The Healing Power of Food

Carbohydrates, Protein and Fat

Roles of the three nutrients: #1 Carbohydrates

- Sources of **energy**.
- Provides fuel for the brain, muscles, and other tissues during physical activity and daily functions.
- Found in starchy foods like bread, cassava, taro, rice, pasta, lentils, vegetables, fruit and anything that contains sugar.
- There are good carbs and bad carbs.

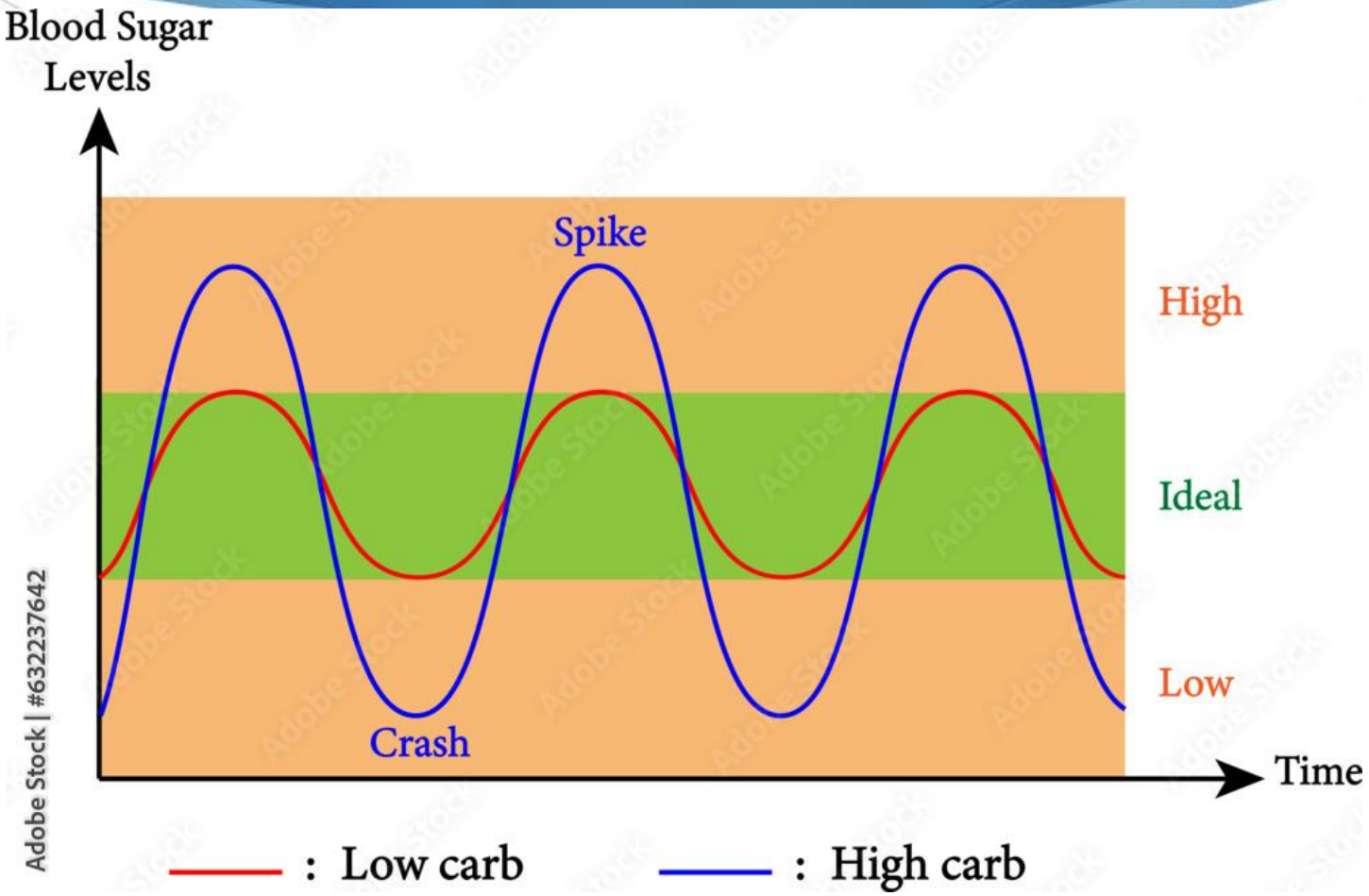
Good Carbs

- Good carbs, often referred to as complex carbohydrates, are found in natural, unprocessed foods. They are rich in fibre, vitamins, and minerals.
- They digest slowly, and are taken up slowly by the blood stream. They do not cause huge spikes in blood sugar levels.
- Examples: coloured vegetables, beans and lentils, fruit in moderation

Bad Carbs

- Bad carbs, often referred to as simple carbohydrates, are typically found in processed foods, especially foods containing refined grains and added sugar.
- Examples: sweets, cookies, cakes and pastries; bread, rice, sweetened drinks, alcohol.
- They are quickly absorbed, leading to spikes in blood sugar and subsequent crashes, which can cause fatigue and increased hunger.
- Note that cassava, potato and taro should be limited.

Effects of carbohydrate overload



Sugar

- Sugar is addictive.
- Processed sugar, (white or brown), contains no vitamins or minerals. It is pure carbohydrate, (sucralose).
- (Note that the raw sugar cane plant contains some vitamins and minerals but is still high in carb.)
- Sugar raises blood sugar very quickly.
- Sugar causes tooth decay.

Wheat

- Wheat is very high in starch.
- This turns to sugar.
- Modern-day wheat is a hybrid, developed to get a higher yield.
- Ancient wheat was not nearly as high in starch or gluten.
- Modern wheat is very high in gluten. Many are becoming gluten intolerant.

Roles of the three nutrients: #2 Protein

- Proteins are the building blocks for growth and repair of tissues, including muscles, skin, and organs. They also play a role in hormone production and immune function.
- While proteins can provide energy, their primary role is not energy production but rather supporting growth and maintenance of body structures.

Examples of protein foods

- Meat, fish, eggs, dairy products, nuts, and seeds, legumes
- Note that legumes (lentils, dried beans) are approximately 50% carb and 50% protein)
- Nuts contain fats and carbohydrates as well as protein.
- Meat and fish provide the highest amount of protein.

Roles of the three nutrients: #2 Fats

- Fats provide the most concentrated source of **energy**. They are essential are crucial for various bodily functions.
- Fats help in the absorption of fat-soluble vitamins (A, D, E, K), provide insulation, protect vital organs, and are involved in hormone production. They also contribute to cell membrane structure.
- There are Good Fats and Bad Fats.

Types of Fats

Fats can be also be classified into:

Saturated – found in animal meats, butter/cream, coconut oil

Unsaturated – found in olive oil, vegetable oils, avocados, and fish

Trans fats – fats that have been chemically altered, found in margarine, processed fried or baked foods, such as potato crips and pastries.

Good Fats and Bad Fats

- Until about 15 years ago, it was thought that **saturated** fats were good, and unsaturated fats were bad.
- Now we know that this is not true.
- Coconut oil, butter and meat fats are good fats, even though they are saturated. They are protective and provide vitamins A,D,E and K. You can cook with these fats.
- We now know that many **unsaturated** fats are bad fats, because they have been heated to high levels making them carcinogenic. That means they have the potential to cause cancer.

Bad Fats

- **Examples:** margarine and all cooking oils in plastic bottles such as canola oil, peanut oil, soy oil. Do not cook with these fats. (Only olive oil in dark glass bottles is safe.)
- Unfortunately, it takes a LONG time for revealed truth to be taken up by the public and even by some in the medical profession.
- This is partly due to manufacturers who continue to promote foods like margarine as heart-healthy in order to make sales.

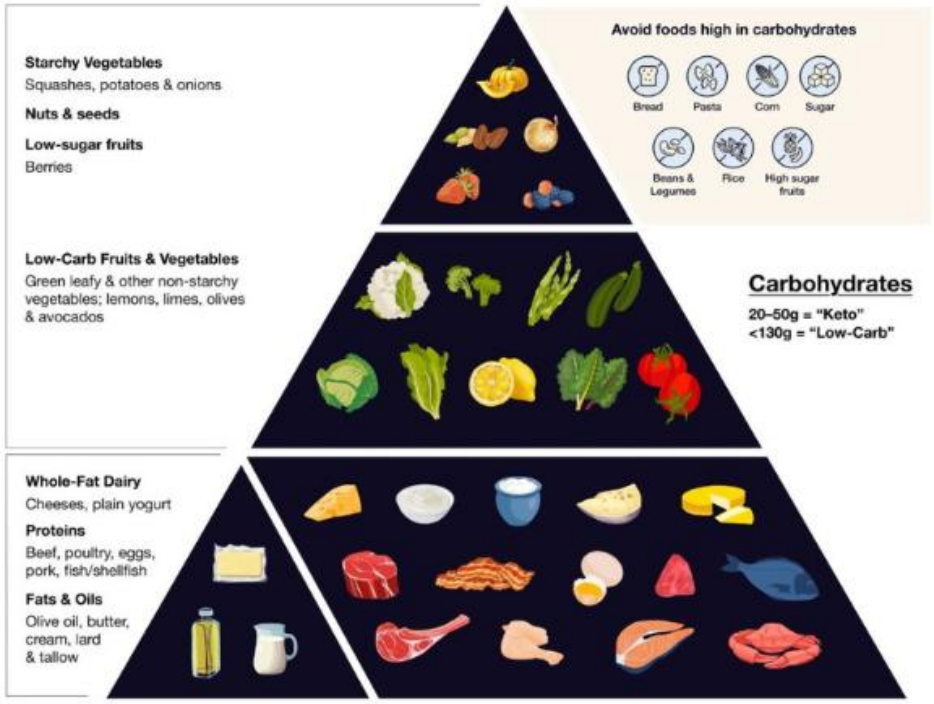
More myths from the past

The Outdated Food Pyramid

This is based on recommendations in 1992.
What's wrong with it?
1. Adults do not need this percentage of carbs.
2. We need more protein and fat.
3. We do not need so much fruit.
4. We do not need any sugary sweets.

But note that children and athletes need more carbohydrates for energy.

The new food pyramid (for most adults)



After 20 yrs of advising people to follow the **1992** pyramid, metabolic disease sky-rocketed. In 2018, in USA, only 1 in 14 adults had optimal metabolic health.
In **2025** a research paper showing a new food pyramid was published.

Bottom level: whole fat dairy, meats, fish, good fats
Middle level: non-starchy vegetables
Top level: starchy vegetables, low-sugar fruit & nuts

What is Optimal Metabolic Health?

This is when a person has GOOD key metabolic health markers:

- Normal waist circumference
- Normal glucose levels
- Normal levels of fat in the blood
- Normal levels of good (HDL) cholesterol
- Normal blood pressure

Food Pyramid Bottom Level – eat most (protein and fats)

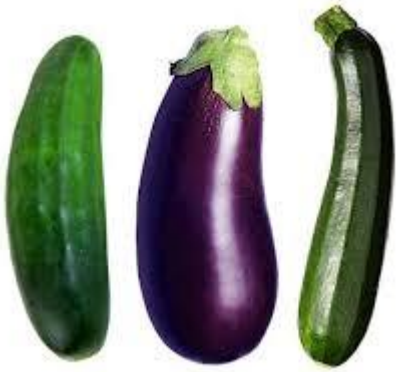
- Meat – red meat, chicken
- Fish – better to buy fresh and cook it. Tinned tuna contains mercury. However, tinned sardines are good. Salmon is OK.
- Dairy – cheese, milk, yoghurt. Make sure the yoghurt is full-fat and has NO flavouring or sugar.
- Eggs
- Good fats – butter, cream, olive oil (in dark glass bottles), coconut oil

Bottom Level – eat most (protein and fats)

Middle Level – eat moderately (non-starchy carbs)

- green leafy vegetables – cabbage, spinach, lettuce etc.
- capsicum, egg plant
- tomatoes, zucchini
- cucumber, celery
- legumes - beans, peas, lentils)
- cauliflower, broccoli
- avocadoes, coconut

Food Pyramid Middle Level – eat moderately (non-starchy carbs)

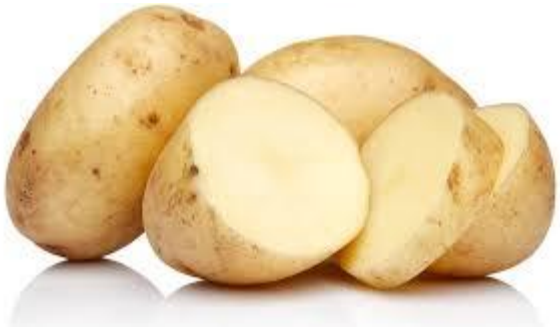


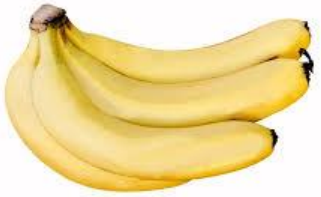
Food Pyramid Top Level – eat least (starchy carbs & fruits)

Limit these:

- pumpkin
- corn
- potatoes
- sweet or starchy fruits – e.g. bananas, mangoes

Top Level – eat least (starchy carbs and sweet fruits)

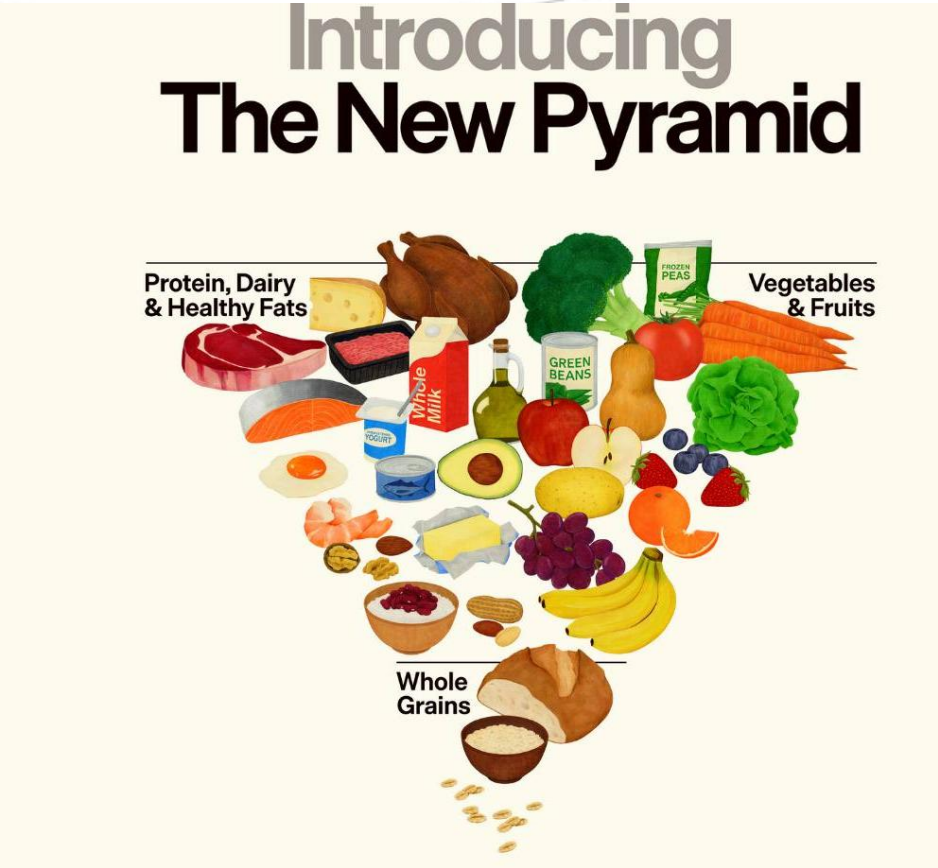




Foods not included

- Sugary sweets
- Bread
- Cakes, biscuits and sweet desserts
- Pastries
- Rice and pasta
- All kinds of “junk food” and processed take-away foods

Another example recently adopted by USA



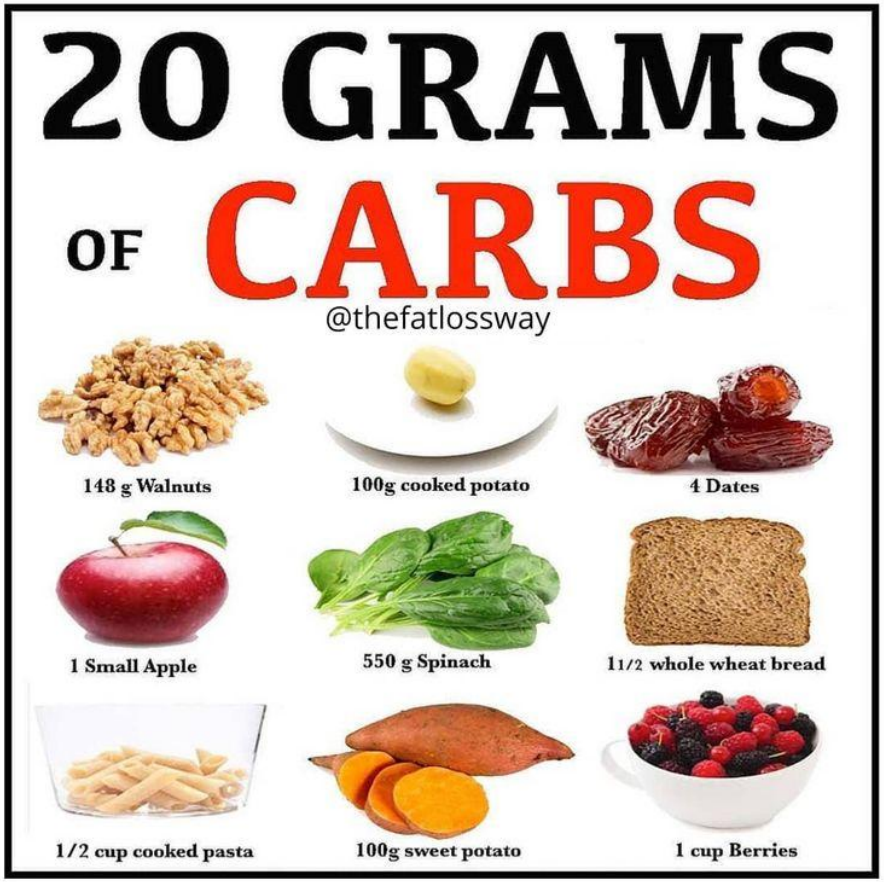
How much carbohydrate do we need per day?

For adults on a low-carb diet we need 125g carbohydrate or less.

Why limit carbs?

Carbs are an energy source for us to use while active. If you are not doing a lot of exercise, the unused carbs get stored as fat.

What does 20g of carb look like? (6 of these make a day's intake)



- 1 cup of walnuts
- ¼ cup cooked potato
- 4 dates
- 1 small apple
- 3 cups cooked spinach
- 1 ½ slices whole wheat bread
- ½ cup cooked pasta
- ¼ cup cooked sweet potato
- 1 cup berries

How much protein do we need per day?

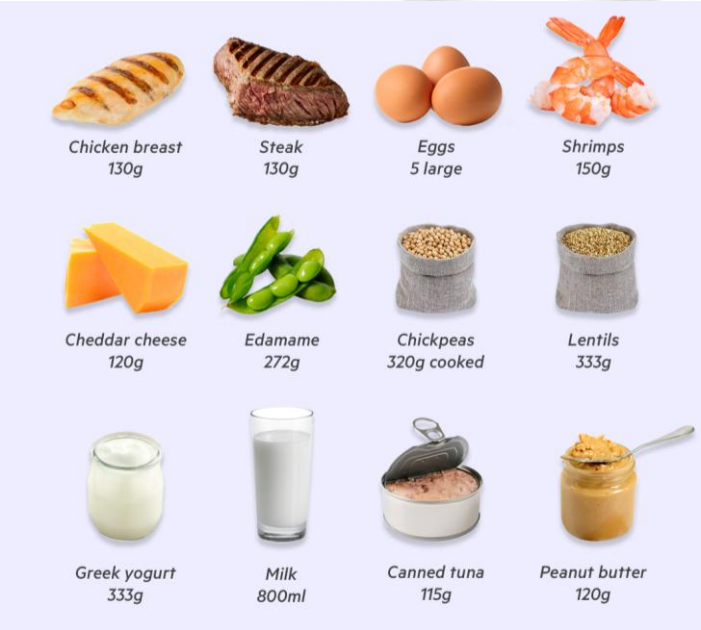
Protein requirements: Your height (in cm) minus 100

e.g. If you are 160 cm tall, you need 60 g of protein.

(Note that athletes and physical labourers need more.)

Good protein sources: meat, fish, dairy products, eggs, nuts, legumes

What does 30g of protein look like? (e.g. 3 of these for a days' intake.)



130 g chicken (size of your palm)
130 g steak (as above)
5 eggs (6 g per egg)
150 g prawns (1 cup)
120 g cheese (1/2 cup)
320 g cooked legumes/lentils (4¼ cups)
330 g yoghurt (1½ cups)
800 ml milk
115 canned fish (1 can)

Good fat sources

- meat
- fish
- full-fat dairy products including butter
- olive oil, coconut oil
- avocado
- nuts, seeds

We need approx. 100 to 130 g. of fat per day.

Eat fat with protein – 30g of fat in:

Avocado – 1 whole

Coconut – ¾ cup

Salmon – 1 cup

Olive oil – 3 tablespoons

Almonds – 1/3 cup

Walnuts - ¼ cup

Butter – 3 tablespoons

Challenge

Based on the *Food Analysis Chart*, which shows quantities of **protein, carb and fat**, make meal plans for a day – 2 or 3 per meals (no snacks).

Choose the foods, in the correct quantities, to give you the right amount of protein you need for your height, 100g. of fat and only 125 g of carbs.