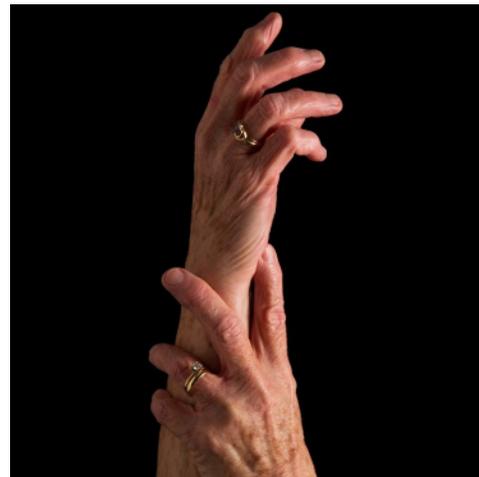




Rheumatoid Arthritis



© VStock/Thinkstock

Rheumatoid arthritis (RA) is a health condition that causes pain, swelling, stiffness, and loss of function in the joints. Conventional medical treatments are highly effective for RA; however, researchers are also studying complementary health approaches as possible additions to RA treatments. Some complementary health approaches for RA are intended to reduce joint inflammation, and some are intended to reduce symptoms such as pain. This fact sheet provides basic information on RA; summarizes scientific research on the effectiveness and safety of selected mind and body practices, dietary supplements, and other approaches that have been studied for RA; and suggests sources for additional information.

Key Points

- In general, there is not enough scientific evidence to prove that any complementary health approaches are beneficial for RA, and there are safety concerns about some of them. Some mind and body practices and dietary supplements may help people with RA manage their symptoms and therefore may be beneficial additions to conventional RA treatments, but there is not enough evidence to draw conclusions.
- Some complementary health approaches—particularly dietary supplements—may have side effects or may interact with conventional medical treatments or each other. Although many dietary supplements (and some prescription drugs) come from natural sources, “natural” does not always mean “safe.” In particular, the herb thunder god vine (*Tripterygium wilfordii*) can have serious side effects.
- Conventional treatments are highly effective in slowing or stopping permanent joint damage in RA. Do not replace conventional medical therapy for RA with an unproven health product or practice.
- Tell all your health care providers about any complementary health approaches 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 most commonly occurs as people age. In RA, the immune system attacks the tissues that line the joints, causing

Rheumatoid Arthritis

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 and weaken muscles, ligaments, and tendons that support the joints.

RA often begins in middle age and occurs more frequently in women than in men. Although RA primarily affects the joints, particularly the wrists and fingers, some people with RA may have other health problems, such as anemia, dry eyes or mouth, and heart or lung problems. People with RA may have fatigue, occasional fevers, or a general sense of not feeling well. They may also experience other symptoms such as depression, anxiety, a feeling of helplessness, and low self-esteem.

Early treatment to avoid permanent joint damage is key for preventing disability and progression of RA. 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:

- Disease-modifying antirheumatic drugs (DMARDs) to slow the progress of the disease
- Biologic response modifiers to reduce inflammation and structural damage to the joints
- Nonsteroidal anti-inflammatory drugs (NSAIDs) and corticosteroids to reduce inflammation.

Other treatments include surgery, 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 of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) (see For More Information).

About Scientific Evidence on Complementary Health Approaches

Scientific evidence on complementary health approaches includes results from laboratory research as well as clinical trials (studies in people). It provides information on whether an approach is helpful and safe. Scientific journals publish study results, as well as review articles that evaluate the evidence as it accumulates; fact sheets from the National Center for Complementary and Integrative Health (NCCIH)—like this one—base information about research findings primarily on the most rigorous review articles, known as systematic reviews and meta-analyses.

What the Science Says

In general, there is not enough scientific evidence to prove that any complementary health approaches are beneficial for RA, and there are safety concerns about some of them. Some mind and body practices and dietary supplements may be beneficial additions to conventional RA treatments, but there is not enough evidence to draw conclusions. This section describes the scientific evidence on several complementary health approaches studied for RA.

Rheumatoid Arthritis

Mind and Body Practices

Results from clinical trials suggest that some mind and body practices—such as relaxation, mindfulness meditation, tai chi, and yoga—help people with RA manage their symptoms and therefore may be beneficial additions to conventional treatments.

- **Acupuncture** has been studied for a variety of pain conditions, but very little acupuncture research has focused on RA. Reviews of the research on acupuncture have found conflicting evidence regarding its usefulness for RA.
- A 2010 systematic review looked at the benefits of mind and body techniques such as **mindfulness meditation** (which involves nonjudgmental attention to experiences in the present moment), **biofeedback**, and **relaxation training** on the physical and psychological symptoms associated with RA. There was some evidence that these techniques may be helpful, but overall, the research results have been mixed.
- A 2008 study compared cognitive-behavioral therapy that emphasizes pain management with **mindfulness meditation** for RA. The researchers found that mindfulness meditation, which helps regulate emotions, improved participants' ability to cope with pain. The researchers noted that participants with a history of depression responded better than others to mindfulness meditation.
- 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 2010 study examined the effect of practicing tai chi on 15 patients with RA. The researchers found that tai chi improved muscle strength and endurance, but there was no evidence that it reduced disease activity or pain.
 - A 2007 systematic review of the research concluded that the value of tai chi for treating RA is still unproven. Many factors—including differences in tai chi styles, number of movements, length of the practice, and qualifications of instructors—add to the challenge of designing quality tai chi studies. Some people have reported soreness, but most studies have found that tai chi is relatively safe for people with RA.
- **Yoga** incorporates several elements of exercise that may be beneficial for arthritis, including activities that may help improve strength and flexibility. However, only a few studies have examined yoga for RA. Preliminary studies have found that yoga may improve physical function and decrease the number of tender and swollen joints. Yoga exercises should be performed with caution by people with RA who have limited mobility or spinal problems. People with RA may need assistance in modifying some yoga postures to minimize joint stress and may need to use props to help with balance.

Dietary Supplements

No dietary supplement has shown clear benefits for RA, but there is preliminary evidence for a few, particularly fish oil, gamma-linolenic acid, and the herb thunder god vine. Dosage and safety issues and potential interactions with conventional medicines need to be more thoroughly evaluated.

Rheumatoid Arthritis

Fish oil contains high levels of omega-3 fatty acids—substances the body needs to perform a number of important functions. Types of fish high in omega-3s include herring, mackerel, salmon, and tuna. Fish oil supplements are available as capsules or oils.

- Clinical trials on RA have found that fish oil supplements may help to relieve tender joints and morning stiffness. Studies have also found that fish oil may reduce the need for NSAIDs and other conventional RA medicines. For example, the results of a randomized, controlled clinical trial published in 2008 found that people who received a blend of cod liver oil and fish oil over a 9-month period reduced their NSAID intake by more than one-third, compared with those who took a placebo.
- Because the omega-3 fatty acids in fish oil may make blood clot more slowly, people who take medications that affect clotting, such as anticoagulants, should discuss the use of fish oil supplements with a health care provider. Products made from fish liver oils (for example, cod liver oil) may contain vitamins A and D as well as omega-3 fatty acids; these vitamins can be toxic in large doses.
- For more information on [omega-3 fatty acids](#), see the NCCIH Web site.

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 may be converted into substances that reduce inflammation.

- There is some preliminary evidence that GLA may be beneficial for RA; however, the quality of the studies on GLA has been inconsistent. 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 NSAID medication.
- Side effects of GLA may include headache, soft stools, constipation, gas, and belching. Some borage oil preparations contain chemicals called pyrrolizidine alkaloids that may 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.

- Findings from laboratory and animal studies suggest that thunder god vine may fight inflammation and suppress the immune system. A 2011 systematic review looked at three human studies of oral (taken by mouth) thunder god vine and one study of topical (applied to the skin) thunder god vine for RA. The data showed that both oral and topical thunder god vine may improve some RA symptoms, but the study methods were not consistent among the trials.
- A systematic review of the research on thunder god vine for RA concluded that serious side effects occurred frequently enough that the risk of using it outweighs its benefits. Depending on the dose and type of extract, thunder god vine may cause serious side effects. Thunder god vine can affect the reproductive system, possibly causing menstrual changes in women and infertility in men. Long-term use may decrease bone mineral density in women, potentially increasing the risk of osteoporosis. Other side effects can include diarrhea, upset stomach, hair loss, headache, and skin rash.

Rheumatoid Arthritis

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

- 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*). Most of this research has focused on the anti-inflammatory properties of gingerol compounds—the components of ginger that give it flavor. A 2009 study funded in part by NCCIH examined whether nongingerol compounds had an antiarthritic effect in rats. The researchers found that ginger extract with both gingerol and nongingerol components prevented joint inflammation and destruction better than ginger extract containing only gingerols. They concluded that the nongingerol compounds may play a role in the antiarthritic properties of ginger. Although these laboratory and animal studies show some promise, studies regarding ginger extracts for RA symptoms in people are lacking.
- A 2010 NCCIH-funded review has found evidence that substances found in **green tea** might be useful for RA and osteoarthritis, but the effects of these substances in either type of arthritis have not been fully tested in people.
- In animal studies, extracts of **turmeric** (*Curcuma longa*) containing the chemical curcumin were found to protect joints from inflammation. Building on previous laboratory research that examined turmeric's anti-arthritic properties, a 2010 study, funded in part by NCCIH, looked at whether turmeric essential oils (TEO) protected joints in rats. The researchers found that an oral dose of TEO had an anti-inflammatory effect specific to the joints. There may be a potential role for turmeric or its components in preventing or slowing RA disease, but this has not yet been demonstrated in people.

Other Types of Complementary Health Approaches Studied for Rheumatoid Arthritis

Other complementary health approaches have been studied for RA:

- An NCCIH-funded preliminary study of **Ayurvedic medicine**, a system of healing that originated in India and involves using individually prescribed combinations of herbs, found that classic, individualized Ayurvedic approaches, methotrexate (a conventional medication frequently used to treat RA), or a combination of both were equally effective in reducing symptoms of RA. Because this was a small, preliminary study, its results, although promising, are insufficient to show definitively that Ayurvedic medicine is helpful for RA.
- **Balneotherapy** is the technique of bathing in 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 diets has been inconclusive. Although a few studies suggest that decreasing or eliminating meat, dairy, or foods likely to cause allergies may help 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.

Rheumatoid Arthritis

- **Traditional Chinese medicine (TCM)** encompasses multiple practices, including acupuncture, Chinese herbal medicine, and others. Several practices that are part of TCM, including acupuncture, tai chi, and the herb thunder god vine, have been studied individually for RA, as described above. Some research has also been done on TCM as a whole for RA symptoms and for relief of side effects from conventional RA treatments, but no conclusions can be reached because of the poor quality of some of the research, variations in study design, and insufficient data on safety.

If You Are Considering Complementary Health Approaches for Rheumatoid Arthritis

- Do not replace proven conventional treatments for RA with unproven health products and practices. Do not change your use of prescribed RA medications without consulting your health care provider. Going without effective treatment for RA could lead to permanent joint damage.
- Be aware that some complementary health approaches—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. To learn more, see the NCCIH fact sheet [Using Dietary Supplements Wisely](#).
- Women who are pregnant or nursing or people who are thinking of using a complementary health approach to treat a child should consult their (or their child’s) health care provider before using any complementary health approach.
- Tell all your health care providers about any complementary or integrative health approaches you use. Give them a full picture of what you do to manage your health. This will help ensure coordinated and safe care.

NCCIH-Funded Research

Recent NCCIH-supported research includes projects studying:

- Approaches such as yoga, fish and borage seed oils, tai chi, and relaxation for RA symptoms, physical function, and quality of life
- How celastrol, a Chinese herb, works on a cellular level and if it has the potential to treat certain autoimmune diseases such as RA.

For More Information

NCCIH Clearinghouse

The NCCIH Clearinghouse provides information on NCCIH and complementary and integrative health approaches, 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: nccih.nih.gov

E-mail: info@nccih.nih.gov

Rheumatoid Arthritis

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

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

PubMed®

A service of the National Library of Medicine (NLM), PubMed® contains publication information and (in most cases) brief summaries of articles from scientific and medical journals. For guidance from NCCIH on using PubMed, see [How To Find Information About Complementary Health Approaches on PubMed](#).

Web site: www.ncbi.nlm.nih.gov/pubmed

Key References

About Rheumatoid Arthritis and Complementary Health Approaches

Herman CJ, Allen P, Hunt WC, et al. Use of complementary therapies among primary care clinic patients with arthritis. *Preventing Chronic Disease*. 2004;1(4):A12.

National Institute of Arthritis and Musculoskeletal and Skin Diseases. *Handout on Health: Rheumatoid Arthritis*. National Institute of Arthritis and Musculoskeletal and Skin Diseases Web site. Accessed at http://www.niams.nih.gov/health_info/rheumatic_disease on March 26, 2012.

Taibi DM, Bourguignon C. The role of complementary and alternative therapies in managing rheumatoid arthritis. *Family and Community Health*. 2003;26(1):41-52.

Mind and Body Practices

Barnes PM, Powell-Griner E, McFann K, Nahin RL. Complementary and alternative medicine use among adults: United States, 2002. *CDC Advance Data Report* #343. 2004.

Dissanayake RK, Bertouch JV. Psychosocial interventions as adjunct therapy for patients with rheumatoid arthritis: a systematic review. *International Journal of Rheumatic Diseases*. 2010;13(4):324-334.

Gettings L. Psychological well-being in rheumatoid arthritis: a review of the literature. *Musculoskeletal Care*. 2010;8(2):99-106.

Pradhan EK, Baumgarten M, Langenberg P, et al. Effect of mindfulness-based stress reduction in rheumatoid arthritis patients. *Arthritis and Rheumatism*. 2007;57(7):1134-1142.

Zautra AJ, Davis MC, Reich JW, et al. Comparison of cognitive behavioral and mindfulness meditation interventions on adaptation to rheumatoid arthritis for patients with and without history of recurrent depression. *Journal of Consulting and Clinical Psychology*. 2008;76(3):408-421.

Acupuncture

Casimiro L, Barnsley L, Brosseau L, et al. Acupuncture and electroacupuncture for the treatment of rheumatoid arthritis. *Cochrane Database of Systematic Reviews*. 2005;(4):CD003788 [edited 2010]. Accessed at <http://www.cochranelibrary.com/> on August 10, 2012.

Lee H, Lee JY, Kim YJ, et al. Acupuncture for symptom management of rheumatoid arthritis: a pilot study. *Clinical Rheumatology*. 2008;27(5):641-645.

Wang C, de Pablo P, Chen X, et al. Acupuncture for pain relief in patients with rheumatoid arthritis: a systematic review. *Arthritis and Rheumatism*. 2008;59(9):1249-1256.

Rheumatoid Arthritis

Tai Chi

- Han A, Judd M, Welch V, et al. Tai chi for treating rheumatoid arthritis. *Cochrane Database of Systematic Reviews*. 2004;(3):CD004849 [edited 2010]. Accessed at <http://www.cochranelibrary.com/> on August 10, 2012.
- Lee MS, Pittler MH, Ernst E. Tai chi for rheumatoid arthritis: systematic review. *Rheumatology*. 2007;46(11):1648-1651.
- Uhlig T, Fongen C, Steen E, et al. Exploring tai chi in rheumatoid arthritis: a quantitative and qualitative study. *BMC Musculoskeletal Disorders*. 2010;11:43.

Yoga

- Badsha H, Chhabra V, Leibman C, et al. The benefits of yoga for rheumatoid arthritis: results of a preliminary, structured 8-week program. *Rheumatology International*. 2009;29(12):1417-1421.
- Bosch PR, Traustadóttir T, Howard P, et al. Functional and physiological effects of yoga in women with rheumatoid arthritis: a pilot study. *Alternative Therapies in Health and Medicine*. 2009;15(4):24-31.
- Haaz S, Bartlett SJ. Yoga for arthritis: a scoping review. *Rheumatic Diseases Clinics of North America*. 2011;37(1):33-46.
- Yeh GY. Commentary on the Cochrane review of tai chi for rheumatoid arthritis. *Explore*. 2008;4(4):275-277.

Dietary Supplements

- Ahmed S. Green tea polyphenol epigallocatechin 3-gallate in arthritis: progress and promise. *Arthritis Research and Therapy*. 2010;12(2):208.
- Ahmed S, Anuntiyo J, Malemud CJ, et al. Biological basis for the use of botanicals in osteoarthritis and rheumatoid arthritis: a review. *Evidence-Based Complementary and Alternative Medicine: e-CAM*. 2005;2(3):301-308.
- Cameron M, Gagnier JJ, Chrusasik S. Herbal therapy for treating rheumatoid arthritis. *Cochrane Database of Systematic Reviews*. 2011;(2):CD002948. Accessed at <http://www.cochranelibrary.com/> on August 10, 2012.
- Cameron M, Gagnier JJ, Little CV, et al. Evidence of effectiveness of herbal medicinal products in the treatment of arthritis. Part 2: rheumatoid arthritis. *Phytotherapy Research*. 2009;23(12):1647-1662.
- Christie A, Jamtvedt G, Dahm KT, et al. Effectiveness of nonpharmacological and nonsurgical interventions for patients with rheumatoid arthritis: an overview of systematic reviews. *Physical Therapy*. 2007;87(12):1697-1715.
- Efthimiou P, Kukar M. Complementary and alternative medicine use in rheumatoid arthritis: proposed mechanism of action and efficacy of commonly used modalities. *Rheumatology International*. 2010;30(5):571-586.
- Setty AR, Sigal LH. Herbal medications commonly used in the practice of rheumatology: mechanisms of action, efficacy, and side effects. *Seminars in Arthritis and Rheumatism*. 2005;34(6):773-784.

Fish Oil

- Agency for Healthcare Research and Quality. Effects of Omega-3 Fatty Acids on Lipids and Glycemic Control in Type II Diabetes and the Metabolic Syndrome and on Inflammatory Bowel Disease, Rheumatoid Arthritis, Renal Disease, Systemic Lupus Erythematosus, and Osteoporosis. Evidence Report/Technology Assessment no. 89. Rockville, MD: Agency for Healthcare Research and Quality; 2004. AHRQ publication no. 04-E012-2.
- Calder PC. n-3 polyunsaturated fatty acids, inflammation, and inflammatory diseases. *American Journal of Clinical Nutrition*. 2006;83(suppl 6):1505S-1519S.
- Cleland LG, James MJ, Proudman SM. The role of fish oils in the treatment of rheumatoid arthritis. *Drugs*. 2003;63(9):845-853.
- DeFilippis AP, Blaha MJ, Jacobson TA. Omega-3 fatty acids for cardiovascular disease prevention. *Current Treatment Options in Cardiovascular Medicine*. 2010;12(4):365-380.
- Galarraga B, Ho M, Youssef HM, et al. Cod liver oil (n-3 fatty acids) as a non-steroidal anti-inflammatory drug sparing agent in rheumatoid arthritis. *Rheumatology*. 2008;47(5):665-669.

Gamma-Linolenic Acid

- Little CV, Parsons T. Herbal therapy for treating rheumatoid arthritis. *Cochrane Database of Systematic Reviews*. 2000;(4):CD002948 [edited 2009]. Accessed at <http://www.cochranelibrary.com/> on August 10, 2012.

Rheumatoid Arthritis

Thunder God Vine

Canter PH, Lee HS, Ernst E. A systematic review of randomised clinical trials of *Tripterygium wilfordii* for rheumatoid arthritis. *Phytomedicine*. 2006;13(5):371-377.

Tao X, Younger J, Fan FZ, et al. Benefit of an extract of *Tripterygium wilfordii* Hook F in patients with rheumatoid arthritis: a double-blind, placebo-controlled study. *Arthritis and Rheumatism*. 2002;46(7):1735-1743.

Turmeric

Funk JL, Frye JB, Oyarzo JN, et al. Anti-arthritic effects and toxicity of the essential oils of turmeric (*Curcuma longa* L.). *Journal of Agricultural and Food Chemistry*. 2010;58(2):842-849.

Boswellia

Ammon HP. Boswellic acids in chronic inflammatory diseases. *Planta Medica*. 2006;72(12):1100-1116.

Chevrier MR, Ryan AE, Lee DY, et al. *Boswellia carterii* extract inhibits TH1 cytokines and promotes TH2 cytokines in vitro. *Clinical and Diagnostic Laboratory Immunology*. 2005;12(5):575-580.

Fan AY, Lao L, Zhang RX, et al. Effects of an acetone extract of *Boswellia carterii* Birdw. (*Burseraceae*) gum resin on rats with persistent inflammation. *Journal of Alternative and Complementary Medicine*. 2005;11(2):323-331.

Ginger

Funk JL, Frye JB, Oyarzo JN, et al. Comparative effects of two gingerol-containing *Zingiber officinale* extracts on experimental rheumatoid arthritis. *Journal of Natural Products*. 2009;72(3):403-407.

Lantz RC, Chen GJ, Sarihan M, et al. The effect of extracts from ginger rhizome on inflammatory mediator production. *Phytomedicine*. 2007;14(2-3):123-128.

Green Tea

Ahmed S. Green tea polyphenol epigallocatechin 3-gallate in arthritis: progress and promise. *Arthritis Research and Therapy*. 2010;12(2):208.

Other Types of Complementary Health Approaches

Ayurvedic Medicine

Furst DE, Venkatraman MM, McGann M, et al. Double-blind, randomized, controlled, pilot study comparing classic Ayurvedic medicine, methotrexate, and their combination in rheumatoid arthritis. *Journal of Clinical Rheumatology*. 2011;17(4):185-192.

Balneotherapy

Anain JM Jr, Bojrab AR, Rhinehart FC. Conservative treatments for rheumatoid arthritis in the foot and ankle. *Clinics in Podiatric Medicine and Surgery*. 2010;27(2):193-207.

Verhagen AP, Bierma-Zeinstra SM, Boers M, et al. Balneotherapy for rheumatoid arthritis. *Cochrane Database of Systematic Reviews*. 2004;(1):CD000518 [edited 2008]. Accessed at <http://www.cochranelibrary.com/> on August 10, 2012.

Special Diets

Stamp LK, James MJ, Cleland LG. Diet and rheumatoid arthritis: a review of the literature. *Seminars in Arthritis and Rheumatism*. 2005;35(2):77-94.

Traditional Chinese Medicine

Zhang C, Jiang M, Lü A-P. Evidence-based Chinese medicine for rheumatoid arthritis. *Journal of Traditional Chinese Medicine*. 2011;31(2):152-157.

Rheumatoid Arthritis

Acknowledgments

NCCIH thanks the following people for their technical expertise and review of the 2012 update of this publication: Trish Reynolds, R.N., M.S., and colleagues, NIAMS; Diana Taibi, Ph.D., R.N., University of Washington; Robert Zurier, M.D., University of Massachusetts Medical School; and Carol Pontzer, Ph.D., and John (Jack) Killen, Jr., M.D., NCCIH.

This publication is not copyrighted and is in the public domain.

Duplication is encouraged.

NCCIH has provided this material for your information. It is not intended to substitute for the medical expertise and advice of your primary health care provider. We encourage you to discuss any decisions about treatment or care with your health care provider. The mention of any product, service, or therapy is not an endorsement by NCCIH.

U.S. Department of Health & Human Services • National Institutes of Health • National Center for Complementary and Integrative Health

nccih.nih.gov