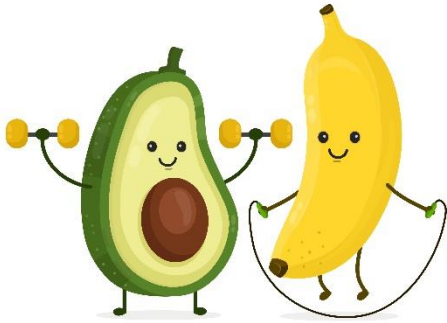


Antioxidants & Inflammation



Antioxidants are natural chemicals found in plant-based foods, with the best sources being fruit and vegetables. The reason they are so important for our health is due to the role they play in protecting the body from excess free radicals. Free radicals can cause oxidative damage to our body, much like the brown tinge that occurs when you leave half an apple exposed to the air. Free radicals can be naturally occurring by-products of metabolic processes, such as digestion, exercise and stress. Our bodies produce our own

antioxidants to combat this, but we also need a healthy amount of fruit and vegetables on a daily basis in order to top up our internal antioxidants.

In an ideal world, we would have the perfect balance of free radicals and antioxidants, leaving us completely healthy. However, if the balance is tipped towards too many free radicals for our body to deal with, this is when the oxidative damage to the cells and DNA occur. Once this damage takes place, it sets off an inflammatory response from our immune system. So whenever we talk about free radicals and cellular damage from oxidative stress, we need to realise that this will be associated with some form of inflammation.

So why would our bodies become overwhelmed with free radicals? In a nutshell, the main reasons are stress, poor diet, smoking and environmental toxins.

Stress: *our stress response is completely natural, but what is not natural is the constant stress that many people are exposed to. This causes prolonged high levels of the stress hormone, cortisol, which will eventually create oxidative damage and inflammation. So managing stress is key to any health plan.*



Smoking: *the dangers are well documented, and cigarettes contain many chemicals which cause oxidative damage to the body. Along with this, our bodies have to deal with toxins from environmental pollution and exhaust fumes as well.*

Diet: *this is a combination of too much of the wrong foods, and not enough of the right ones. The standard diet includes large quantities of processed foods, high in sugar and partially hydrogenated vegetable oils, both of which are thought to contribute to oxidative damage and inflammation. There are also arguments to be made for the inflammatory effect of eating a diet high in refined grains – just think of all the overly processed bread and pasta eaten on an almost daily basis. Processed foods tend to be low on nutrients as well, so not only are you giving your*

body substances it is going to have to work hard to deal with, but you are also depriving your body of all the essential nutrients needed for health and vitality.

There has been a lot of research into the links between oxidative damage, inflammation and disease, and although, like many areas of research, the answers aren't always clear, there does seem to be an association between inflammation and many conditions, including cardiovascular disease, dementia and certain cancers. Whilst the cause of most chronic conditions is usually a combination of factors, it makes absolute sense to protect ourselves as much as possible by keeping our antioxidant levels high through eating a healthy diet.

Plant-based foods are plentiful in antioxidants and it is best to eat a wide variety of different colours as they each contain different combinations of antioxidants. Listed below are some options, but do bear in mind that by far the best sources are the fruit and vegetables! Go for fresh, preferably organic, if possible.

Fruits: cranberries, blueberries, blackberries, raspberries, strawberries, grapes, apples, sweet cherries, dark plums, goji berries, prunes, mangoes, apricots, oranges, lemons, lime, grapefruit, kiwis and watermelon

Vegetables: artichoke hearts, spinach, chard, mustard and turnip greens, carrots, tomatoes, peppers, leeks, onions, aubergines, pumpkin, broccoli, radishes, kale, lambs lettuce, rocket, courgettes, cauliflower and cabbage

Legumes: kidney, pinto, black eyed peas, navy, butter, haricot, mung, adzuki beans

Nuts and seeds: pecans, walnuts, hazelnuts, sesame, almonds, brazils, pumpkin, sunflower

Herbs and Spices: garlic, cayenne, thyme, parsley, turmeric, oregano, ground cloves, cinnamon, nutmeg, lemon grass

Herbal teas: green tea, cinnamon, lemon and ginger tea. It is also a good idea to drink plenty of water to help body remove toxins.

Super Green Berry Smoothie:

Smoothies are an easy way to pack in a huge number of antioxidants in one go. Place the following ingredients in blender and whizz til smooth:

- half a banana
- small cup of mixed frozen berries
- large handful of spinach
- 1 cup coconut water/unsweetened almond milk
- 1 tbsp ground flaxseeds
- A few ice cubes

The rich berries will disguise the spinach colour and taste and the banana and coconut water will give a natural sweet flavour – especially great when the berries might be a bit tart! Mango or pineapples are great alternatives to banana.



Sources and further information: V Boutenko (2010) Green for Life, D Pinnock (2011) Medicinal Cookery: how to benefit from nature's edible pharmacy, www.chriskresser.com