

# get the facts

## Rheumatoid Arthritis and CAM

Rheumatoid arthritis (RA) is a health condition that causes pain, swelling, stiffness, and loss of function in the joints. Conventional medical treatments are available for RA; however, some people also try complementary and alternative medicine (CAM) therapies. This fact sheet provides basic information on RA, summarizes scientific research on the effectiveness and safety of selected mind-body therapies, dietary supplements, and other CAM therapies that have been studied for RA, and suggests sources for additional information.

### Key Points

- In general, there is not enough scientific evidence to firmly establish that any CAM therapies are safe and effective for RA. Some mind-body therapies and dietary supplements may be beneficial additions to RA treatment regimens, but more high-quality research is needed before drawing conclusions.
- It is important **not** to replace conventional medical therapy for RA with an unproven CAM therapy.
- Tell your health care providers about any complementary and alternative practices you use. Give them a full picture of what you do to manage your health. This will help ensure coordinated and safe care.

### About Rheumatoid Arthritis

Rheumatoid arthritis is an inflammatory autoimmune disease—a type of condition in which the immune system, which normally protects the body by fighting infections and diseases, instead targets the body. RA is different from other types of arthritis such as osteoarthritis, a wear-and-tear condition that commonly occurs as people age. In RA, the immune system attacks the tissues that line the joints, causing pain, swelling, and stiffness in the joints and affecting their ability to work properly. Over time, RA may damage bone and cartilage within the joints, weaken muscles and tendons that support the joints, and lead to joint destruction.

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RA often begins in middle age and occurs more frequently in women than in men. It can affect any joint in the body, but it most often affects the wrist and fingers. The disease usually occurs in a symmetrical pattern; for example, if one hand is affected, usually the other will be, too. Some people with RA may have other health problems, such as anemia, dry eyes or mouth, and heart or lung problems. As an autoimmune disease, RA may be accompanied by occasional fevers and an overall feeling of fatigue or weakness.

Treatment for RA combines a variety of approaches and is aimed at relieving pain, reducing joint swelling, slowing or preventing joint damage, and improving physical function and well-being. Conventional medicines used for RA include nonsteroidal anti-inflammatory drugs (NSAIDs), disease-modifying anti-rheumatic drugs (DMARDs), biological response modifiers, and corticosteroids. Other treatments include physical therapy, modified exercise programs, and devices that ease physical stress on the joints (such as splints). People with RA are also encouraged to make lifestyle changes such as balancing activity with rest, eating a healthy diet, and reducing emotional stress.

To find out more about RA, contact the National Institute for Arthritis and Musculoskeletal and Skin Diseases (NIAMS) (see “For More Information”).

## **CAM and Rheumatoid Arthritis**

People with RA may continue to have symptoms despite the use of conventional treatments, or they may have difficulties with side effects of beneficial treatments. Some add CAM to their treatment regimens in an effort to control pain and inflammation, improve physical function, or cope with the disease or side effects of treatment.

This section summarizes the scientific evidence for several CAM practices used for RA, with a focus on therapies more commonly used or studied in clinical trials, such as mind-body therapies and dietary supplements.

### ***Mind-Body Therapies***

Mind-body therapies—such as meditation, relaxation, and tai chi—are among the most commonly used types of CAM in the United States. They have been used and studied for a variety of pain conditions, including RA. Results from clinical trials suggest that mind-body therapies may be beneficial additions to RA treatment regimens. They may have particular value in helping people cope with their disease.

- Psychological therapies incorporating **mind-body techniques** such as **relaxation**, **imagery**, and **biofeedback** may help improve physical and psychological symptoms associated with RA. Findings from a 2002 review of the research suggest that these therapies—when added to conventional medical treatments—could have beneficial effects on pain, physical function, psychological state, and ability to cope. The review also found that people who have had RA for a shorter duration experience greater benefits.

- A recent preliminary study funded by NCCAM found that a type of meditation called **mindfulness-based stress reduction** had positive effects on the psychological aspects of RA (such as depression and coping ability) but did not relieve symptoms.
- A few small studies have been conducted on **tai chi** for RA. In general, tai chi has not been shown to be effective for joint pain, swelling, and tenderness, although improvements in mood, quality of life, and overall physical function have been reported. A 2007 review of the research concluded that the value of tai chi as a treatment for RA is still unproven. Some people have reported soreness when first learning tai chi, but most studies have found that it is relatively safe for people with RA.

### **Dietary Supplements**

Surveys suggest that people who use CAM for RA are likely to try dietary and herbal supplements. Although no supplement has shown clear treatment benefits, there is preliminary evidence for a few—particularly fish oil, gamma-linolenic acid, and the herb thunder god vine. Dose, safety, and potential interactions with conventional medicines need to be more thoroughly evaluated.

**Fish oil** contains high amounts of omega-3 fatty acids—substances the body needs in order to perform a number of important functions. The body can also use omega-3s to make substances that reduce inflammation. Interest in the use of fish oil for RA stems from observations that groups of people who consumed large amounts of foods rich in omega-3s had lower rates of inflammatory diseases. Types of fish high in omega-3s include herring, mackerel, salmon, and tuna. Fish oil supplements are available as capsules or oils.

- Evidence from clinical trials on RA is encouraging. Fish oil supplements may be useful in relieving tender joints and morning stiffness. Studies have also found that fish oil may reduce the need for NSAIDs and other conventional RA medicines. Additional research is needed and under way to establish more firmly fish oil's potential role in treatment regimens for RA.
- Some have questioned the safety of fish oil supplements because some species of fish can contain high levels of mercury, pesticides, or polychlorinated biphenyls (PCBs). However, fish oil supplements do not appear to contain these substances. In high doses, fish oil may interact with certain medicines, including blood thinners and drugs used for high blood pressure. Products made from fish liver oil (for example, cod liver oil) can contain dangerously high amounts of vitamins A and D.

**Gamma-linolenic acid (GLA)** is an omega-6 fatty acid found in the oils of some plant seeds, including evening primrose (*Oenothera biennis*), borage (*Borago officinalis*), and black currant (*Ribes nigrum*). In the body, GLA can be converted into substances that reduce inflammation.

- There is some preliminary evidence that GLA may be beneficial for RA; however, some studies of GLA's effects have had quality issues. The more rigorous studies suggest that GLA may relieve symptoms such as joint pain, stiffness, and tenderness; in some cases,

GLA led to a decreased need for NSAIDs medication. More high-quality research—looking particularly at dose and duration of treatment—is needed before making recommendations on the use of GLA for RA.

- GLA appears to be safe for most adults. However, some borage oil preparations contain chemicals called pyrrolizidine alkaloids that can harm the liver.

**Thunder god vine** (*Tripterygium wilfordii*) has been used for centuries in traditional Chinese medicine. Extracts are prepared from the skinned root of the herb, as other parts of the plant are highly poisonous. Thunder god vine can cause severe side effects. Although widely used in China, commercial thunder god vine products are not readily available in the United States.

- Findings from laboratory and animal studies suggest that thunder god vine may fight inflammation and suppress the immune system. In small clinical trials involving people with RA—including one study funded by NIAMS—thunder god vine extracts appeared to provide some relief from symptoms. Larger studies are needed to determine whether thunder god vine is a safe and effective treatment for RA.
- Thunder god vine can cause serious side effects, depending on the dose and type of extract. The extract used in the NIAMS study was well tolerated; however, thunder god vine can cause diarrhea, upset stomach, hair loss, headache, and skin rash. The herb can also affect the reproductive system, possibly causing menstrual changes in women and infertility in men. Long-term use of thunder god vine may decrease bone mineral density in women, potentially increasing the risk of osteoporosis. A review of the research literature on thunder god vine for RA noted that serious adverse events occurred frequently enough to warrant the conclusion that risks outweigh benefits.

Research on **other supplements** for RA symptoms is still in the early stages. For example:

- In animal studies, extracts of **turmeric** (*Curcuma longa*) containing the chemical curcumin were found to protect joints from inflammation and damage. Basic research looking at the general anti-inflammatory effects of curcumin is ongoing. There may be a potential role for curcumin in preventing or slowing RA disease, but studies in people are needed to determine this.
- Varieties of **boswellia** (*Boswellia serrata*, *Boswellia carterii*, also known as frankincense) produce a resin that has shown anti-inflammatory and immune system effects in laboratory and animal studies, but no rigorous clinical trials in people with RA have been conducted.
- Laboratory studies have identified anti-inflammatory compounds in **ginger** (*Zingiber officinale*), but additional research is needed to determine if the herb has an effect on RA.
- There is also evidence that substances found in **green tea** might be useful in treating both RA and osteoarthritis.

## **Other Types of CAM**

Other CAM therapies are used for RA:

- **Acupuncture** has been used and studied for a variety of pain conditions, but very little acupuncture research has focused on RA. Currently, there is not enough evidence to determine whether acupuncture has any value in RA treatment. Larger and more rigorous studies are needed.
- **Balneotherapy** is the technique of bathing in heated tap or mineral water for health purposes. Preliminary research on balneotherapy for RA has been conducted in areas where it is most popular, such as Europe and Israel's Dead Sea region. Although some benefits have been reported, there is not enough reliable evidence to draw conclusions.
- Some people with RA may try following **special diets**—such as vegetarian and vegan diets, the Mediterranean diet, and periods of fasting—to control symptoms. Research on these diet approaches has been inconclusive. While a few studies suggest that decreasing or eliminating consumption of meat, dairy, or foods likely to cause allergies may be helpful in some cases, others do not. One drawback is that special diets may be difficult for people to follow over time. In addition, some diets could put people at risk for nutritional deficiencies.

## **If You Have RA and Are Thinking About Using CAM**

- Do not replace proven conventional treatments for RA with CAM treatments that are unproven.
- Be aware that some CAM therapies—particularly dietary supplements—may interact with conventional medical treatments. Also consider the possibility that what's on the label of a dietary supplement may not be what's in the bottle; for example, some tests of dietary supplements have found that the contents did not match the dose on the label, and some herbal supplements have been found to be contaminated.
- Women who are pregnant or nursing, or people who are thinking of using CAM to treat a child, should consult their health care provider before using any CAM therapy.
- Tell all your health care providers about any complementary and alternative practices you use. Give them a full picture of what you do to manage your health. This will help ensure coordinated and safe care. For tips about talking with your health care providers about CAM, see the National Center for Complementary and Alternative Medicine's (NCCAM) Time to Talk campaign at [nccam.nih.gov/timetotalk/](http://nccam.nih.gov/timetotalk/).

## **NCCAM-Funded Research**

Recent NCCAM-supported research includes projects studying:

- Therapies such as yoga, fish and borage seed oils, tai chi, and relaxation for RA symptoms, physical function, and quality of life
- Green tea polyphenols for their effect on the immune system and on substances that cause inflammation and joint destruction in RA
- Anti-inflammatory activity of vitamin E and its potential effects when combined with NSAIDs
- Compounds in thunder god vine
- Biological activity of curcumin.

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## **For More Information**

### **NCCAM Clearinghouse**

The NCCAM Clearinghouse provides information on CAM and NCCAM, including publications and searches of Federal databases of scientific and medical literature. The Clearinghouse does not provide medical advice, treatment recommendations, or referrals to practitioners.

Toll-free in the U.S.: 1-888-644-6226

TTY (for deaf and hard-of-hearing callers): 1-866-464-3615

Web site: [nccam.nih.gov](http://nccam.nih.gov)

E-mail: [info@nccam.nih.gov](mailto:info@nccam.nih.gov)

## **National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)**

NIAMS supports research into the causes, treatment, and prevention of arthritis and musculoskeletal and skin diseases; the training of scientists; and the sharing of research-based information. Examples of publications include *Handout on Health: Rheumatoid Arthritis*.

Web site: [www.niams.nih.gov](http://www.niams.nih.gov)

Toll-free in the U.S.: 1-877-22-NIAMS

## **PubMed®**

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Web site: [www.ncbi.nlm.nih.gov/sites/entrez](http://www.ncbi.nlm.nih.gov/sites/entrez)

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