

Managing The Energy Density of your Foods

By Garry Egger, Gary Webb and Andrew Pitkin. Lifestyle Medicine team members

Reducing the energy density of your diet is one of the easiest and most effective ways of reducing your total energy input and arguable this is the most important thing to consider when changing your diet to achieve weight loss.

What is Energy Density

Energy density can be defined as the amount of energy that a food contains per gram. Fats and oils are the most energy intense food group and therefore if you are trying to lose weight it makes sense to try and reduce the amount of fat and oils consumed in your diet. On the other hand water and fibre are the least energy dense nutrients and therefore foods that contain both water and fibre are smart options and can assist weight loss.

Is there an easy way to work out the energy density of a food?

By law, each packaged food item must contain a nutritional information panel, which summarises the energy content of the food.

If you look at the top line of the nutritional information panel you will see the word 'Energy'. You will also notice 2 columns 'per serve' and 'per 100g'. Take the amount of energy per 100g (in red) and divide it by 100 and that will give you the energy density. (see example below)

Servings per package = 2 Servings size = 50g	Per serve (50g)	Per serve (100g)
Energy	1145kJ	2290kJ
Protein	3g	10g
Fat	1g	3g
Carbohydrate	24.3g	81.1g

Eg: Total energy per 100g = 2290kJ. $2290/100 = 22$. Therefore the energy density = 22kJ/g

Basically the higher the energy content per 100g, the higher the energy density of the food. Therefore if our goal is to reduce energy consumption, we should look for food items that have a lower energy density (ie less energy per 100 grams). The volume of the food is the same, but it contains less energy.

What to aim for?

At the end of the day we would ultimately like to aim for foods that are less than 12kJ/gram with some of those being less than 7kJ/gram. Below are some examples:

Energy Density	Measure	Advice	Examples
Low	<7kJ (1.5kcal)/g	Eat freely	Fruit; vegetables (ex potatoes); bread; rice; cereal; fish; lean meats; wheat bix; porridge

Energy Density	Measure	Advice	Examples
Medium	7 - 12kJ/g (1.5 - 3kcal/g)	Eat sparingly	Low fat ice creams; avocados; coconut milk; fruit muffins; olive oil; jelly sweets; jelly beans etc.
High	>12kJ (3kcal)/g	Eat only occasionally (if at all)	Cheeses; spreads; cooking oils; coconut oil; ghee; processed meats; cakes/pastries; cakes; pies; biscuits; potato crisps; nuts; toasted breakfast cereals; skin on chicken; full cream dairy

A study published in the American Journal of Clinical Nutrition (Rolls et al. 2006) suggests that by reducing the energy density of your diet by 25% you can significantly reduce the amount of energy consumed throughout your day without increasing hunger. Therefore when it comes to losing weight it makes sense to replace high energy dense foods with low energy dense foods. In doing so, you can actually eat more food while consuming less energy.

Remember for maintaining a healthy weight it comes down to Energy Density along with frequency and portion size so check out the other patient downloads in the Diet & Nutrition section of www.lifestylemedicine.net.au OR to contact Lifestyle Medicine email: info@lifestylemedicine.net.au