Rheumatoid arthritis (RA) is a chronic inflammatory condition; it is an autoimmune disease, in which the immune system attacks the joints and sometimes other parts of the body.

**Dietary changes that may be helpful:**
The role of dietary fats in rheumatoid arthritis is complex, but potentially important. In experimental animals that are susceptible to autoimmune disease, feeding a high-fat diet increases the severity of the disease.[1] There is evidence that people with RA eat more fat, particularly animal fat, than those without RA.[2] In short-term studies, diets completely free of fat reportedly helped people with RA;[3] however, since at least some dietary fat is essential for humans, the significance of this finding is not clear. Strict vegetarian diets that were very low in fat have also been found to be helpful.[4, 5] In one trial, fourteen weeks of a gluten-free (no wheat, rye, or barley) pure vegetarian diet gradually changed to a lactovegetarian diet (permitting dairy), which led to significant improvement in symptoms and objective laboratory measures of disease.[6]

In the 1950s through the 1970s, Max Warmbrand, a naturopathic doctor, used a very low-fat diet for individuals with both rheumatoid arthritis and osteoarthritis. He recommended a diet free of meat, dairy, chemicals, sugar, eggs, and processed foods.[7] Dr. Warmbrand claimed that his diet took at least six months to achieve noticeable results; a short-term (ten weeks) study with a similar approach failed to produce beneficial effects.[8]

Rheumatoid arthritis may be linked to food allergies and sensitivities.[9] In many people, RA is made worse when they eat foods to which they are allergic or sensitive, and made better by avoiding these foods.[10, 11, 12, 13] English researchers suggest that one-third of people with RA can control the disease completely through allergy elimination.[14] Finding and eliminating foods that trigger symptoms should be done with the help of a nutritionally oriented physician.

**Lifestyle changes that may be helpful:**
Although exercise may increase pain initially, gentle exercises help people with RA.[15, 16] Many doctors recommend swimming, stretching, or walking.

**Nutritional supplements that may be helpful:**
The concentration of vitamin E has been found to be low in the joint fluid of individuals with rheumatoid arthritis.[17] This reduction in vitamin E levels is believed to be caused by consumption of the vitamin during the inflammatory process. In a double blind study, approximately 1,800 IU per day of vitamin E was found to have a beneficial effect in people with rheumatoid arthritis.[18]

Research suggests that people with RA may be partially deficient in pantothenic
acid (vitamin B5).[19] In one trial, those with RA had less morning stiffness, disability, and pain when they took 2,000 mg of pantothenic acid per day.[20] Many nutritionally oriented doctors suggest pantothenic acid (sometimes in lower amounts such as 1,000 mg) to people with RA.

Zinc metabolism is altered in RA. Some studies have found zinc helpful,[21] whereas others have not.[22, 23] It has been suggested that zinc might help only those who are deficient.[24] Although there is no universally accepted test for zinc deficiency, some doctors check white blood cell zinc levels.

The relationship of copper to RA is complex. Copper acts as an anti-inflammatory agent, because it is needed to activate superoxide dismutase, an enzyme that protects joints from inflammation. People with RA tend toward copper deficiency.[25] The Journal of the American Medical Association quoted one researcher as saying that while “Regular aspirin had 6% the anti-inflammatory activity of [cortisone]. . . copper [added to aspirin] had 130% the activity.”[26]

Several copper compounds have been used successfully with RA,[27] and a single blind trial using copper bracelets reported surprisingly effective results.[28] However, under certain circumstances, copper might actually increase inflammation in rheumatoid joints.[29] Moreover, the most consistently effective form of copper, copper aspirinate (a combination of copper and aspirin), is not readily available. A reasonable amount of copper might be 1–3 mg per day.

Many double blind trials have shown that omega-3 fatty acids in fish oil, called EPA and DHA, help relieve symptoms of RA.[30, 31, 32, 33, 34, 35] The effect results from the anti-inflammatory activity of fish oil.[36] Many doctors recommend 3 grams per day of EPA and DHA. This amount is commonly found in 10 grams of fish oil. Positive results can take three months to become evident.

Oils containing the omega-6 fatty acid gamma liolenic acid (GLA), such as borage oil,[37, 38] black current seed oil,[39] and evening primrose oil (EPO).[40, 41] have also been reported to be effective in the treatment of RA. The most pronounced effects were seen with borage oil; however, that may have been due to the fact that larger amounts of GLA were used (such as 1.4 grams per day). The results with EPO were conflicting and somewhat confusing, possibly because the placebo used in these studies (olive oil) appeared to have an anti-inflammatory effect of its own. In a double blind study, positive results were seen when EPO was used in combination with fish oil.[42] GLA appears to be effective because it is converted in part to prostaglandin E1, a compound known to have anti-inflammatory activity.

Preliminary research suggests that boron supplementation at 3–9 mg per day may be beneficial, particularly in juvenile RA.[43] However, more research on this is needed.
The DL form of phenylalanine (DLPA) has been used to treat chronic pain, including rheumatoid arthritis, with mixed effectiveness.[44] Some doctors of natural medicine suggest that individuals with arthritis may benefit from cartilage; however, well-designed research is lacking, and many experts question the use of cartilage in this regard.

Some individuals with rheumatoid arthritis have low levels of the amino acid histidine; taking histidine supplements may improve arthritis symptoms in some of these individuals.

The use of DMSO for therapeutic applications is controversial; but there is some evidence that when applied directly to the skin, DMSO has anti-inflammatory properties and alleviates pain, such as that associated with rheumatoid arthritis.[45, 46] DMSO appears to reduce pain by inhibiting the transmission of pain messages by nerves.[47]

There is limited evidence that some individuals with RA may have inadequate stomach acid.[48] Some doctors of natural medicine believe that when stomach acid is low, supplementing with betaine HCl can reduce food-allergy reactions by improving digestion.

Bromelain has significant anti-inflammatory activity. Preliminary evidence in people with rheumatoid arthritis shows that bromelain might help reduce symptoms, such as joint swelling and impaired joint mobility.[49]

**Are there any side effects or interactions?**
Refer to the individual supplement for information about any side effects or interactions.

**Herbs that may be helpful:**
Boswellia, a traditional herbal remedy from the Indian system of Ayurvedic medicine, has been investigated for its effects on arthritis. A double blind study using boswellia found a beneficial effect on pain and stiffness, as well as improved joint function.[50] Boswellia showed no negative effects in this study. The herb has a unique anti-inflammatory action, much like the conventional non-steroidal anti-inflammatory drugs (NSAIDs) used by many for inflammatory conditions. But unlike NSAIDs, long-term use of boswellia is generally considered safe and does not lead to irritation or ulceration of the stomach. Some doctors of natural medicine suggest using 400–800 mg of gum resin extract in capsules or tablets three times per day.

Turmeric is a yellow spice that is often used to make brightly colored curry dishes. The active principle is curcumin, a potent anti-inflammatory compound, which protects the body against the ravages of free radicals.[51] A preliminary double blind study found that 400 mg curcumin three times per day was as effective as the drug phenylbutazone for people with rheumatoid arthritis.[52] Many doctors of natural medicine recommend 400 mg of curcumin in capsules...
or tablets three times per day.

Ginger has been used in Ayurvedic medicine as an anti-inflammatory. Several published case studies of people with rheumatoid arthritis taking 6–50 grams of fresh or powdered ginger per day indicated that ginger might be helpful.[53]

A cream containing small amounts of capsaicin, a compound found in cayenne peppers, can help relieve pain when rubbed onto arthritic joints, according to the results of a double blind study.[54] It does this by depleting the nerves of a pain-mediating neurotransmitter known as substance P. Although application of capsaicin cream may initially cause a burning feeling, the burning will lessen with each application and soon disappear for most people. A cream containing 0.025–0.075% of capsaicin can be applied to the affected joints three to five times a day.

Yucca, a traditional remedy, is a desert plant that contains soap-like components known as saponins. Yucca tea (7 or 8 grams of the root simmered in a pint of water for fifteen minutes) is often drunk for symptom relief three to five times per day.

Burdock root has been used historically both internally and externally to treat painful joints. Horsetail is thought in traditional medicine to exert a connective tissue strengthening and anti-arthritic action, possibly because of the high silicon content of this herb.

Devil’s claw has anti-inflammatory and analgesic actions. Several open and double blind studies have been conducted on the anti-arthritic effects of devil’s claw.[55] The results of these studies have been mixed, so it is unclear if devil’s claw lives up to its reputation in traditional herbal medicine for people with rheumatoid arthritis. A typical amount used is 800 mg of encapsulated extracts or 2–4 ml of tincture three times per day.

Sarsaparilla has anti-inflammatory properties that may be helpful for people with rheumatoid arthritis. White willow bark has anti-inflammatory and pain-relieving effects. Extracts providing 60–120 mg salicin per day are approved for people with rheumatoid arthritis by the German government.[56] Although the analgesic actions of willow are typically slow-acting, they last longer than aspirin.

Topical applications of several botanical oils are approved by the German government for relieving symptoms of rheumatoid arthritis.[57] These include primarily cajeput (Melaleuca leucadendra) oil, camphor oil, eucalyptus oil, fir (Abies alba and Picea abies) needle oil, pine (Pinus spp.) needle oil, and rosemary oil. A few drops of oil or more can be applied to painful joints several times a day as needed.

Southwestern Native American and Hispanic herbalists have long recommended use of chaparral topically on people’s joints affected by rheumatoid arthritis. The anti-inflammatory effects of chaparral found in the test tube suggests this
practice could have value, though studies have not yet confirmed chaparral’s usefulness in humans. Chaparral should not be used internally for this purpose.

**Are there any side effects or interactions?**

Refer to the individual herb for information about any side effects or interactions.

**References:**


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