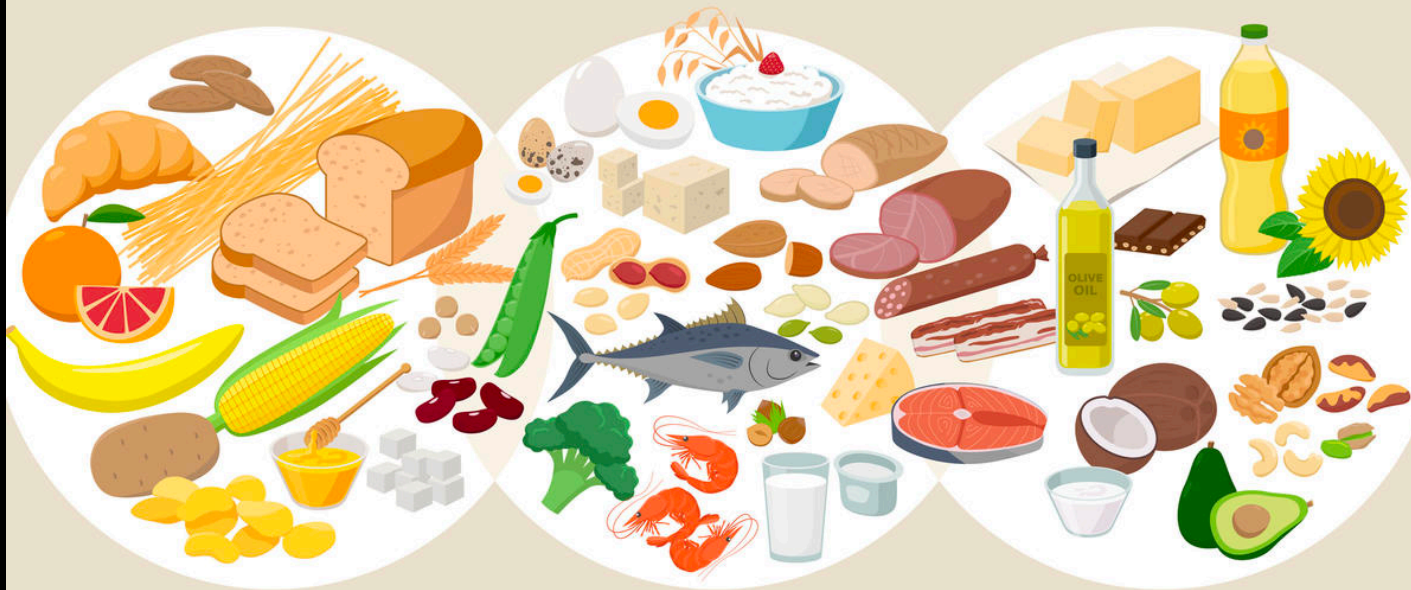


Macros and Micros

- Macronutrients: provide calories AKA energy. More exercise = More energy used
- Athlete macros vs the average person
- MACRO composition —> sport? goals? duration/frequency/intensity?
- Whole food and supplement sources
- Timing matters
- There are 3
- CARBOHYDRATE
- PROTEIN
- FAT
- MICRO nutrients are VITAMINS and MINERALS essential to the body's functions
- Come from foods (sometimes supplements) BUT don't provide calories
- Necessary for things like metabolism, immunity, healthy skin, nails etc, energy levels, disease prevention, electrolyte balance
- More COLOURFUL foods have MORE MICROS

3 MACRO NUTRIENTS

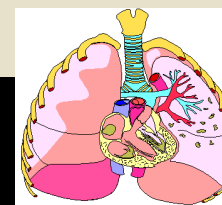
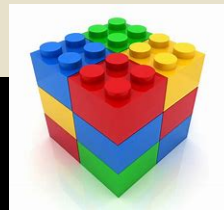
MACRONUTRIENTS



Carbohydrates

Proteins

Fats





MACROS and SPORT



Carbohydrate = Glucose = Sugar = Glycogen

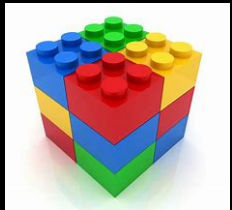
CARBS ARE YOUR PRIMARY FUEL SOURCE

4 kcal/g

Stored glycogen: Muscle and Liver → enough for 60-90 mins higher intensity training, reserves low at waking

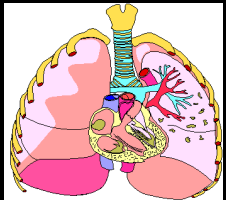
Good source of magnesium, fibre, prebiotics, B vit/folate

++ intensity, volume & duration = the more Carbs YOU NEED for FUEL AND RECOVERY



Protein

4kcal/g, Building Blocks, MPS, Muscle retention, fullness, body comp, bone density



Fat

9kcal/g, calorie dense, hormone production & regulation, omega3, vitamin absorption, menses, satiety, meeting energy needs, tasty

Do you know your MACROS?

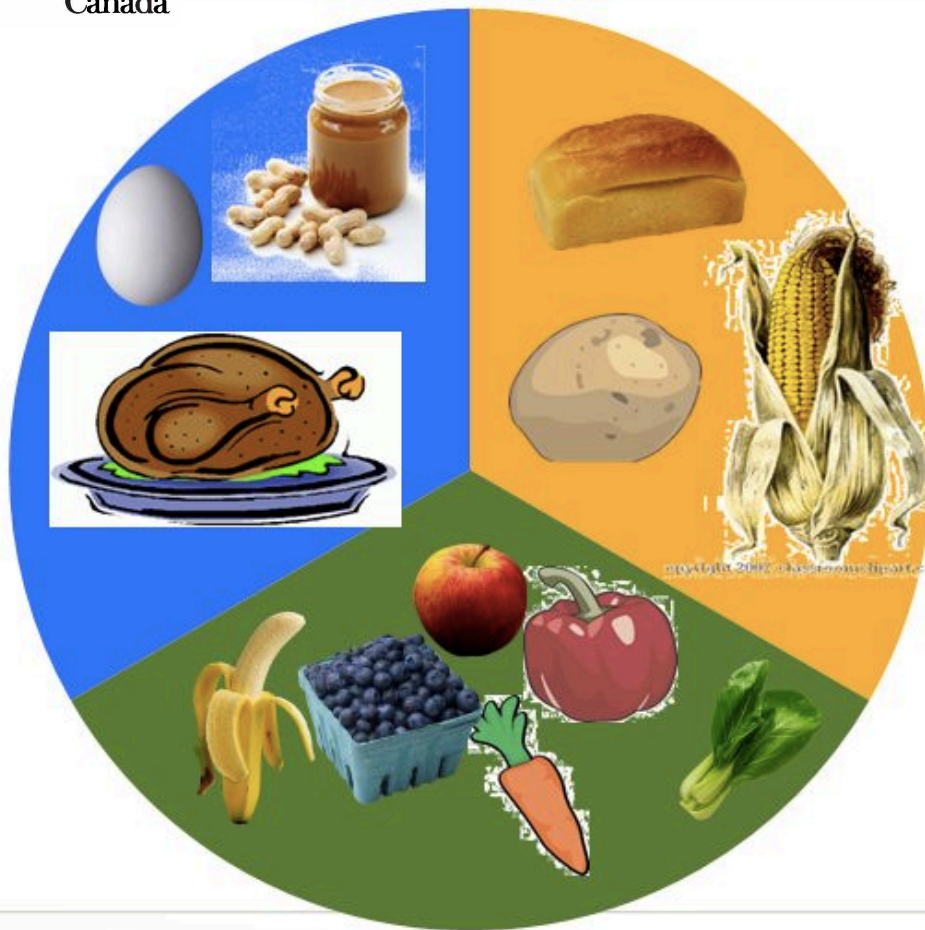
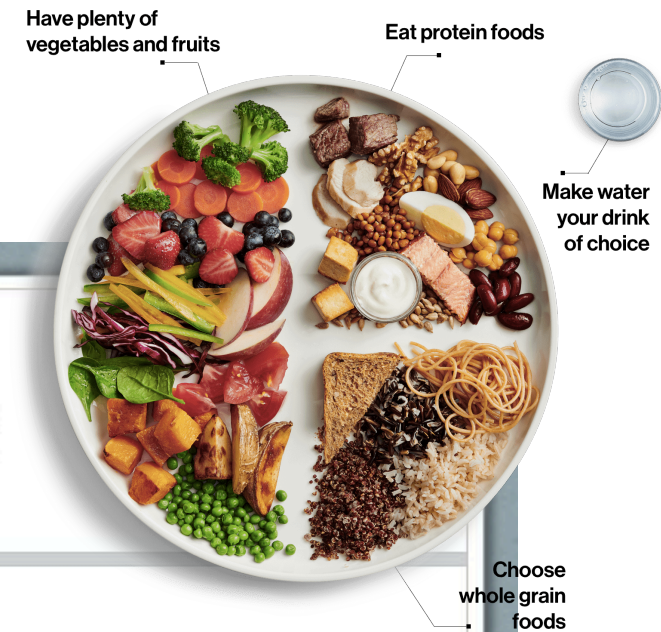


So what the heck do I eat?

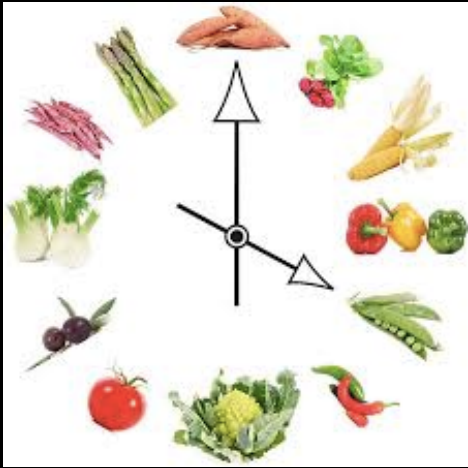


- Daily Diet
- Pre Workout Fuel
- During Exercise
- Post Workout Fuel

Athlete's Plate



- Starchy carbohydrate
- Vegetables and/or fruits
- Protein



Nutrient Timing for Performance:

Learn 4 Key Eating Moments

- 3-4 hours Before/After Training
- 30 min- 90 min Pre Training
- During
- Recovery Post Training

Performance Meal

> 3 hours Before and After Training



Power Snacks

1 hour Before Training

Easy to digest

Low in fat and fibre

Complex carbs (45-75g)

Some protein (8-20g)

Fluids + sodium

Less time = Less Complex

Duration and Intensity Specific



During

< 30 mins/during Training

- WATER
- Hydration (Na, K, fluid)
- > 60-75mins → e-replacement, glucose, fluids
- Easy to digest. Known foods only
- Hydration, carb and fuel replacement DURING workouts is determined by duration of training, heat, sweat loss, intensity
- GI tolerance, training effect, practice
- ~ 60 g carb /hour for longer sessions/races
- You DO sweat in the pool!
- Requires training (tolerance, preference, logistics, trial and error)
- Home sweat testing?
- Hydration in the bottle food in the pocket



- Dehydration of <2% body weight in fluid lost = Notable decrease in performance, perceived exertion, alertness, energy

- Water ≠ Hydration

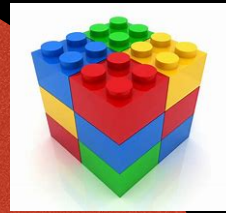
Recovery

Post Training

- ✦ May be a RECOVERY MEAL or a well timed SNACK that meets MACROS
- ✦ Carbs + Protein
- ✦ Good source of protein (25-40g)
- ✦ Easy to digest. Low in fat and fibre
- ✦ Fluids + sodium
- ✦ Time Sensitive
- ✦ Multiple workouts = > ++CARBS and sooner to workout completion



PROTEIN FOODS



Meat, Poultry, Fish
Tofu, Tempeh

Dairy (cottage cheese, greek yogurt, milk/soy bev)

Eggs/Egg whites
Legumes/Edamame
Powders/Bars



Fuel and Recovery FORMULA for Snacking Success

CARBS FOODS



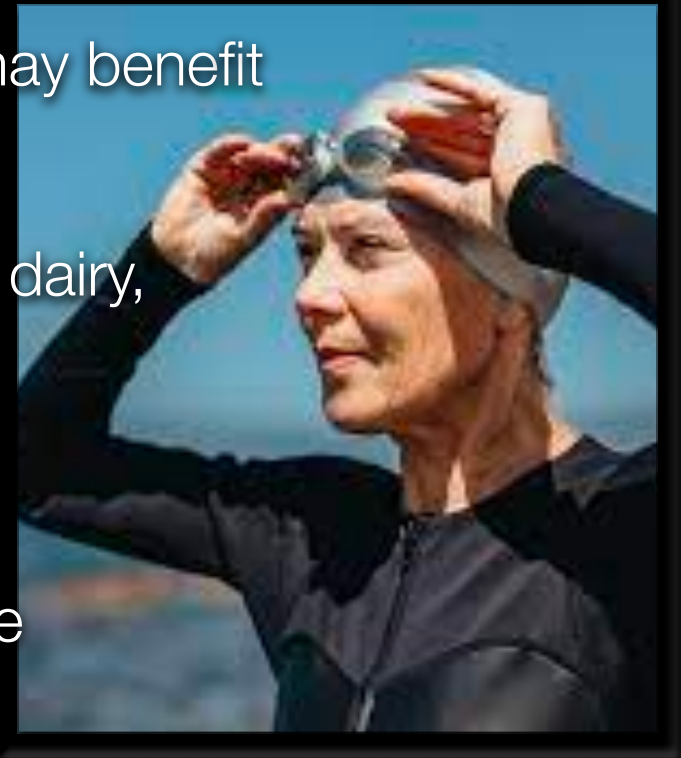
Fruits (dried/fresh/pureed)
Grains (cereals, rice, pasta, bread, oats)
Legumes (chickpeas, lentils, beans)
Starchy Veg (potato, corn, squash)
Juices, Sports Bev
Muffins, Bars



**Nuts/seeds and grains contain
protein but not significant amounts

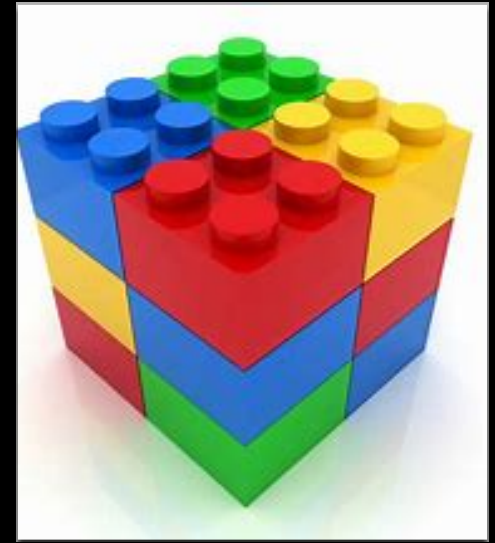
Macros for Masters Athletes

- ✦ More protein ($\sim 0.8\text{-}1\text{g/lb} = 1.5\text{-}2\text{g/kg}$; 40g/meal and around training)
- ✦ Women, Post menopause & plant eaters may benefit from more!
- ✦ Quality proteins (leucine - meats, fish, tofu, dairy, beans, PP)
- ✦ Well timed (Pro and Lots of ETD Carbs)
- ✦ Adjust carbs and calories to training volume
- ✦ Nutrient dense foods
- ✦ Attn to Iron, Vit D, Calcium, B vit, magnesium, fibre



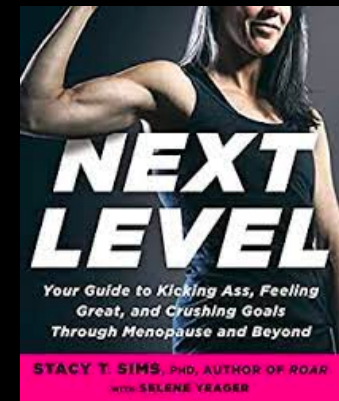
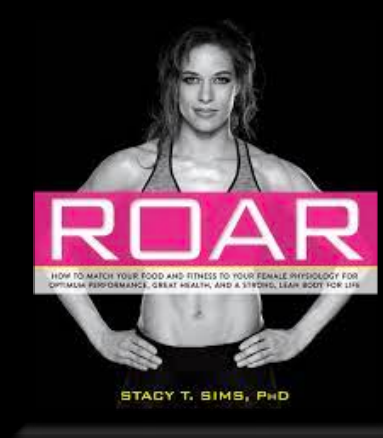
Masters Athlete Considerations

- Tune in to body, Assess training volume
- Tend to injury (signs, symptoms)
- Meet energy needs: Fuel well and enough
- Increase Protein dense foods
- Make time for heavier lifting + functional strength training
- Sleep, Rest, and Recovery, overtraining
- Warm up and cool down
- Quality of food (inflammation, digestion, metabolic health)
- Body comp (more strength work)
- Hormone changes
- Bone health
- Be weary of FAD diets (low carb, fasting)



Notable Influencers and Researchers

- Stacy Sims
- Sports Dietitians Australia
- Taryn Richardson dietitianapproved.com
- Trent Stellingwerff (canadian sport institute)
- Guru Performance (<https://theiopen.com/podcasts/>)
- <https://www.scienceforsport.com/education/>
- Louise Bourke





Supplements?

- ✦ Creatine?
- ✦ Pre-workout?
- ✦ Protein? Type?
- ✦ Caffeine?
- ✦ BCAA?
- ✦ Electrolytes?
- ✦ Vitamins/minerals?
- ✦ Other??



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choice.wetestyoutrust.com/](https://choice.wetestyoutrust.com/)

[https://leanfit.ca/products/leanfit-
whey-protein-vanilla-2kg](https://leanfit.ca/products/leanfit-whey-protein-vanilla-2kg)

Key tips and takeaways

- ✦ Meal prep: Quick to grab, look appealing, be prepared
- ✦ Develop a fuel “routine”. Trial and error. Have your GO-TOS that work and stick with it
- ✦ Nutrient Timing Rule of thumb: 1 hour pre/post for optimal absorption and recovery
- ✦ Other considerations: Sleep, rest, recovery time, mental health, deficiencies
- ✦ More Strength, More Protein, Quality of diet, Meeting ER

Grocery List for Success

- Cottage cheese
- Greek yogurt/greek yogurt dips (skotidakis)
- Applesauce cups/fruit cocktail/fruit juice/yogurt drinks/chocolate milk
- Baby food squeezies
- Dried fruits, nuts and seeds, nut or seed butter (tahini or pumpkin, sunflower)
- Oats
- Whole grain wraps, crackers , granola bars, pancakes, muffins, simply bars, luna/fruit source
- Fruits: bananas, oranges, apples, pears, berry blends, fruit trays
- Pre prepped veggies (cherry tomatoes, baby carrots, snap peas, celery, peppers, bagged kale/spinach, veggie trays, frozen veg, avocados)
- Edamame, canned chickpeas
- Tofu cups, Baked tofu cubes (cubed, drizzle with oil, bake 425, 25 mins)
- Rotisserie chicken or batch cooked chicken breast, turkey slices/pepperettes, canned tuna
- Eggs, egg white cartons

Breakfast of champions



Smoothie:

- 1 Protein: Greek yogurt/Protein powder/Egg whites/milk/soymilk
- 2 Carbs: 2 servings fruits, flavoured yogurt, juice, oats, dates
- Thumb healthy fat (flax, hemp, nut butter, avocado)
- Micronutrient booster: Kale, spinach



Cottage Cheese Breakie Bowl:

- 3/4 cup cottage cheese
- Granola mix with dried fruits, nuts, oats
- Colourful fruits (berries, banana, apple)



- Oatmeal, Overnight
- Oats or baked
- Oatmeal
- 1 cup cooked oats
- Fruit toppings
- dates
- Flax,nuts,seeds,Nut
- butter
- egg whites/protein/
- yogurt



Pancakes/Muffin with Yogurt bowl

- 2-3 Healthy Pancakes or Muffins or breakfast cookies or PBB sandwich
- 1/2 cup yogurt with fruit

Fuel/Hydration Tips:

- To boost quick carbs add 1 cup 100% Fruit Juice/small fruit smoothie
- To boost protein add 1 cup Milk/Soy

SPORT NUTRITION BUILD your MENU: Copyright: Pearle Sports Nutrition

FOOD GUIDE (+'s mean there are significant amounts of hidden fats)

ENERGIZERS



oats
granola (+ fat)
whole grain cereals

rice
pasta
quinoa
bread
corn
potatoes and sweet potatoes
baked potato wedges (+ fat)
legumes: lentils, chickpeas, beans

Often energizers in boxes have a lot of added sugar, salt or oil, check label ingredients! Too much of these ingredients can lower performance.

SUPERFOODS - eat more than one colour

Orange-red

carrots
tomato
turnip
squash
pumpkin
peppers
beet

Green – eat > 1 cup per day

broccoli
cabbage, brussels sprouts
bok choy
peas
asparagus
celery
string beans
zucchini
spinach
dark green lettuce, arugula, romaine



Multi-colour

eggplant
cauliflower
onion, leeks
cucumber
mushrooms

MUSCLE BUILDERS

almonds or peanuts (+++ fat)
pumpkin & squash seeds (+++ fat)
peanut butter (+++ fat)
legumes: lentils, chickpeas, beans

cheese, 33% m.f. 37% moisture (++) fat)
cheese, 16% m.f. 52% moisture (+ fat)
cottage cheese
eggs, large (+ fat)
egg whites
tofu, firm or extra-firm
whey protein isolate, unflavored



canned tuna, in water
chicken or turkey, white, no skin
white fish
fatty fish, salmon, sardines, mackerel
ground beef, extra lean or lean (+ fat)
beef, sirloin, round, loin (+ fat)

ENERGIZER BONE BUILDERS



0% to 3% milk
skim milk powder
yogurt
greek yogourt
chocolate milk
soy milk

HOW TO USE THIS FOOD LIST

Choose the foods you like to eat from each category. Make meals from the **energizers + muscle builders + superfoods + immunity builders**. Make snacks from the meal categories or from **bone builders and energizer superfoods**. Keep **in play energizers** for times when you need the extra energy right before, during, or right after your sport.

ENERGIZER SUPERFOODS

apples, oranges, pears
mango
banana
grapefruit
grapes
berries
melons
pineapple
raisins
dried cranberries
dates
juice



ENERGIZERS FOR IN-PLAY

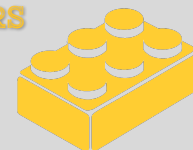
1 cup (250ml) sports drinks
1/2 cup (125ml) juice mixed with water

In play food option:
1 fruit superfood + water



IMMUNITY BUILDERS

avocado
hummus
margarine (trans-fat free)
mayonnaise
oils: canola, walnut, olive, flaxseed...
olives green or black
salad dressing made with oil
nuts: almonds, walnuts, peanuts
seeds: chia, hemp, flax



These fats promote heart health and should replace saturated fats in the diet. Saturated fats are found in creams, butter, bacon, cream cheese, cream dips, and all fatty animal products.

Questions Comments Contact

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