

Contents

1. What is Diet and Nutrition?
2. Macronutrients
3. Carbohydrates
4. Proteins
5. Fats
6. Micronutrient
7. Food Guide Pyramid
8. Food Labels
8. Food Labels 9. Dietary and Lifestyle Approaches
9. Dietary and Lifestyle Approaches
9. Dietary and Lifestyle Approaches 10. Carbs and Sports Nutrition
9. Dietary and Lifestyle Approaches 10. Carbs and Sports Nutrition 11. Protein and Sports Nutrition

What is Diet and Nutrition?

Diet

"the customary amount and kind of food and drink taken by a person from day to day; more narrowly, a diet planned to meet specific requirements of the individual, including or excluding certain foods."

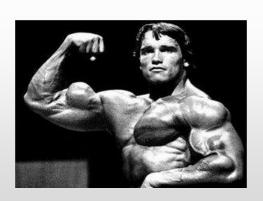
- Farlex Medical Dictionary



To Lose Weight



Maintain Weight for Performance



To Gain Weight

What is Diet and Nutrition?

Nutrition

"The process of nourishing or being nourished, especially the process by which a living organism assimilates food and uses it for growth and for replacement of tissues."

- Farlex Medical Dictionary



To Lose Weight



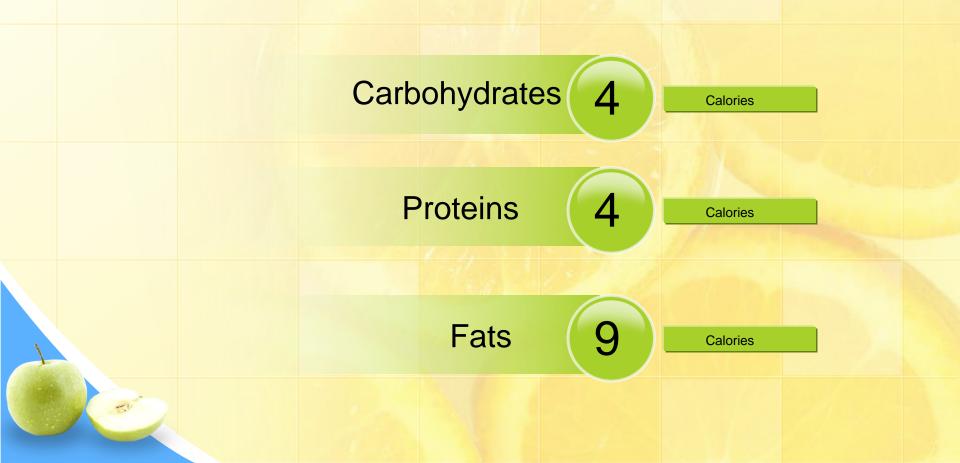
Maintain Weight for Performance



To Gain Weight

Macronutrients

- A nutrient that is needed in large quantities for growth and development
- The main source of calories, or in simpler terms, fuel for the body.



Carbohydrates

Simple Sugars

- Monosaccharide Short Chain
- Glucose, Fructose, and Galactose = milk, and fruit (natural sugars)
 e.g. galactose + glucose = lactose, the sugar found in milk

Complex Carbs

- · Polysaccharides Long Chain
- · Glycogen, and Starch animal products, and vegetables

Carbs that are not immediately used for energy are stored in the body as glycogen

During exercise the glycogen store is broken down in to glucose to be readily used as energy

Glycogen is large and bulky, as it contains water molecules, therefore not a great form of storage

When over eating more carbs than is needed for energy, the stored sugar is formed in to fat

Proteins

Built from Amino Acids

Building Blocks
Of the
Human Body

The quality of the protein is dependant upon its amino acid profile, digestibility, and bioavailability

Responsible for the formation of the brain, nervous system, blood, muscle, skin, and hair

Transports vitamins, minerals, and oxygen around the body

Fats

Responsible for many critical functions:

• insulation, cell structure, nerve transmission, vitamin absorption, hormone production

Unsaturated Fats

	Cold water fish	e.g	Tuna, salmon, and cod
Polyunsaturated And	Shelfish	e.g	Crab and Shrimp
Monounsaturated	Nuts ((e.g	Walnuts, and Almonds
	Natural Oils	e.g	Canola, Coconut, and Peanut

• Essential Fatty Acids (EFA) are a type of polyunsaturated fat and should make up the majority of your fat intake

Omega - 3

These promote a healthy immune system, protect against heart disease, and promote fat loss

• Trans Fats - "partially hydrogenated" oil, a manufactured oil to be avoided



Micronutrients

Vitamins

- Organic
- Must be consumed through food
- Vitamin K&D can be found from another external source
- E.g. Vitamins A,
 B1, B2, B3, C, D,

Minerals

- Critical for Human Life
- Can be found in food and already in the body
- E.g. Calcium,
 Copper,
 Pottasium,
 Magnesium, Zinc

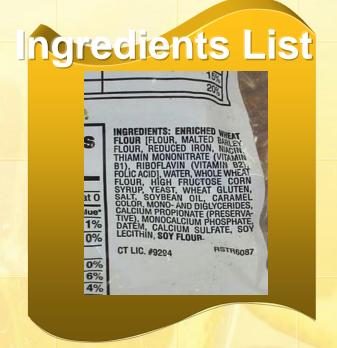
Water

- 20% loss of water can cause death, 10% severely damages the body
- Regulates body temperature
- Transports and absorbs nutrients
- Maintains high blood volume for optimal athletic performance

Food Labels

Nutritional Facts

Nutrition Facts				
Serving Size: 1 bar (60g)				
Amount Per Serving				
Calories 300 Calories from Fat	160			
% Daily Va	lue*			
Total Fat 18 g	28%			
Saturated Fat 11 g	55%			
Trans Fat 0 g				
Cholesterol 15 mg	5%			
Sodium 50 mg	2%			
Potassium				
Total Carbohydrate 36 g	12%			
Dietary Fiber 1 g	4%			
Sugars 33 g				
Sugar Alcohols				
Protein 5 g				
Vitamin A				
Vitamin C 1.2 mg	2%			
Calcium 100 mg	10%			
Iron 0.72 mg	496			



"The USDA recommends that consumers "make half your grains whole." Many products emphasize "Made With Whole Grains" on packaging, and even use dark brown colors and deceptive names to indicate a product is associated with the health benefits of whole grains. Unfortunately, most of these food items actually have ordinary refined wheat flour as their main ingredient, as they are not required to disclose the percentage of whole grains versus refined grains.

Although still a vague indicator as to the amount, one safeguard is to check the listed ingredients. Ingredients must be listed in order of predominance, so if something like "Enriched Wheat Flour" is first, but "Whole Wheat Flour" is further down the list, you can be sure there isn't a large amount of whole grain in the product."

Dietary and Lifestyle Approaches

Meals have got significantly larger over recent years, eat what you need and not the erge to finish the whole plate

Portion

An athlete needs to monitor their intake of calories, and nutrients

Control

Monitor Intake

Turn Off

TV

Be Mindful As an athlete, eat for energy and a purpose, not out of boredom or greed

Approaches

Sitting watching TV
makes you sedentary,
and snacking is
common practice
while watching TV

Eat Breakfast **Exercise**

Maintain an active
lifestyle, an elite
sportsman needs a
healthy body

Most important meal of the day. Replenishes glycogen lost over night, and fuels for the day

Sports Nutrition

Carbs and Sports Nutrition

"3- 5g/lb of body weight per day depending on their total daily energy expenditure, type of exercise performed, gender, and environmental conditions to maintain blood glucose levels during exercise and to replace muscle glycogen"

American Dietetic Association, 2000

- Carbo loading beneficial for long endurance events of over 90mins continuous, i.e. marathon
- Fuelling for exercise carbohydrate intake for optimum performance be a light snack of carbs 30mins before athletic performance that lasts over an hour

To maximise blood glucose levels for energy, continue carb intake during exercise of 30g per hour to maintain blood glucose levels

• Immediately after or within 30 minutes of exercise consume carbs and protein for glycogen replenishment and muscle repair

High Glycemic Index foods immediately after, low Glycemic Index foods there after
High GI Foods - white bread, sports drinks, jelly, fruit juice - AVOID HIGH FRUCTOSE CORN
Low GI Foods - whole wheat, whole grains, plain yogurt

Protein and Sports Nutrition

"athletes have higher protein needs than the general population"

(American College of Sports Medicine)

"muscle mass, strength, and function; bone health; maintenance of energy balance; cardiovascular function; and wound health"

(Wolfe & Miller, 2008)

Immediately consume 20g of whey protein and 20g of caesin protein

Whey Protein - Fast absorption for immediate repair and replenishment Casein Protein - Slow absorption for continued repair for up to 8 hours

Fats and Sports Nutrition

An individual should consume 20 - 30% of their daily intake of calories from fats. Fat is vital, and the body cannot function without it, but the right fats must be consumed.

Polyunsaturated fat, monounsaturated fat, and natural sources of saturated fats (these are found in red meats)

Fats slow down absorption so should not be taken immediately following exercise

Hydration and Sports Nutrition

"experts recommend that the athlete drink a sports drink that contains elevated levels of sodium" (Coyle, 2004)

Correct hydration will avoid -

Dehydration: loss of water. Hyponatremia: reduced blood calcium concentration

Pre Exercise

2 hours prior to exercise, drink 500 -600 ml

During Exercise

Every 10 - 20 minutes during exercise, drink 200 - 300ml or, preferably, drink based on sweat losses

Post Exercise

Following exercise, drink 450 - 600ml for every 0.5kg of body weight lost

(Coyle, 2004)

Poor hydration can effect performance. Loss of water can effect skill performance and brain function

Sports drinks contain sodium and sugars, so these are an excellent source for hydration during exercise



Useful Resource

The following App is a great resource for keeping track of calorie and nutrient consumption for growth and goals –

MyNetDiary:

For iPhone: https://itunes.apple.com/us/app/calorie-counter-food-diary/id287529757?mt=8

For Android:

https://play.google.com/store/apps/details?id=com.fourtech nologies.mynetdiary.ad

