- Inflammation

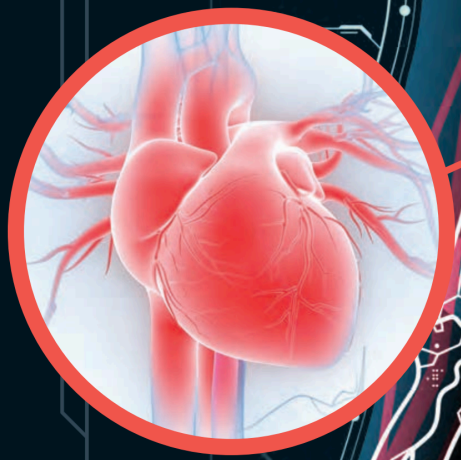
30 DAYS TO Anti-Inflammatory Diet

Types of inflammation around the body

Words: Fiona Horsfield

Now we know what inflammation is, it's time to understand how it shows up in different parts of the body, and what we can do to help prevent things getting worse

HEART AND BLOOD VESSELS



Inflammation is a key player behind most heart attacks and strokes. It's important to try to maintain a healthy heart and protect the blood vessels carrying blood around the body from damage. Damage can occur when the blood vessels become inflamed, and trigger the development of atherosclerosis (when cholesterol-rich plaques build up in the blood vessels). The plaques can block arteries, or break off and allow blood clots to form, all due to inflammation. If this happens, it can lead to diseases such as high blood pressure (hypertension), heart attacks, angina and stroke.

Atherosclerosis is a progressive disease, which occurs with age, and most people in their 60s onwards will have a degree of it. Younger people are also at risk of atherosclerosis, depending on their lifestyle.

Unhealthy lifestyle practices can speed up the process of developing atherosclerosis, however having a healthy lifestyle can slow it down. Having someone in the family with heart disease, diabetes or hypertension will make it more likely that we may develop this ourselves.

Current medication exists to prevent further events from happening, but they can't undo damage that already exists. The key thing that we can do to improve our cardiovascular health and reduce the risk of these events happening is to look at our lifestyle and to make positive health changes.

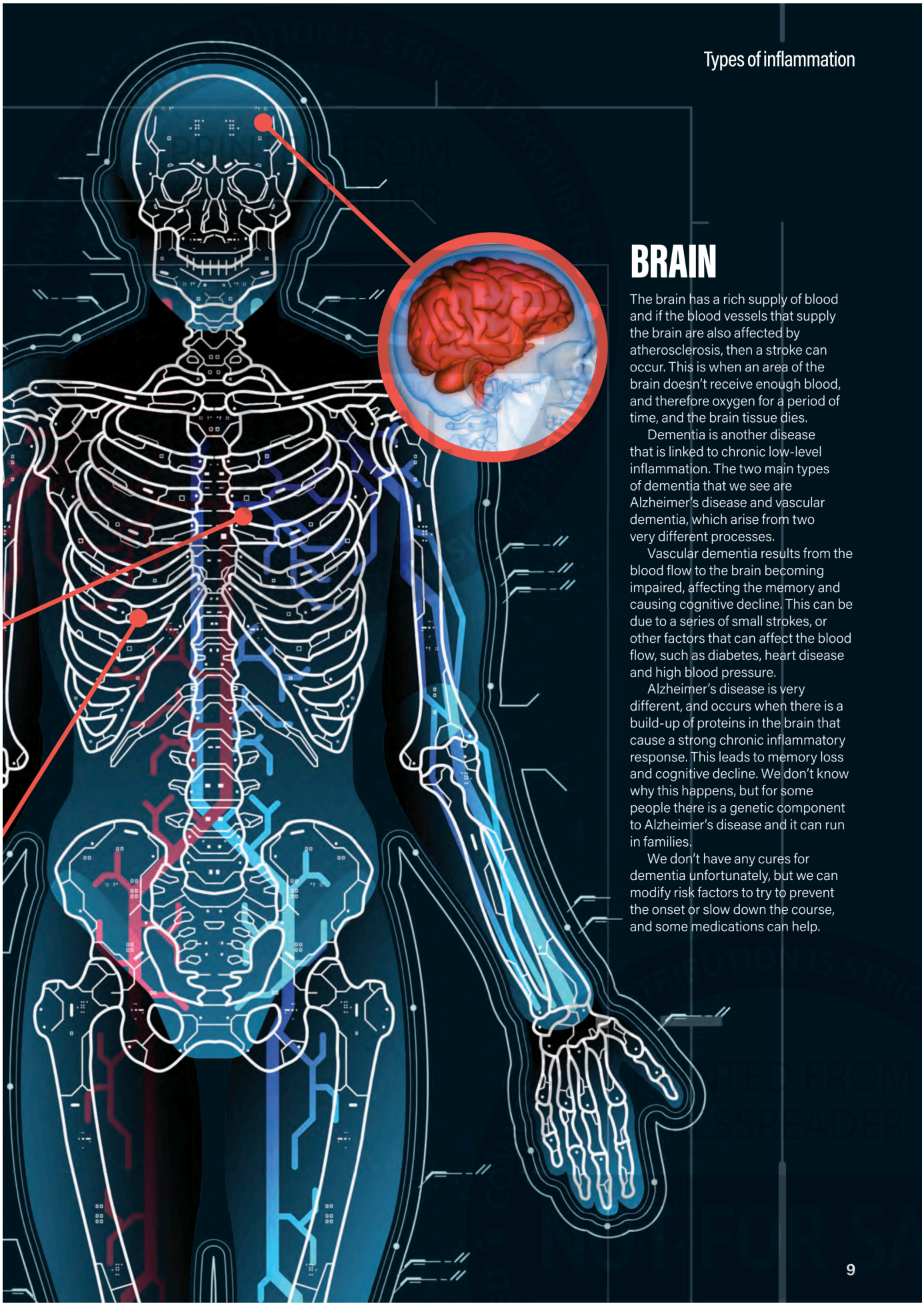
LUNGS



Our lungs come into contact with plenty of pathogens that we breathe in every day and it is primed to get rid of these so that we don't become ill. Two main inflammatory lung diseases that we see regularly are asthma and chronic obstructive pulmonary disease (COPD).

Asthma is a lung disease that can come on at any age. The tiny airways in our lungs become inflamed and full of mucous in response to a trigger, such as allergies, smoke, exercise and cold air. It is usually controlled with medications that help to open the airways and reduce the inflammation.

Chronic obstructive pulmonary disease (COPD) is also very common and comes on later on in life. Usually, it is caused by an inflammatory response caused by damage from smoking. In others it can be from a rare genetic abnormality. Once the damage to the airways has been done unfortunately it can't be reversed, but stopping smoking, and using special inhalers can help slow down the progression of the disease.



BRAIN

The brain has a rich supply of blood and if the blood vessels that supply the brain are also affected by atherosclerosis, then a stroke can occur. This is when an area of the brain doesn't receive enough blood, and therefore oxygen for a period of time, and the brain tissue dies.

Dementia is another disease that is linked to chronic low-level inflammation. The two main types of dementia that we see are Alzheimer's disease and vascular dementia, which arise from two very different processes.

Vascular dementia results from the blood flow to the brain becoming impaired, affecting the memory and causing cognitive decline. This can be due to a series of small strokes, or other factors that can affect the blood flow, such as diabetes, heart disease and high blood pressure.

Alzheimer's disease is very different, and occurs when there is a build-up of proteins in the brain that cause a strong chronic inflammatory response. This leads to memory loss and cognitive decline. We don't know why this happens, but for some people there is a genetic component to Alzheimer's disease and it can run in families.

We don't have any cures for dementia unfortunately, but we can modify risk factors to try to prevent the onset or slow down the course, and some medications can help.

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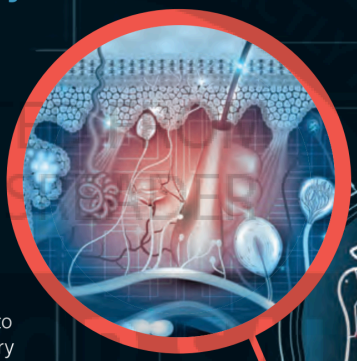


SKIN

One of the skin's main functions is to protect our body. It is capable of very effective inflammatory responses to keep out invading pathogens. When a chronic inflammatory process is triggered, we see inflammatory skin diseases developing. Psoriasis and eczema are the most common ones.

Eczema usually occurs in children, but can occur in adults too. Psoriasis usually occurs in early adulthood and can be linked with other inflammatory processes such as inflammation in the joints and other immune-mediated conditions. Features include itchy skin patches, which can be red, dry and scaly. Thicker areas (plaques) can occur.

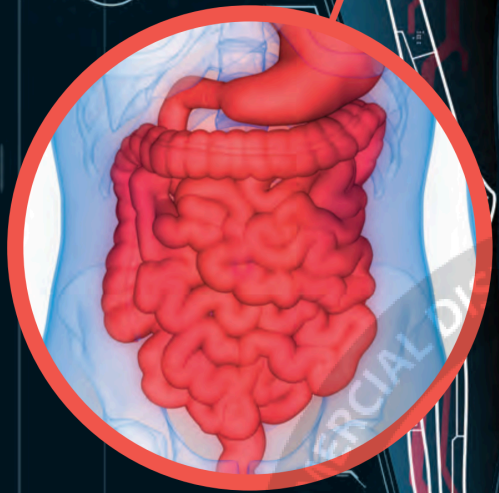
These skin diseases are complex, and although both are very different, they are believed to occur from a combination of genetic, environmental (such as heating, animal dander and hay fever) and lifestyle triggers, such as smoking. These can spark the inflammatory processes that causes the development of eczema or psoriasis.

Many children 'grow out of' eczema by their late teens, but adult-onset eczema can be more stubborn and last longer. Some of the most common skin cancers are also associated with inflammation in the skin. Squamous cell carcinomas and basal cell carcinomas are usually the result of UV radiation damaging the skin and initiating oxidative stress, which set off an inflammatory process.

GUT

Our gut can also be affected by chronic inflammation. Ulcerative colitis and Crohn's disease are two of the most common inflammatory bowel conditions. Exactly why they develop is unknown, however genetic, immunological, psychological and dietary factors appear to be significant in ulcerative colitis, and smoking is implicated in Crohn's disease.

These are both life-long conditions, and can cause abdominal pain, bloating, diarrhoea and at times blood or mucous in poo. They are managed with special medications which help reduce the inflammatory response.





CANCER

The development of many types of cancer is linked with chronic low-level inflammation, including lung, prostate and ovarian cancer. Where there is a chronic inflammatory process, the environment is favourable for the development of cancer cells.

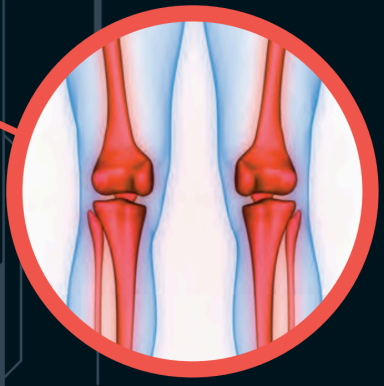
Maintaining a lower level of inflammation in our body can help reduce our risk of developing cancer, and also slow its progression.

JOINTS

Rheumatoid arthritis is a common inflammatory joint disease. It is different to the age-related degenerative arthritis (osteoarthritis) that many people develop. Environmental triggers, combined with being genetically susceptible, set off an autoimmune response and the body starts to attack its joints.

Rheumatoid arthritis can affect people of any age, but usually women in late adulthood. Most people with rheumatoid arthritis are managed by special medications that help to reduce the inflammatory response.

People who suffer from rheumatoid arthritis, and other inflammatory conditions, can develop atherosclerosis earlier in life, and subsequent heart disease.



TOP HEALTH TIPS

Ways to *reduce* inflammation

There are various risk factors that lead to the development of chronic inflammation. These include smoking, obesity, the gut microbiome, high cholesterol and diabetes. Our genetics have a role to play, and while we can't alter the genetic hand that we have been dealt, we have the potential to reduce our risk by modifying factors within our control. By reducing our levels of chronic inflammation, we can help improve our overall health.

SMOKING

Smoking is the number one change that we can make. Nothing about smoking is good for our health!

Tobacco smoke contains thousands of compounds that set off a significant inflammatory reaction throughout the whole body. It also has direct effects on the lungs as the smoke is breathed in, causing lung damage through local inflammation. Smoking also reduces our immune system and makes us more susceptible to picking up other infections and developing cancers.

EXERCISE

Exercise has so many physical and mental health benefits. Taking regular exercise lowers the inflammation levels in our body. It can also reduce our levels of body fat, meaning lower lipid levels in our bloodstream and improved blood pressure. These contribute to lower inflammation levels in our bodies.

Ideally, we should be taking moderate exercise for a minimum of 30 minutes a day on five days out of the week. This could be doing an activity such as walking, dancing or cycling that gets us a bit out of breath – not enough to sing, but still being able to talk.





DIET

If we are overweight, the additional fat cells where fat is deposited contributes to increased levels of inflammation. High levels of cholesterol and lipids in our diet can also lead to unwanted levels of inflammation in the blood vessels.

High levels of salt, such as found in ready meals and processed foods, can also have a damaging effect.

ADDITIONAL MEASURES

- We should aim for ideally seven or eight hours of **quality sleep** every night to allow our body to repair.
- Trying to reduce the number of **unnecessary medications** – in particular those that can have an effect on our gut microbiome – could help.
- By managing our **stress levels** we can help our body to maintain its normal defence system.