



THE ULTIMATE GUIDE TO UNDERSTANDING INFLAMMATION

Learn everything you need to know about inflammation and what we can do to help our bodies control our internal fire

FUSIONARY
FORMULAS

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THE ULTIMATE GUIDE TO INFLAMMATION, INFLAMMATORY FOODS, AND AN ANTI-INFLAMMATORY DIET

Inflammation is your body's natural response to injury or infection — a defense mechanism that triggers your immune system to begin the healing process.

However, inflammation can sometimes last well after your ankle feels better or your cut is healed, and the lingering symptoms can cause additional health concerns.

TYPES OF INFLAMMATION

There are two types of inflammation: acute, meaning it's brought on quickly and is usually short-lived, or chronic, which can persist for months or even years if your immune system fails to fix the initial problem. For example, when your body is injured, your immune system typically acts quickly to repair the injury, causing acute inflammation symptoms to dissipate.

ACUTE INFLAMMATION

It is brought on quickly and is usually short-lived.

CHRONIC INFLAMMATION

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WHY IS ACUTE INFLAMMATION ESSENTIAL?

Increased blood flow warms the injury and turns it red, which can be irritating and unsightly, but it also carries leukocytes that will clean up the injury site, mopping up pathogens and overseeing the inflammatory process.

Swollen body parts are really sensitive and don't work as well as their slim counterparts, but a swollen finger is a finger full of plasma and leukocyte slurry and, therefore on the road to recovery.

Pain hurts but is necessary; if an injury doesn't hurt and is serious, you'll keep damaging it because you won't know how to use it.

WHEN ACUTE INFLAMMATION BECOME CHRONIC?

Inflammation becomes chronic and systemic when signs of inflammation — such as pain, redness, swelling, and heating around the injury site — remain long after you have recovered from the initial injury or infection.

Chronic inflammation can stick around for months and sometimes even years. This type of inflammation can occur if we don't remove the source of the inflammation. Constantly exposing our body to what may be triggering the inflammation in the first place is one of the ways chronic inflammation occurs.

Chronic inflammation often progresses quietly, with few independent symptoms. However, despite its subtlety, chronic inflammation represents a significant threat to the health and longevity of a large population of individuals.



IDENTIFYING CHRONIC INFLAMMATION

Chronic inflammation is trickier to deal with. The problem is that chronic inflammation is often "invisible," but many symptoms indicate an inflammatory reaction. In addition, these symptoms can indicate a more severe issue than an immune system response to a minor injury, so you should consult your doctor if you experience the following symptoms.

Some symptoms of chronic inflammation may include:

- body pain or muscle aches and pain
- joint stiffness
- unexpected weight loss or gain
- sleep difficulties or insomnia
- frequent illness or infections
- chronic fatigue
- mental health conditions such as depression or anxiety
- gastrointestinal symptoms such as acid reflux, constipation, or diarrhea

Acute inflammation may present similar symptoms; however, they typically only last for a few days. If your symptoms recur or do not improve after several weeks, chronic inflammation can be a sign.

The best way to detect inflammation is by measuring high-sensitivity C-reactive protein and white blood cell count with a blood test.

C-reactive protein (CRP), a protein in the blood, is one of the best indicators of inflammation. Levels of CRP rise as inflammation increases, so knowing your numbers can tell you a lot about what's going on inside your body.



10 CAUSES OF CHRONIC INFLAMMATION

Researchers have identified several common causes of chronic systemic inflammation. Many are closely associated with modern living and aging.

DIET

High-sugar, high-processed carb, high-industrial fat, high-gluten, high-CAFO meat, and low-nutrient food is a pretty accurate descriptor of the modern Western diet.

INSUFFICIENT OMEGA-3 INTAKE

Omega-3 fats form the precursors for anti-inflammatory eicosanoids, which are an integral part of the inflammatory response. Therefore, poor omega-3 status means insufficient production of anti-inflammatory eicosanoids and a lopsided inflammatory response to normal stimuli.

EXCESSIVE OMEGA-6 INTAKE

Omega-6 fats form the precursors for inflammatory eicosanoids, which are an integral part of the inflammatory response. High omega-6 status (especially when combined with poor omega-3 status) means excessive production of inflammatory eicosanoids and a lopsided inflammatory response to normal stimuli. The more omega-6 you eat, the more omega-3 you crowd out for anti-inflammatory eicosanoid formation.

PHYSICAL INACTIVITY

A lack of exercise is also a common cause of inflammation within the body. One of the most positive health benefits of regular exercise is that it helps to boost blood flow throughout the body, which further helps to improve the response rate of the white blood cells to tissue damage, pathogens, or other harmful chemicals, due to the increased rate of mobility available. However, by not getting enough exercise, your body may not be in the best condition to help defend your body against the symptoms of inflammation.

A study conducted in the US in 2002 looked to answer the question: “does exercise reduce inflammation”? The study used a sample of 13,748 participants that were 20 years of age or older, taken from the National Health and Nutrition Examination survey ranging from the years 1994 to 1998. The results of the study found that physical activity was positively associated with white blood cell counts, concluding that there is “mounting evidence that physical activity may reduce inflammation.”

OBESITY

Fat tissue, especially visceral fat (a deep layer of fat around the abdominal organs), actually produces pro-inflammatory chemicals.

LOW SEX HORMONES

Sex hormones like estrogen and testosterone suppress inflammation. Lower levels of these hormones, common in advanced age, increase the risk of inflammatory diseases.

LACK OF SLEEP

Poor sleep is linked to elevated inflammatory markers. Poor sleep is a chronic problem in developed nations. Either we go to bed too late, wake up too early, or we use too many electronics late at night and disrupt the quality of what little sleep we get. Or all three at once.

POOR GUT HEALTH

The gut houses the bulk of the human immune system. When it's unhealthy, so is your inflammatory regulation. A healthy gut is also selectively permeable, allowing beneficial compounds passage into the body and keeping toxins out. An unhealthy gut often becomes leaky, allowing toxins into the body to stimulate an immune, inflammatory response.

AUTOIMMUNE DISEASES

In autoimmune diseases, the immune system attacks its own tissues, mistaking them as foreign or abnormal. Inflammation caused by autoimmune disorders does different types of damage to different parts of the body

CHRONIC STRESS

We all deal with stress at one time or another, but prolonged stress can be a direct cause of inflammation which may contribute to other health issues in the future.

When you're stressed, your body releases a hormone from the adrenal gland called cortisol, which is designed to help regulate blood sugar and blood pressure levels. However, if you feel constantly stressed, then large amounts of cortisol in the blood have the potential to negatively impact these same areas of coronary health.

If your blood sugar and blood pressure levels are negatively influenced, being either too low or too high, then your heart may have to work harder to counter this problem, which could cause damage to the organ itself. This damage can trigger an inflammatory response and may increase the risk of more serious health issues occurring in the future.

A study conducted in 2000 looked to analyze the relationship between low-grade inflammation and coronary heart disease, using medical records and blood samples taken from 1025 men, as well as death certificates from 506 men who died from coronary heart disease. This information was collated from 18 different GPs in Britain. The study concluded that "some inflammatory processes... are likely to be involved with coronary heart disease."

TREATING INFLAMMATION




TREATING INFLAMMATION

Over time, chronic inflammation can trigger your immune system to attack healthy tissue and organs in your body. When left untreated, prolonged chronic inflammation can increase your risk for diseases such as diabetes, heart disease, and rheumatoid arthritis.


LIFESTYLE MODIFICATIONS

Your risk of chronic inflammation is associated with various health factors such as diet, lifestyle, and family history. Knowing these factors can help you make proactive lifestyle changes to avoid, reduce, or even reverse inflammation in your body. Consider which of these lifestyle tips you can implement in your own life to reduce or prevent chronic inflammation:

EAT ANTI-INFLAMMATORY FOODS



The food you put in your body is just as important as the vitamins and supplements you take. Eating anti-inflammatory foods helps reduce inflammation risk while promoting a healthy, balanced diet and better gut health. Anti-inflammatory foods contain high omega-3 fatty acids, which can be found in fish, tofu, walnuts, and soybeans, among others.



A great example of an anti-inflammatory diet is the Mediterranean diet, which focuses on fruits, vegetables, refined sugar, and limited carbs. It's also important to limit (or completely eliminate) foods that aggravate inflammation, such as red meat, processed sugar, and fried foods. A good rule of thumb: avoid white foods, including white bread, rice, pasta, sugar, and flour. These foods are simple carbohydrates that should be consumed in moderation.

ADJUST YOUR SLEEP PATTERNS

An unhealthy sleep schedule may exacerbate the inflammation you experience, especially if you don't give your body enough time to recover after a hard day's work. Experts recommend that we all get between 7 to 9 hours of sleep a night to help make sure our bodies can recover sufficiently.

Without adequate sleep, your immune system may begin to suffer, increasing the risk posed to your health from infections and bacteria, which are other causes of inflammation. Although the science behind the relationship between insufficient sleep and inflammation occurrence remains ongoing, this is a crucial step to help ensure your overall health and well-being are maintained.

There are a variety of different things you can do to help induce a more profound, healthier sleep each night, including:

- Taking a bath before going to bed
- Avoiding phone and TV screens two hours before sleeping
- Make sure your room is nice and cool at night
- Developing a strict schedule to go to bed and wake up at the same time (including the weekends)
- Reading a book in bed before going to sleep

MANAGE YOUR STRESS LEVELS



Believe it or not, chronic stress is a contributing factor to inflammation. Unfortunately, you can't always change stressful situations in your life, but you can still control how you react to them.



With practice, taking measures to manage your stress can pay off by minimizing inflammation, improving your overall health, and reducing your risk of other chronic diseases. Try using meditation, yoga, or guided imagery to manage your stress throughout the day.

EXERCISE REGULARLY

Maintaining a healthy weight not only helps prevent inflammation but can even reverse it. If you frequently struggle with inflammation, adopting a new fitness routine may be a beneficial step in the right direction to help minimize the symptoms you experience.

Experts recommend try committing to a regular exercise schedule, they recommend that everyone should get around 150 minutes of moderate-intensity aerobic exercise a week to help strengthen muscles. Just be careful if your inflammation is centered on your joints because the excessive activity may worsen the problem.

These lifestyle modifications are the best approach to reducing your risk of inflammation and initiating the reversal process. If you are concerned about your risk of inflammation or think you may already be experiencing symptoms of chronic inflammation, talk to your doctor about blood tests to determine inflammatory markers, as well as ways to reduce inflammation.



NATURAL SUPPLEMENTS

Supplements are less well-studied than conventional medication. Certain supplements, however, are believed to help reduce inflammation. As a result, some people may choose supplements instead of over-the-counter medicines like Advil (ibuprofen) because they prefer products with natural anti-inflammatory properties.



OMEGA-3 FATTY ACIDS

Fish oil is a source of omega-3 fatty acids (EPA and DHA), abundant in fatty fish such as cod. They are among the most potent anti-inflammatory supplements. They may help fight several types of inflammation by blocking cytokines and prostaglandins. Fish oil is a source of omega-3 fatty acids (EPA and DHA).



CURCUMIN

Turmeric is a perennial, lily-like shrub that mainly grows in India and Indonesia. However, it also grows in other tropical regions. Turmeric roots are related to the ginger family. They are dried to a yellow powder. Then they are used in foods, curries, and Ayurvedic medicine. It works by blocking inflammatory cytokines and enzymes.



ZINC

Some research suggests that zinc is a potent anti-inflammatory that may support the immune system and reduce several markers of inflammation. For example, according to a 2014 paper, zinc decreased inflammation and oxidative stress among older adults.



GREEN TEA

Research suggests that green tea may inhibit the production of certain inflammatory chemicals. It may also help slow cartilage loss, reducing the symptoms of arthritis. Most doctors recommend drinking three or four cups of green tea daily or taking 300–400 mg of green tea extract daily.





BOSWELLIA SERRATA

It is a tree found in parts of the Middle East, Africa, and India. Boswellia extract is also referred to as Indian frankincense. It's made from the gum resin of the tree bark. Classified as an Ayurvedic herb, Boswellia is thought to have anti-inflammatory properties. It may help relieve pain and also help reduce cartilage loss.



GINGER

Ginger is derived from the dried or fresh root of the ginger plant. It has been shown to have strong anti-inflammatory properties. This is similar to some nonsteroidal anti-inflammatory drugs (NSAIDs), like Advil (ibuprofen). Ginger works by blocking chemicals that cause inflammation.



QUERCETIN

Quercetin is recognized for having anti-inflammatory properties. It blocks pro-inflammatory chemicals, such as leukotrienes and prostaglandins.



ANTI-INFLAMMATORY DIET



Doctors have known for years that the foods you eat can have an impact on your overall health and wellness. But there has been plenty of recent talks about the perks of going on an anti-inflammatory diet to tamp down on inflammation in your body—and lower your risk of developing certain health conditions and diseases.



While you can't control all of the inflammation in your body, some research has suggested that eating certain foods may help reduce inflammation in your body. That's where the anti-inflammatory diet comes in. "An anti-inflammatory diet is the selection of foods that reduce the chronic inflammatory response while simultaneously providing the building blocks for use by anti-inflammatory pathways," says Scott Keatley, R.D., of Keatley Medical Nutrition Therapy. "A diet structured to do this has been shown in some human research to help reduce the impact of diabetes mellitus, coronary artery disease, and asthma."



"An anti-inflammatory diet is typically high in whole foods with a particular focus on whole plant foods due to their high nutrient and low-calorie profile," says Kristi Artz, M.D., medical director of Lifestyle Medicine at Spectrum Health. "Whole plant foods provide important micronutrients and healthy omega fats which are critical for reducing inflammation."

Diets consistent with traditional Mediterranean-style eating are linked to blood tests showing lower levels of inflammatory markers. "The inflammation-fighting potential of these eating patterns seems to be associated with their rich use of fruits and vegetables and with extra-virgin olive oil, which is rich in polyphenol compounds.



TOP 10 INFLAMMATORY FOODS TO AVOID

An epidemic of inflammatory diseases affects millions of people every day, and many experts point to chronic inflammation as the cause of diabetes and rheumatoid arthritis.

Study after study shows that the risk of heart disease and diabetes are modifiable by our lifestyle choices, including the food we eat each day. This is because, with every bite we take, we're either increasing or decreasing inflammatory compounds in the body.

To shift the balance to your favor, other than incorporating more natural anti-inflammatory foods into your diet, it is also equally important to avoid or cut down on foods that are known to promote inflammation. Here, we look at the top ten foods which set the stage for inflammatory diseases.

SUGARS

Inflammatory Agent: Excessive sugar intake has been linked to tooth decay, increased risk of obesity, metabolic syndrome, type 2 diabetes, and chronic inflammation!

Avoid: Beverages like soft drinks, punches, and fruit drinks. Avoid candy, pastries, desserts, and sweet snacks. Did you know there are 39 grams of sugar in a can of Coke?! Read labels and look for sugar disguised with these names: corn syrup, fructose, dextrose, golden syrup, sucrose, and maltose.

Substitute: Natural sweeteners like monkfruit, honey, or blackstrap molasses sparingly. It is OK to eat natural sugars found in fresh fruit, which also supply vitamins, antioxidants, and fiber.

Creative ideas: Adding Cinnamon to healthy ingredients can turn them into dessert while helping balance blood sugar levels and preventing an insulin spike. An example, blend frozen bananas and Cinnamon to make a healthy ice cream treat. Enjoy a cup of tea in the evening instead of a sweet treat. Crowd out unhealthy beverages with healthier ones.

COMMON COOKING OILS

Inflammatory Agent: Common vegetable cooking oils used in many homes and restaurants have very high omega-6 fatty acids and dismally low omega-3 fats. A highly imbalanced omega-6 to omega-3 diet promotes inflammation and breeds inflammatory diseases like heart disease and cancer.

Avoid: Polyunsaturated oils: cottonseed, grape seed, safflower, corn, and sunflower oils- beware these are often used in most processed foods.

Substitute: Macadamia oil, or extra virgin olive oil. Coconut oil or avocado oil are also good options.

Creative Ideas: In Ayurveda, ghee or purified butter is king. Research indicates that the CLA found in ghee may help reduce excessive weight gain. It may also help reduce the mass of body fat in some people. In addition, though ghee is rich in fat, it contains high concentrations of monounsaturated Omega-3s. These healthful fatty acids support a healthy heart and cardiovascular system.

TRANS-FATS

Pro-inflammatory Agent: Trans-fatty acids are notorious for their double whammy effect: they increase the levels of 'bad' cholesterol while lowering levels of the 'good' cholesterol. But that is not all they can do. They have also been found to promote inflammation, obesity, and insulin resistance, laying the ground for degenerative illnesses to take place.

Avoid: Fast foods; deep-fried foods; commercially baked goods, and anything made with partially hydrogenated oil, or vegetable shortening. Commercially prepared peanut butter is one good example of a food that adds partially hydrogenated oil.

Substitute: Natural peanut butter and foods without trans fats.

Creative Ideas: At the health food store use the machine to get fresh ground almond butter, it's delicious and completely clean. Avoid fried foods for a few weeks to let your system reset. Avoid commercially prepared baked foods as much as possible - some weeks I have gluten-free pasta one day, corn tortillas on one or two days, and gluten-free toast once or twice. But I can have weeks where I consciously reduce this to once a day.



DAIRY PRODUCTS

Inflammatory Agent: Milk is a common allergen that can trigger inflammatory responses like IBS, skin rashes, hives, acne, and breathing difficulties. As much as 60% of the world's population cannot digest milk easily.

Avoid: Milk and dairy products like butter and cheese. Many cakes, crackers, cream sauces, and boxed cereals contain milk ingredients.

Substitute: Coconut or almond milk. Kefir, or unsweetened yogurt for those not allergic to milk.

Creative Ideas: I find giving up cheese very difficult so my workaround is to keep goat's milk-based cheeses only, and sparingly. There are many vegan cheese variants that taste great, just watch out for the amount of processed ingredients in them. I find yogurt can be acceptable even when milk and cheese inflame me.

FEEDLOT-RAISED MEAT

Pro-inflammatory Agent: Commercially produced meats are fed with grains like soybeans and corn, a diet that is high in inflammatory omega-6 fatty acids but low in anti-inflammatory omega-3 fats. Due to the small and tight living environment, these animals also gain excess fat and end up with high saturated fats. Even worse, to make them grow faster and prevent them from getting sick, they are also injected with hormones and fed with antibiotics.

Avoid: Most, if not all, beef, pork, and poultry you can find in the supermarkets and restaurants that come from feedlot farms.

Substitute: Organic Free- Range Animals that are fed a natural diet such as grasses instead of grains and hormones contain more omega-3 fats. Having more room to roam freely, they are also leaner and contain less saturated fat.



RED MEAT AND PROCESSED MEAT

Pro-inflammatory Agent: Researchers at the University of California San Diego School of Medicine found that red meat contains a molecule that humans don't naturally produce called Neu5Gc. After ingesting this compound, the body develops anti-Neu5Gc antibodies – an immune response that may trigger a chronic inflammatory response. This low-grade, simmering inflammation that won't go away has been linked to cancer and heart disease.

The link between processed meat consumption and cancer is even stronger. In the 2007 report by the World Cancer Research Fund and the American Institute for Cancer Research, processed meat has been stated as a convincing cause of colon and rectum cancers and possibly of the esophagus and lungs. Processed meat includes animal products that have been smoked, cured, salted, or chemically preserved.

Inflammation-dousing Substitute: You don't need to avoid red meat totally, though the same thing cannot be said for processed meat. No amount of processed meat is safe. Instead, replace the bulk of your red meat with organic vegetables, poultry, and fish, and relegate red meat to a weekly treat. When you do eat red meat, remember to choose lean cuts and, preferably, that of grass-fed animals. To reduce the formation of heat-generated food contaminants is advisable not to overcook your meat. Instead, use moist heat cooking like stewing and boiling more often than high-temperature dry heat methods such as grilling and frying.

ALCOHOL

Pro-inflammatory Agent: Regular high consumption of alcohol has been known to cause irritation and inflammation of the esophagus, larynx (voice box), and liver. Over time, chronic inflammation promotes tumor growth and gives rise to cancer at the sites of repeated irritation.

Find them in: Beer, ciders, liquors, liqueurs, and wines.

Inflammation-dousing Substitute: A refreshing and thirst-quenching glass of pure, filtered water, anyone? How about a cup of anti-aging and anti-inflammatory Japanese green tea? If you find the idea of swapping ethanol for water or tea implausible, limit your consumption to no more than one drink a day.

Creative Ideas: What about a sparkling flavored drink? These are gaining popularity, along with fun new non-alcoholic drinks that still give you a buzz of energy.

REFINED GRAINS

Pro-inflammatory Agent: A lot of the grains we eat nowadays are refined. They are devoid of fiber and vitamin B compared to unpolished and unrefined grains that still have the bran, germ, and the aleurone layer intact. This makes refined grains as good as refined sugars, which are practically empty calories. And like refined sugars, refined grains have a higher glycemic index than unprocessed grains and when they are consistently consumed, can hasten the onset of degenerative diseases like coronary disease and diabetes.

Find them in: Products made from refined grains are almost everywhere. The common ones are white rice, white flour, white bread, noodles, pasta, biscuits, and pastries. To make things worse, many products with refined grains undergo further processing to enhance their taste and look, and are often loaded with excess sugar, salt, artificial flavors, and hydrogenated oil in the process. A prime example is boxed cereals which contain substantial amounts of added sugar and flavorings.

Inflammation-dousing Substitute: Go for minimally processed grains if you are not gluten intolerant or allergic to grains. If you are an avid bread or pastry maker, invest in a grain mill to produce your own flour. It will be much fresher than the stale grain found in stores. Don't take the words on the packaging for granted when buying cereals or other products made from grains. The box says whole grains, but it does not mean the grains inside are 100% intact. The problem is due to a lack of an internationally accepted definition for the word 'whole grain'. When in doubt, if it does not look close to its natural state, don't buy it.

Creative ideas: Do a detox of gluten for 7, 14, or 21 days to learn for yourself if you're sensitive to gluten. This can be a game-changer. Look for freshly made bread at your local grocery store or granola from local brands. There are also brands like Simple Mills that offer gluten-free snacks and baking mixes with the least ingredients possible.



ARTIFICIAL FOOD ADDITIVES

Pro-inflammatory Agent: Some artificial food additives like aspartame and monosodium glutamate (MSG) reportedly trigger inflammatory responses, especially in people who are already suffering from inflammatory conditions such as rheumatoid arthritis.

Find them in: Only packaged foods contain artificial food additives. If you need to buy them, read the labels carefully and weigh your risks. If you order Chinese take-out, make sure you have the option to ask for no MSG. Otherwise, look elsewhere.

Inflammation-dousing Substitute: Besides limiting the consumption of processed foods, use anti-inflammatory herbs, spices, or natural sweeteners to add flavor to your dishes instead of relying on food additives.

Creative Ideas: Reset your list of snacks that you eat. Find an entirely new set of options: greek yogurt with gluten-free granola and hemp seeds, chia seed pudding with berries, hummus, and gluten-free crackers are a few I love. If you don't have time, walk into your local healthy grocery stores like Sprouts or Whole Foods and make your own Mediterranean platter - hummus, olives, tzatziki, and eat them with Taro chips or fresh carrots and cucumbers.

ANY FOODS THAT YOU MAY BE SENSITIVE TO

Pro-inflammatory Agent: Many people are sensitive to certain foods but are unaware of them. Unlike food allergies, where symptoms usually hit fast and furious, symptoms caused by food intolerance may take longer to manifest. Consequently, when food intolerance appears, they are often brushed off as common minor ailments such as tiredness and headaches. But repeated, long-term exposure to food that irritates can cause inflammation and lead to chronic disease.

Find them in: Common food allergens are gluten, milk, nuts, eggs, and nightshade vegetables. However, contrary to common belief, you can develop an allergy to foods you eat often.

Inflammation Reducing Substitute: If you suspect a particular food may be responsible for your food intolerant response, try avoiding it completely for about two weeks and monitor your reaction. At the end of the abstinence period, re-introduce the food into your diet. If you are incompatible with it, you should be able to notice the difference in how you feel quickly.





12

**BEST ANTI-INFLAMMATORY
FOODS YOU CAN EAT**

12 BEST INFLAMMATORY FOODS YOU CAN EAT

Once you reduce the inflammatory foods in your diet, it's essential to put in anti-inflammatory foods that further support you constantly and consistently to keep inflammation at healthy levels.

BERRIES



Berries are packed with fiber, vitamins, and minerals. In addition, berries provide antioxidants known as anthocyanins. These compounds may reduce inflammation, boost immunity, and reduce your risk of heart disease.

Although dozens of varieties exist, some of the most common include:

- strawberries
- blueberries
- raspberries
- blackberries

Your body produces natural killer cells (NK cells), which help keep your immune system functioning correctly.

In one study on men, those who consumed blueberries every day produced significantly more NK cells than those who did not.

In another study, adults with excess weight who ate strawberries had lower levels of specific inflammatory markers associated with heart disease.

FATTY FISH



Fatty fish are a great source of protein and the long-chain omega-3 fatty acids EPA and DHA, which have anti-inflammatory effects. EPA and DHA reduce inflammation that can lead to metabolic syndrome, heart disease, diabetes, and kidney disease.

Although all types of fish contain some omega-3 fatty acids, these fatty fish are among the best sources:

- salmon
- sardines
- herring
- mackerel
- anchovies

Your body metabolizes these fatty acids into compounds called resolvins and proteins, which have anti-inflammatory effects.

Studies have found that people consuming salmon or EPA and DHA supplements experienced reductions in the inflammatory marker C-reactive protein (CRP).

BROCCOLI



Broccoli is highly nutritious and is very high in antioxidants. It's a cruciferous vegetable, along with cauliflower, brussels sprouts, and kale.

Research has shown that eating cruciferous vegetables is associated with a decreased risk of heart disease and cancer. This may be related to the anti-inflammatory effects of the antioxidants they contain.

For example, broccoli is rich in sulforaphane. This antioxidant fights inflammation by reducing your levels of cytokines and NF-kB, which drives inflammation.

Avocados may be one of the few supposed superfoods worthy of the title. They're packed with potassium, magnesium, fiber, and heart-healthy monounsaturated fats. They also contain carotenoids and tocopherols, which are linked to reduced cancer risk. In addition, one compound in avocados may reduce inflammation in young skin cells.

AVOCADOS



In one study, when people consumed a slice of avocado with a hamburger, they had lower levels of the inflammatory markers NF-kB and IL-6, compared with participants who ate the hamburger alone.

GREEN TEA



You've probably heard that green tea is one of the healthiest beverages you can drink. It reduces your risk of heart disease, cancer, Alzheimer's disease, obesity, and other conditions. Many of its benefits are due to its antioxidant and anti-inflammatory properties, and especially a substance called epigallocatechin-3-gallate (EGCG).

EGCC inhibits inflammation by reducing pro-inflammatory cytokine production and damaging your cells' fatty acids. You can buy green tea in most stores. At Fusionary Formulas, you can find ceremonial grade matcha in Metabolism Boost Tea and sencha green tea in Hormone ReBalance Tea.

PEPPERS



Bell peppers and chili peppers are loaded with Vitamin C and antioxidants that have powerful anti-inflammatory effects. Bell peppers provide the antioxidant quercetin, which may reduce one marker of oxidative damage in people with sarcoidosis, an inflammatory disease.

Chili peppers contain sinapic acid and ferulic acid, which may reduce inflammation and lead to healthier aging.

MUSHROOMS



While thousands of varieties of mushrooms exist worldwide, only a few are edible and grown commercially. These include truffles, portobello mushrooms, and shiitake. Mushrooms are very low in calories and rich in selenium, copper, and all of the B vitamins.

They also contain phenols and other antioxidants that provide anti-inflammatory protection. A special type of mushroom called lion's mane may potentially reduce low-grade, obesity-related inflammation. However, one study found that cooking mushrooms lowered their anti-inflammatory compounds significantly. Thus, it may be best to eat them raw or lightly cooked.

GRAPES



Grapes contain anthocyanins, which reduce inflammation. In addition, they may decrease the risk of several diseases, including heart disease, diabetes, obesity, Alzheimer's, and eye disorders. Grapes are also one of the best sources of resveratrol, another compound that has many health benefits.

In one study, people with heart disease who consumed grape extract daily experienced a decrease in inflammatory gene markers, including NF-kB. What's more, their levels of adiponectin increased. (Low levels of this hormone are associated with weight gain and an increased risk of cancer.)

TURMERIC



Turmeric is a spice with a strong, earthy flavor that's often used in curries and other Indian dishes. It has received a lot of attention for its content of curcumin, a powerful anti-inflammatory nutrient. Turmeric reduces inflammation related to arthritis, diabetes, and other diseases.

In fact, consuming 1 gram of curcumin daily combined with piperine from black pepper caused a significant decrease in the inflammatory marker CRP in people with metabolic syndrome.

However, it may be hard to get enough curcumin to experience a noticeable effect from turmeric alone.

In one study, women with excess weight who took 2.8 grams of turmeric per day showed no improvement in inflammatory markers. Taking supplements containing isolated curcumin is much more effective. Curcumin supplements are often combined with piperine, which can boost curcumin absorption by 2,000%.

EXTRA VIRGIN OLIVE OIL



Extra virgin Olive oil is one of the healthiest fats you can eat.

It's rich in monounsaturated fats and a staple in the Mediterranean diet, which provides numerous health benefits. Studies link extra virgin olive oil to a reduced risk of heart disease, brain cancer, and other serious health conditions. In one study on the Mediterranean diet, CRP and several other inflammatory markers significantly decreased in those who consumed 1.7 ounces (50 ml) of olive oil daily.

The effect of oleocanthal, an antioxidant found in olive oil, has been compared to anti-inflammatory drugs like ibuprofen. Keep in mind that extra virgin olive oil offers greater anti-inflammatory benefits than those provided by more refined olive oils.

DARK CHOCOLATE AND COCOA



Dark chocolate is delicious, rich, and satisfying.

It's also packed with antioxidants that reduce inflammation. These may reduce your risk of disease and lead to healthier aging. Flavanols are responsible for chocolate's anti-inflammatory effects and keep the endothelial cells that line your arteries healthy. In one study, smokers experienced significant improvements in endothelial function within 2 hours of eating high-flavanol chocolate.

However, make sure to choose dark chocolate that contains at least 70% — a greater percentage is even better — to reap these anti-inflammatory benefits.

CHERRIES

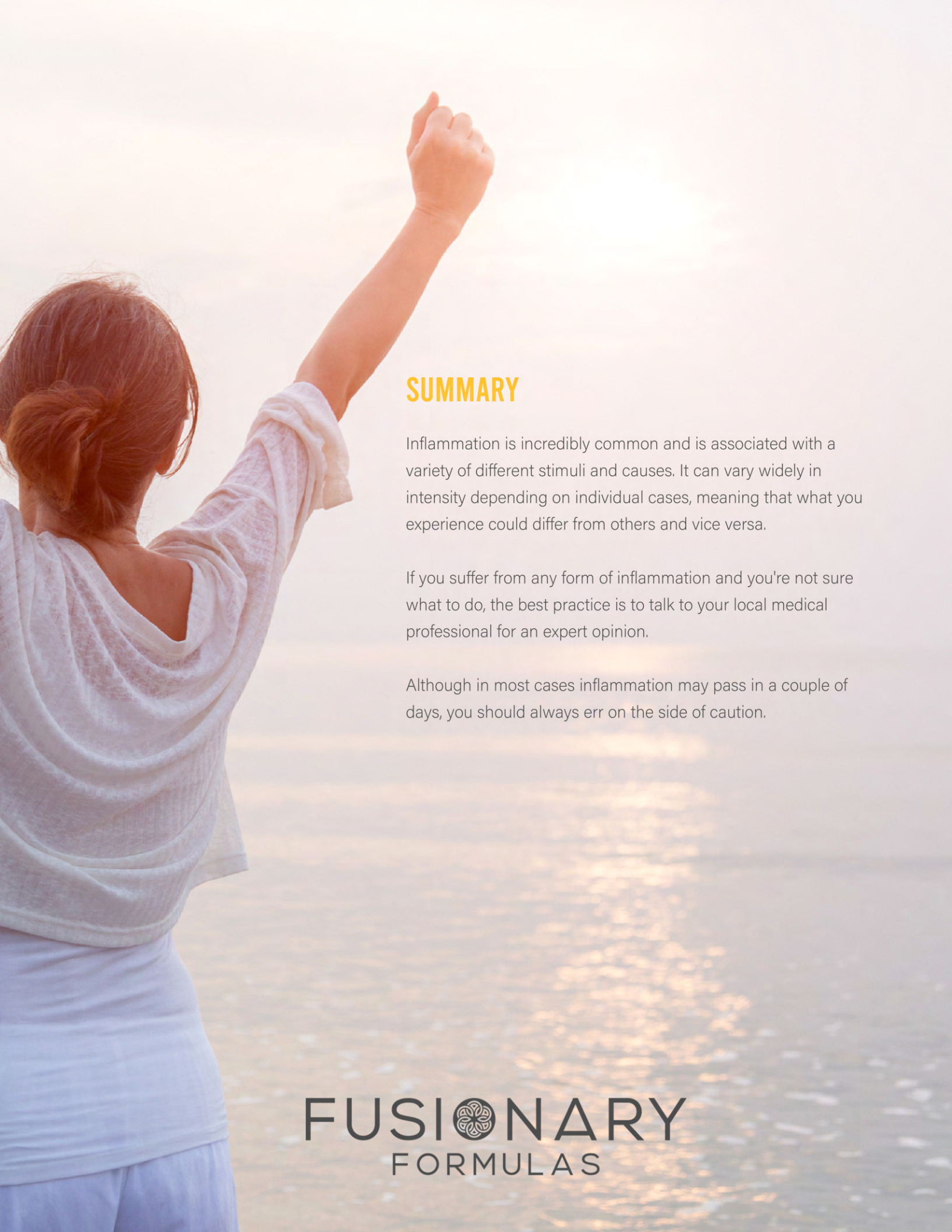


Cherries are delicious and rich in antioxidants, such as anthocyanins and catechins, which fight inflammation. Although the health-promoting properties of tart cherries have been studied more than other varieties, sweet cherries also provide benefits.

In one study, when people consumed 280 grams of cherries per day for 1 month, their levels of the inflammatory marker CRP decreased and stayed low for 28 days after they stopped eating cherries.

These are just a few ways to reduce inflammation just by adding these nutritious foods to your diet. If you feel like you cannot get enough of these natural foods in your diet you can add some dietary supplements.

I did an entire PhD on turmeric and used that knowledge to formulate the best anti-inflammatory supplements for physicians to recommend to patients. Fusionary Formulas has a number of supplements to help with inflammation, pain, sleep, metabolism, and more.



SUMMARY

Inflammation is incredibly common and is associated with a variety of different stimuli and causes. It can vary widely in intensity depending on individual cases, meaning that what you experience could differ from others and vice versa.

If you suffer from any form of inflammation and you're not sure what to do, the best practice is to talk to your local medical professional for an expert opinion.

Although in most cases inflammation may pass in a couple of days, you should always err on the side of caution.