

## FATS & OILS

### THE GOOD, THE BAD AND THE UGLY

Knowing which fats and oils to eat (and which to avoid) has become ever more confusing with so many different opinions having been expressed over the last few decades.

I remember being told to eat margarine instead of butter. Then to avoid all saturated fats and to use refined, polyunsaturated fats instead. But now we're told that butter is better than margarine after all!

It might help to think of fats as The Good, the Bad and the Ugly. Like the film of the same name, the Good are not always well-behaved. The Bad can sometimes be good, but the Ugly can be relied on to be truly wicked!

### IN A NUTSHELL

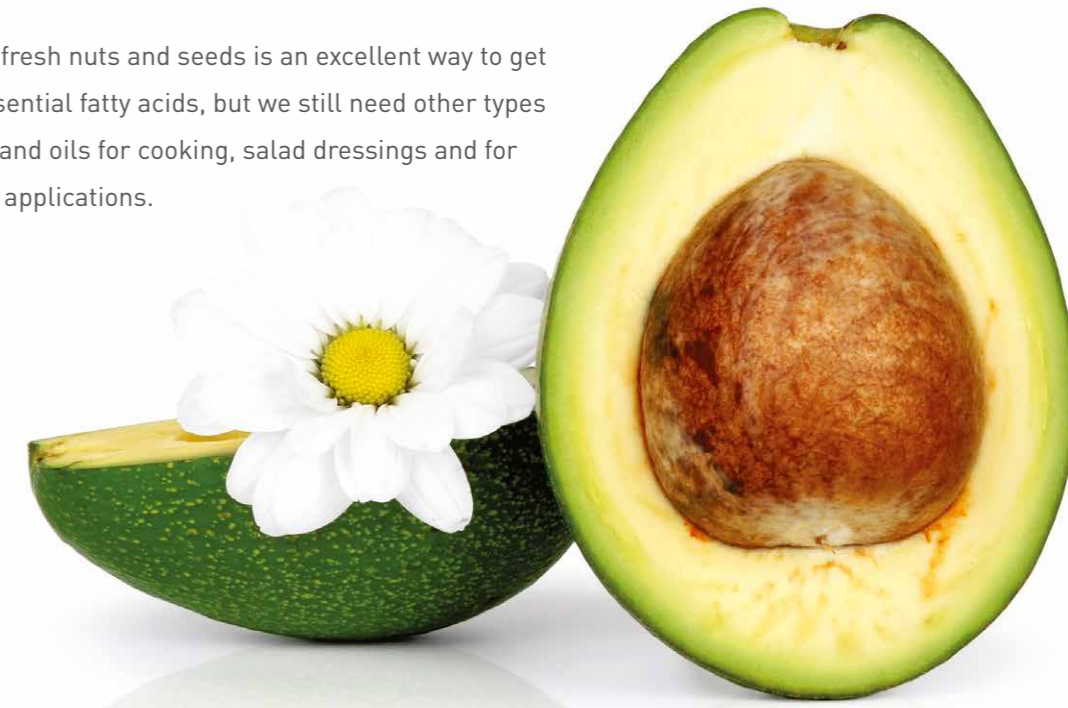
In a nutshell means literally that. Natural fats and oils should be stored away from heat, light and air to prevent them from deteriorating. Nature inherently provides a perfect storage system for these fats and oils: within the nuts and seeds themselves. When undisturbed, they will stay fresh for a long time.

### Oxidation changes Good oils to Bad

Although it's healthy to eat plenty of nuts and seeds, they can be tough and need a lot of chewing. Soaking overnight helps to soften them, and it also activates their enzymes and makes them more alive and digestible. Every evening I soak some whole almonds so that by the morning they are plump, juicy and easy to peel. It's a good idea to remove almond skins as they contain indigestible tannins that protect the nut (part of the storage system). My soaked almonds are then easy to chop and are delicious in my breakfast.

Another way to make fresh nuts and seeds easier to eat is to grind them in a food processor, or crush them in a pestle and mortar. Once ground, you should eat the nuts/seeds straight away because the oils oxidise fairly quickly once they become exposed to light and air. Oxidation changes Good oils to Bad.

Eating fresh nuts and seeds is an excellent way to get our essential fatty acids, but we still need other types of fats and oils for cooking, salad dressings and for topical applications.



## THE GOOD OILS

The only Good oils are those that are termed 'virgin' or 'extra virgin' or 'unrefined cold pressed'. When fresh, these contain essential fatty acids, nutrients and antioxidants.

Unsaturated oils, however, are still unstable and will oxidise quickly when exposed to the atmosphere—even if they are cold-pressed and virgin. To stay fresh, they need to be stored in a cool, dark place such as the fridge. Don't cook with unsaturated oils because heat damages them and creates free radicals. These are very bad news—they cause massive damage to our cells and tissues. Use unsaturated oils raw instead, as dressings on salads, or poured as a sauce on hot food. When served on a plate, the food will not be hot enough to damage the oil—which will instead help to moisten the food and lubricate the meal.

Extra virgin olive oil is monounsaturated. It's a bit more heat stable than polyunsaturated oils, which means it's good for light cooking. Try to avoid letting olive oil get too hot in the pan as this damages the fatty acids. It's best to put any vegetables in first, then add the oil. The moisture in the vegetables helps control the temperature in the pan.

Saturated fats are better for serious cooking where you need more heat—for example cooking whole spices. The best cooking oil is coconut oil: virgin, cold-pressed and stored in a glass container. Coconut oil has shorter fatty acid chains, making it easier to digest. Butter ghee is the

other fat you can use for cooking. Ghee is highly prized in Ayurveda, not just for cooking, but also as a solvent for medicinal preparations.

## ESSENTIAL FATTY ACIDS

We humans can create fatty acids out of the sugars and oils that we eat. But there are two fatty acids that we can't make ourselves. These are the omega-6 and omega-3 essential fatty acids. They are called 'essential' because it's essential that we include them in our diet. It's not just about getting enough of each though—they need to be eaten in the correct ratio, which is approximately 5:1 (so for every 5 grams of pure omega-6 you need to consume 1 gram of pure omega-3).

Omega-6 and omega-3 are very similar, so they compete for the same enzymes and metabolic pathways. When it comes to metabolising fats, the body works on a 'first come, first served' basis. So if you eat too much omega-6, it will prevent you from absorbing enough omega-3, and vice versa.

Unfortunately, Western diets often have over 15 times more omega-6 fatty acids than omega-3. This excess of omega-6 creates a deficit in the amount of omega-3 that we can absorb, and exacerbates the problem. So although omega-6 is a good fat, having too much changes it from good to bad.

## WHEN GOOD OILS BECOME BAD

Imagine people queuing up to enter a popular nightclub.

As we need a 5:1 omega balance ratio, let's say that five omega-6s represent one boy, and one omega-3 represents one girl.

Of course it's best when there are equal numbers of boys and girls. Then they can be let in as they arrive. But if there are more boys in the queue than girls, there's a gender imbalance that could lead to trouble later on. And the security guards would need to allow more girls in to restore the balance.

For us, too much omega-6 is linked to chronic conditions like arthritis and other forms of inflammation. The only way we can restore the balance is by letting more omega-3 girls into our nightclub.

## THE UGLY

In our metabolic nightclub, we can see the problem that arises if we have too many good guys (omega-6 fats). They're sure to misbehave if there aren't enough omega-3 fats around to keep them happy.

But there are other fats that are much, much worse.

Fats that go looking for trouble!

These are the 'gangland' type of fatty acids that roar up on their motorcycles, gate-crashing our nightclub and starting to pick fights with the other visitors. They're the troublesome refined, polyunsaturated fats that have had all their natural goodness taken away.

If we use these polyunsaturated fats for cooking, they become unstable and oxidise into highly energetic free radicals. In the nightclub, the free radicals are so agitated that they start breaking chairs and smashing glasses just for fun!

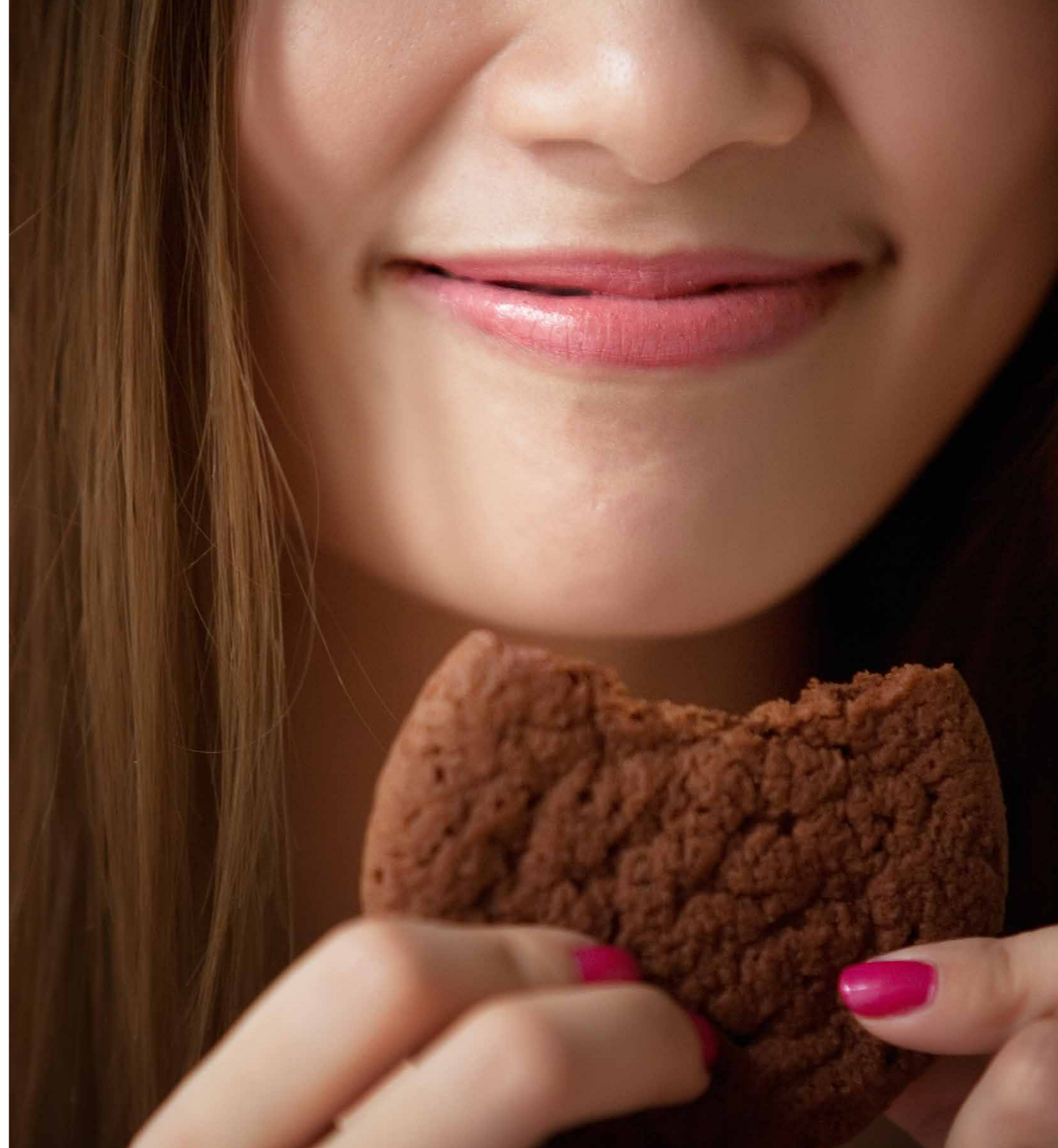
## THE TRULY UGLY...

Worse still are the refined oils that have been hydrogenated. These are the sneakiest by far, because they enter by stealth. They hide in delicious-looking pastries, cakes, cookies and chocolate. These hydrogenated fats are so clever that the foods baked using them turn out even better than when their healthy, natural saturated fatty brethren are used. In fact, they are so tempting that we welcome them in huge crowds. They come in many of the convenience foods we love to eat: cereals at breakfast, snack bars during a break, bread at lunchtime and pies in the evening.

Even our bodies are tricked—they simply don't recognise these unnatural, synthetic fats. These hydrogenated fats have different molecular structures from those of natural fats, but our bodies have not adapted to spotting the difference.

Imagine both hydrogenated and natural fats wearing trenchcoats in differing shades of beige: light beige and dark beige. The security guards in our metabolic nightclub wear sunglasses, even though it's night-time, so they have trouble telling the different fats apart.

Hydrogenated fats are like sleeper agents. They seem harmless, melding themselves into the very fabric of our being, just waiting to carry out an atrocious act. Somehow our bodies have been totally fooled by these smooth and charming ingredients, unaware of the hidden dangers. Once admitted, these synthetic fats create havoc in our cells.



Fats are used to build important cell structures like cell walls and membranes. In a way it is similar to the dry stone walls we have here in Wales. A good builder, with the right type of stones, can create a strong wall without needing cement—a wall that can withstand the gales and storms we get here. He will cast aside any ill-fitting or bad stones.

If you only ever provide the builder with rough misshapen rocks, the quality and strength of the wall will be poor. In the same way, our bodies need good fats as building blocks. Poor building materials lead to weaker tissues and faulty metabolism.

## AVOID THE UGLY FATS

Sensible adults tend to stay away from the rough part of town on a Saturday night (especially if the local football team has just lost).

In the same way, it's best to avoid refined oils and hydrogenated fats if you can. Use virgin, cold-pressed oils for dressings and saturated oils like butter, ghee or virgin coconut oil for cooking.

## GETTING ENOUGH OF THE GOOD

The omega-6 essential fatty acids are quite common in the foods we normally eat, so getting enough of them is not normally an issue. The problem is that modern diets are lacking in essential omega-3 oils.

A great solution is to use linseed oil. This is particularly high in omega-3, and helps restore the healthy balance between omega-6 and omega-3. Other good sources are hemp, chia and pumpkin oils. They do get damaged by heat, light and air though, so don't use them for cooking. Make sure they are totally fresh, unrefined and supplied in a dark bottle. Store them in the fridge or in a cool place away from light. Consume them daily so that you don't keep them for too long, and try to use them up within a few weeks. At home I use Udo's Oil, which is produced in an air-free environment, packaged in a dark bottle and kept refrigerated until it is sold.

The freshest source of oil though, and also the cheapest by far, is straight from the seed. Linseeds are 50% oil, but they have a tough shell and are totally indigestible when eaten whole. The best thing to do is grind them and then eat them straight away. Make sure you are getting plenty of fluids as linseeds absorb a lot of water.



## MAKING THE GOOD EVEN BETTER

Once we've sorted out our metabolic nightclub by keeping out the ugly fats, and we have the right balance of omega-3 and omega-6, the romance and magic can really start. With the right numbers of boys and girls and no troublemakers, we can create the conditions we need for a wonderful transformation.

Given the right conditions, a healthy person converts about 20% of the omega-3 oils they consume into another fatty acid called eicosapentaenoic acid (EPA). This is a very useful fat in the body, and produces a prostaglandin (PGE3) that reduces inflammation and blood clotting.

But it doesn't stop there. The love continues in a wonderful alchemy to produce docosahexaenoic acid (DHA). Our brain and eyes need DHA like good muscles need protein.

It's always best to fall in love naturally—but there's no harm in helping things along. Getting enough omega-3 fats in your food starts the process, but it's a good idea to supplement your diet with EPA and DHA. They are found in marine algae or fish that eat them. Or, of course, in fish that eat the fish that eat the algae. Famously, fish oil has been the main supplement for EPA and DHA, but now you can cut out the middle man (or middle fish)! Vegan supplements which contain the oils extracted directly from the algae are now available. If you want to know more, Udo Erasmus has written a fantastic book called *Fats that Heal and Fats that Kill*.

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