

Everything You Need to Know About Inflammation

Overview from Medical News Today
Top 15 Anti-inflammatory Foods



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*Original article has been condensed.

Inflammation is when the body sends cells to defend against an irritant. It is a key aspect of the body’s immune defenses. Inflammation can be short-lived (acute) or long-term (chronic).

The body may send cells to defend against a foreign body, such as a thorn, an irritant, or a pathogen. Pathogens include bacteria, viruses, and other organisms, which cause infections.

Sometimes, the body mistakenly perceives its own cells or tissues as harmful. This reaction can lead to autoimmune diseases, such as type 1 diabetes.

Experts believe inflammation may contribute to a wide range of chronic diseases. Examples of these are metabolic syndrome, which includes type 2 diabetes, heart disease, and obesity.

People with these conditions often have higher levels of inflammatory markers in their bodies.

Types and symptoms

There are two main types of inflammation: acute and chronic.

Acute inflammation

An injury or illness can involve acute, or short-term, inflammation.

There are five key signs of acute inflammation:

- **Pain:** This may occur continuously or only when a person touches the affected area.
- **Redness:** This happens because of an increase in the blood supply to the capillaries in the area.
- **Loss of function:** There may be difficulty moving a joint, breathing, sensing smell, and so on.
- **Swelling:** A condition call edema can develop if fluid builds up.
- **Heat:** Increased blood flow may leave the affected area warm to the touch.

Symptoms of acute inflammation last a few days. Subacute inflammation lasts 2–6 weeks.

Chronic inflammation

Can continue for months or years. It either has or may have links to various diseases, such as: diabetes, cardiovascular disease (CVD), arthritis and other joint diseases, allergies, chronic obstructive pulmonary disease (COPD), psoriasis, rheumatoid arthritis.

The symptoms will depend on the disease, but they may include pain and fatigue.

Measuring inflammation

When inflammation is present in the body, there will be higher levels of substances known as biomarkers.

An example of a biomarker is C-reactive protein (CRP). If a doctor wants to test for inflammation, they may assess CRP levels.

CRP levels tend to be higher in older people and those with conditions such as cancer and obesity. Even diet and exercise may make a difference.

Causes

Inflammation happens when a physical factor triggers an immune reaction. Inflammation does not necessarily mean that there is an infection, but an infection can cause inflammation.

Acute inflammation

Acute inflammation can result from:

- exposure to a substance, such as a bee sting or dust
- an injury
- an infection

When the body detects damage or pathogens, the immune system triggers a number of reactions:

- Tissues accumulate plasma proteins, leading to a buildup of fluid that results in swelling.

- The body releases neutrophils, a type of white blood cell, or leukocyte, which move toward the affected area. Leukocytes contain molecules that can help fight pathogens.
- Small blood vessels enlarge to enable leukocytes and plasma proteins to reach the injury site more easily.

Signs of acute inflammation can appear within hours or days, depending on the cause. In some cases, they can rapidly become severe. How they develop and how long they last will depend on the cause, which part of the body they affect, and individual factors. Some factors and infections that can lead to acute inflammation include:

- acute bronchitis, appendicitis and other illnesses ending in “-itis”
- an ingrown toenail
- a sore throat from a cold or flu
- physical trauma or wound

Chronic inflammation

Chronic inflammation can develop if a person has:

Sensitivity: Inflammation happens when the body senses something that should not be there. Hypersensitivity to an external trigger can result in an allergy.

Exposure: Sometimes, long-term, low-level exposure to an irritant, such as an industrial chemical, can result in chronic inflammation.

Autoimmune disorders: The immune system mistakenly attacks normal healthy tissue, as in psoriasis.

Autoinflammatory diseases: A genetic factor affects the way the immune system works, as in Behçet’s disease.

Persistent acute inflammation: In some cases, a person may not fully recover from acute inflammation. Sometimes, this can lead to chronic inflammation.

Factors that may increase the risk of chronic inflammation include:

- older age, obesity, a diet that is rich in unhealthful fats and added sugar, smoking, low sex hormones, stress, sleep problems.

Long-term diseases that doctors associate with inflammation include:

- asthma,,chronic peptic ulcer, tuberculosis, rheumatoid arthritis, periodontitis, ulcerative colitis and Crohn’s disease, sinusitis, active hepatitis.

Inflammation plays a vital role in healing, but chronic inflammation may increase the risk of various diseases, including some cancers, rheumatoid arthritis, atherosclerosis, periodontitis, and hay fever.

Chronic or acute inflammation?

The following table summarizes some key differences between acute and chronic inflammation.

	Acute	Chronic
Cause	Harmful pathogens or tissue injury.	Pathogens that the body cannot break down, including some types of viruses, foreign bodies that remain in the system, or overactive immune responses.
Onset	Rapid.	Slow.
Duration	A few days.	From months to years.
Outcomes	Inflammation improves, or an abscess develops or becomes chronic.	Tissue death, thickening, and scarring of connective tissue.

Common treatments

Treatment of inflammation will depend on the cause and severity. Often, there is no need for treatment.

Sometimes, however, not treating inflammation can result in life threatening symptoms.

Acute inflammation

A doctor may prescribe treatment to remove the cause of inflammation, manage symptoms, or both.

For a bacterial or fungal infection, for example, they may prescribe antibiotics or antifungal treatment.

Here are some treatments specifically for treating inflammation:

Nonsteroidal anti-inflammatory drugs

Pain relief: Acetaminophen, including paracetamol or Tylenol

Corticosteroids: Corticosteroids can help manage a range of conditions, including: arthritis, temporal arteritis, dermatitis, inflammatory bowel disease (IBD), systemic lupus, hepatitis, asthma, allergic reactions.

Herbs for inflammation

Various herbal supplements may help manage inflammation.

***Harpagophytum procumbens*:** Also known as devil’s claw, wood spider, or grapple plant. Some older research from 2011 has shown it may have anti-inflammatory properties. Various brands are available to purchase online.

Hyssop: People can mix this plant with other herbs, such as licorice, for the treatment of some lung conditions, including airway inflammation. However, the hyssop essential oil has led to life threatening convulsions in laboratory animals, so caution is necessary.

Ginger: People have long used ginger to treat dyspepsia, constipation, colic, and other gastrointestinal problems, as well as rheumatoid arthritis pain. Ginger is available fresh in groceries or online in supplement form.

Turmeric: Curcumin, the main ingredient in turmeric, may have benefits for arthritis, Alzheimer’s disease, and some other inflammatory conditions. Supplements with turmeric and curcumin are available online.

Cannabis: A cannabinoid called cannabichromene may have anti-inflammatory properties.

These herbs are not approved by the Food and Drug Administration (FDA) for medicinal use. Always talk to a doctor before using any herbal or other supplements.

Anti-inflammatory diet

Some foods contain nutrients that may help reduce inflammation.

They include:

- olive oil
- high fiber foods
- tomatoes
- nuts, such as walnuts and almonds
- leafy greens, including spinach and kale
- fatty fish, such as salmon and mackerel
- fruit, including blueberries and oranges

Studies have suggested that people with high levels of CRP may be less likely to follow a diet that is rich in fresh products and healthy oils, such as the Mediterranean diet.

The following may aggravate inflammation:

- fried foods
- highly processed foods
- foods and drinks with added sugar
- red meat
- unhealthful fats, such as saturated and trans fats

Diet alone will not control inflammation, but making suitable choices may help prevent it from getting worse.

Learn more here about the anti-inflammatory diet.

Takeaway

Inflammation is part of the process by which the immune system defends the body from harmful agents, such as bacteria and viruses. In the short term, it can provide a useful service, although it may also cause discomfort.

Long-term or chronic inflammation, however, can both lead to and result from some severe and possibly life threatening conditions.

People with tumors, rheumatoid arthritis, inflammatory bowel disease, drug reactions, and other health issues may have high levels of CRP, which is a sign of an inflammatory immune response.

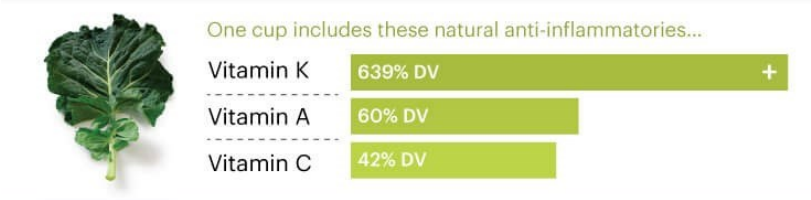
TOP 15

ANTI-INFLAMMATORY Foods

Small, gradual changes are typically more sustainable and easier for the body to adapt to. So rather than emptying your pantry, you can pursue an anti-inflammatory diet one food at a time. Here are the 15 best...

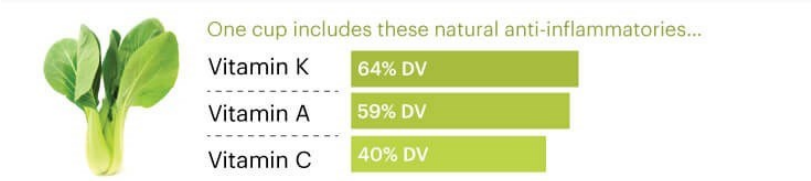
1. GREEN LEAFY VEGETABLES

These vegetables operate as anti-inflammatory flavonoids and are rich in antioxidants that restore cellular health. Swiss chard, for example, is extremely high in the antioxidants vitamin A and C, as well as vitamin K, which can protect your brain against oxidative stress caused by free radical damage.



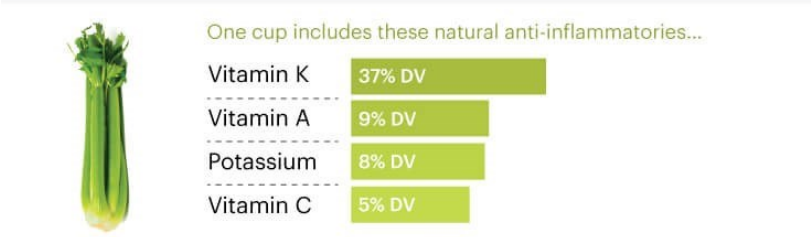
2. BOK CHOY

It's an excellent source of antioxidant vitamins, minerals and antioxidants. Moreover, recent studies show over 70 antioxidant phenolic substances in bok choy. These phenolic antioxidants help scavenge free radicals.



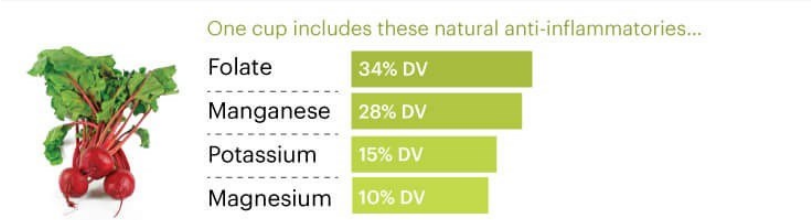
3. CELERY

In recent studies, celery demonstrates both antioxidant and anti-inflammatory activities that help improve blood pressure and cholesterol levels, as well as prevent heart disease. Celery seeds also help lower inflammation and fight bacterial infections.



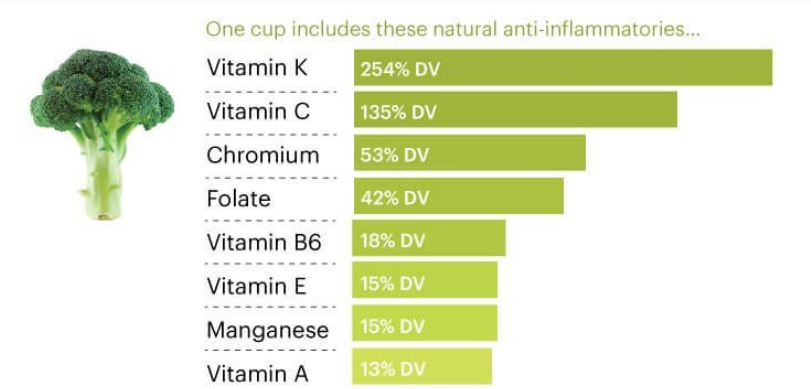
4. BEETS

The antioxidant betalain gives beets their signature color and is an excellent anti-inflammatory. These anti-inflammatory compounds inhibit the activity of cyclo-oxygenase enzymes, which the body uses to trigger inflammation.



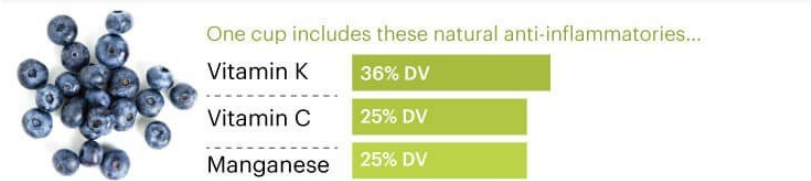
5. BROCCOLI

Broccoli is an antioxidant powerhouse, with key vitamins, flavonoids and carotenoids. These work together to lower oxidative stress in the body and help battle both chronic inflammation and the risk of developing cancer.



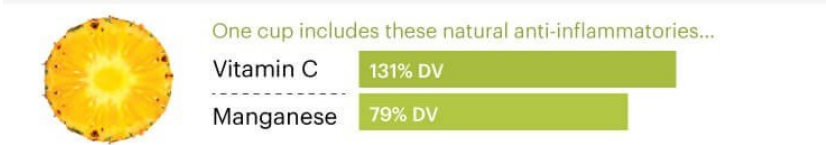
6. BLUEBERRIES

Found in citrus, olive oil and dark-colored berries, quercetin is a flavonoid that fights inflammation and even cancer. Another study found that consuming more blueberries slowed cognitive decline and improved memory and motor function.



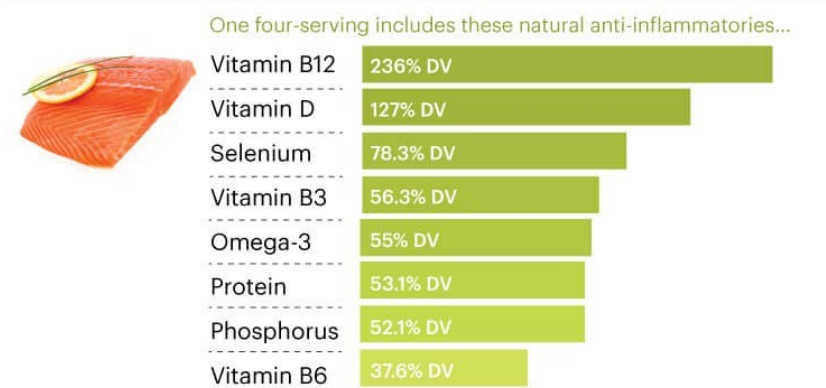
7. PINEAPPLE

After being used for years as part of an anti-inflammatory protocol, bromelain — a digestive enzyme from pineapples — is observed to have immune-modulating abilities. Bromelain has been shown to stop blood platelets from sticking together or building up along the walls of blood vessels – both known causes of heart attacks or strokes.



8. SALMON

Salmon is an excellent source of essential fatty acids, especially omega-3s, which are some of the most potent anti-inflammatory substances. Research shows that omega-3 fatty acids reduce inflammation and may help lower risk of chronic diseases such as heart disease, cancer, and arthritis.



9. BONE BROTH

Bone broths contain minerals in forms that your body can easily absorb: calcium, magnesium, phosphorus, silicon, sulphur and others. They contain chondroitin sulphates and glucosamine, compounds that reduce inflammation, arthritis and joint pain.

10. WALNUTS

The antioxidant and anti-inflammatory benefits of walnuts help protect you against metabolic syndrome, cardiovascular problems and type 2 diabetes. Some phytonutrients found in walnuts are very rare in any foods, yet valuable. And it's also high in omega-3 fatty acids.



11. COCONUT OIL

Lipids in coconut oil are full of strong anti-inflammatory compounds. In a study in India, the high levels of antioxidants present in virgin coconut oil reduced inflammation and healing arthritis more effectively than leading medications.

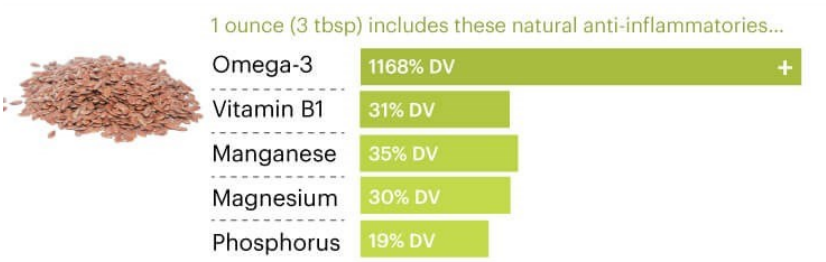
12. CHIA SEEDS

Chia seeds offer both omega-3 and omega-6, which should be consumed in balance with one another. Chia seeds' ability to reverse inflammation, regulate cholesterol and lower blood pressure make it extremely beneficial to consume for heart health.



13. FLAXSEEDS

An excellent source of omega-3s and phytonutrients, flaxseeds are also packed with antioxidants. Lignans are unique fiber-related polyphenols that provide us with antioxidant benefits for anti-aging, hormone balance and cellular health.



14. TURMERIC

Turmeric's primary compound, curcumin, is its active anti-inflammatory component. A study found that curcumin is far more potent than aspirin (Bayer, etc.) and ibuprofen (Advil, Motrin, etc.) as an anti-inflammatory and anti-proliferative agent.



15. GINGER

Used fresh, dried, or in supplement form and extracts, ginger is another immune modulator that helps reduce inflammation caused by overactive immune responses. Ayurvedic medicine has praised ginger's ability to break down the accumulation of toxins in your organs.

