

get the facts

Hepatitis C: A Focus on Herbal Supplements

Hepatitis C, a liver disease caused by a virus, is usually chronic (long-lasting), with symptoms ranging from mild (or even none) to severe. Conventional medical treatments are available for hepatitis C; however, some people also try complementary health practices, especially herbal supplements. This fact sheet provides basic information on hepatitis C, summarizes scientific research on the effectiveness and safety of selected supplements, and suggests sources for additional information.

Key Points

- No complementary health practice has been proven effective for treating hepatitis C or its complications.
- It is important **not** to replace conventional medical therapy for hepatitis C with an unproven complementary health practice.
- Tell your health care providers about any complementary health 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 Hepatitis C

Hepatitis C, a communicable (contagious) disease of the liver, is caused by the hepatitis C virus (HCV). The term “hepatitis” means inflammation of the liver; HCV is one of several viruses in the hepatitis family. If the liver becomes inflamed, it cannot function properly and remove harmful material from the blood or convert food into energy.

Hepatitis C is transmitted primarily through contact with infected blood. It is not spread through sneezing, coughing, food or water, or casual contact. There is no vaccine for hepatitis C; the only way to prevent it is to avoid exposure.

People who are newly infected have what is called acute hepatitis C. Most people with acute hepatitis C develop chronic hepatitis C, which

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can injure the liver over time. Many people with hepatitis C show no symptoms for many years; others experience mild or more serious symptoms.

People with more serious or chronic hepatitis C may need medication—interferon, alone or combined with ribavirin. However, not everyone with hepatitis C responds to drug therapy, and the drugs have side effects that can be difficult to tolerate. To learn more, visit the National Institute of Diabetes and Digestive and Kidney Diseases Web site at <http://digestive.niddk.nih.gov/ddiseases/pubs/hepatitis/>.

Use of Herbal Supplements for Hepatitis C

A number of herbal products claim to be beneficial for the liver. Because many patients with hepatitis C do not respond to standard antiviral treatment, or are unable to undergo full treatment, they may explore these products. For example, a survey of 1,145 participants in the HALT-C (Hepatitis C Antiviral Long-Term Treatment Against Cirrhosis) trial, a study supported by the National Institutes of Health (NIH), found that 23 percent were using herbal products at the time of enrollment. Although participants reported using many different herbal products, silymarin (milk thistle) was by far the most common.

What the Science Says

A review of the scientific evidence on complementary health approaches and hepatitis C found the following:

- No complementary health practice has been scientifically proven to successfully treat hepatitis C.
- A 2003 analysis of results from 13 clinical trials testing the effects of various medicinal herbs on hepatitis C concluded that there is not enough evidence to support using herbs to treat the disease.
- Two other reviews that covered a variety of complementary modalities for hepatitis C concluded that conventional therapies are the only scientifically proven treatments for the disease.
- In a 2002 NIH consensus statement on the management of hepatitis C, a panel of medical and scientific experts concluded that “alternative and nontraditional medicines” should be studied. Participants in a 2001 NIH research workshop on the benefits and risks of complementary therapies for chronic liver disease recommended research support for related laboratory and clinical studies.

The following section summarizes what is known about the safety and effectiveness of milk thistle and some of the other complementary health products that people with hepatitis C use.

Milk thistle (scientific name *Silybum marianum*) is a plant from the aster family. Silymarin, the active extract of milk thistle, is believed to be responsible for the herb’s medicinal qualities. Milk thistle has been used in Europe as a treatment for liver disease and jaundice since the 16th century. In the United States, silymarin is the most popular complementary health product taken by people with liver disease.

Laboratory studies suggest that milk thistle may benefit the liver by protecting and promoting the growth of liver cells, fighting oxidation (a chemical process that can damage cells), and inhibiting inflammation. Study results from small clinical trials on milk thistle for liver diseases have been mixed; however, most of these studies were not rigorously designed, or they looked at various types of liver diseases—not just hepatitis C.

High-quality, well-designed clinical trials have not proven that milk thistle or silymarin is beneficial for treating hepatitis C.

- A 2012 controlled clinical trial, cofunded by the National Center for Complementary and Alternative Medicine (NCCAM) and the National Institute of Diabetes and Digestive and Kidney Diseases, showed that two higher-than-usual doses of silymarin were no better than placebo in reducing the high blood levels of an enzyme that indicate liver damage. In the study, 154 people who had not responded to standard antiviral treatment for chronic hepatitis C were randomly assigned to receive 420 mg of silymarin, 700 mg of silymarin, or placebo three times per day for 24 weeks. At the end of the treatment period blood levels of the enzyme were similar in all three groups.
- The HALT-C study mentioned above found that silymarin use by people with hepatitis C was associated with fewer and milder symptoms of liver disease and somewhat better quality of life, but there was no change in virus activity or liver inflammation. The researchers emphasized that this was a retrospective study, not a controlled clinical trial.

Milk thistle is generally well tolerated and has shown few side effects in clinical trials involving patients with liver disease. It may cause a laxative effect, nausea, diarrhea, abdominal bloating, fullness, and pain, and it can produce allergic reactions (especially among people who are allergic to plants in the same family, such as ragweed, chrysanthemum, marigold, and daisy).

Other supplements are also being studied for hepatitis C. For example:

- **Ginseng** has shown some beneficial effects on the liver in laboratory studies but has not yet shown effects in people.
- **Thymus extract** and **colloidal silver** are sometimes marketed for the treatment of hepatitis C, but there is currently no research to support their use for this purpose. Colloidal silver can cause serious side effects (for more information, see the NCCAM fact sheet *Colloidal Silver* at nccam.nih.gov/health/silver/).
- People with chronic liver disease sometimes use **licorice root** or its extract **glycyrrhizin**. Some studies, reported from outside the United States, have looked at glycyrrhizin administered intravenously for hepatitis C. Preliminary evidence from these studies suggests that glycyrrhizin may have beneficial effects against hepatitis C. However, additional research is needed before reaching any conclusions.
- Preliminary studies conducted primarily outside the United States have examined the potential of the following herbal products for treating chronic hepatitis C: **lactoferrin**, **TJ-108** (a mixture of herbs used in Japanese Kampo medicine), **schisandra**, and **oxymatrine**.

(an extract from the sophora root). More research is needed before the safety and effectiveness of these products can be fully evaluated.

If You Have Hepatitis C and Are Thinking About Using an Herbal Supplement

- Do not replace proven conventional treatments for hepatitis C with complementary health practices that are unproven.
- Be aware that some herbal products may damage the liver. For example, the herbs kava and comfrey have been linked to serious liver damage.
- Also be aware that the label on a supplement bottle may not accurately reflect what is inside. For example, some tests of dietary supplements have found that the contents did not match the dosage on the label, and some herbal supplements have been found to be contaminated.
- If you are pregnant or nursing a child, or if you are considering giving a child a dietary supplement, it is especially important to consult your health care provider. Supplements can act like drugs, and many have not been tested in pregnant women, nursing mothers, or children.
- Tell your health care providers about any complementary health 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 complementary health practices, see NCCAM's Time to Talk campaign at nccam.nih.gov/timetotalk.

Selected References

- Azzam HS, Goertz C, Fritts M, et al. Natural products and chronic hepatitis C virus. *Liver International*. 2007;27(1):17-25.
- Bean P. The use of alternative medicine in the treatment of hepatitis C. *American Clinical Laboratory*. 2002;21(4):19-21.
- Dhiman RK, Chawla YK. Herbal medicines for liver diseases. *Digestive Diseases and Sciences*. 2005;50(10):1807-1812.
- Fried MW, Navarro VJ, Afdhal N, et al. Effect of silymarin (milk thistle) on liver disease in patients with chronic hepatitis C who failed interferon therapy: a randomized, placebo-controlled trial. *JAMA*. 2012;308(3):274-282.
- Hanje AJ, Fortune B, Song M, et al. The use of selected nutrition supplements and complementary and alternative medicine in liver disease. *Nutrition in Clinical Practice*. 2006;21(3):255-272.
- Jacobs BP, Dennehy C, Ramirez G, et al. Milk thistle for the treatment of liver disease: a systematic review and meta-analysis. *JAMA*. 2002;113(6):506-515.
- Kasahara A. Treatment strategies for chronic hepatitis C virus infection. *Journal of Gastroenterology*. 2000;35(6):411-423.
- Levy C, Seeff LD, Lindor KD. Use of herbal supplements for chronic liver disease. *Clinical Gastroenterology and Hepatology*. 2004;2(11):947-956.
- Liu J, Manheimer E, Tsutani K, et al. Medicinal herbs for hepatitis C virus infection: a Cochrane hepatobiliary systematic review of randomized trials. *American Journal of Gastroenterology*. 2003;98(3):538-544.

- Mayer KE, Myers RP, Lee SS. Silymarin treatment of viral hepatitis: a systematic review. *Journal of Viral Hepatitis*. 2005;12(6):559-567.
- Modi AA, Wright EC, Seeff LB. Complementary and alternative medicine (CAM) for the treatment of chronic hepatitis B and C: a review. *Antiviral Therapy*. 2007;12(3):285-295.
- National Institute of Allergy and Infectious Diseases. *Hepatitis C*. National Institute of Allergy and Infectious Diseases Web site. Accessed at <http://www.niaid.nih.gov/topics/hepatitis/hepatitisc/> on July 9, 2012.
- National Institute of Diabetes and Digestive and Kidney Diseases. *Viral Hepatitis: A Through E and Beyond, What I Need To Know About Hepatitis C, and Chronic Hepatitis C: Current Disease Management*. National Digestive Diseases Information Clearinghouse Web site. Accessed at <http://digestive.niddk.nih.gov/ddiseases/pubs/hepatitis/index.htm> on February 21, 2008.
- National Institutes of Health. *National Institutes of Health Consensus Development Conference Statement. Management of Hepatitis C: 2002*. NIH Consensus Development Program Web site. Accessed at <http://consensus.nih.gov/2002/2002hepatitisc2002116html.htm> on February 21, 2008.
- O'Hara M, Kiefer D, Farrell K, et al. A review of 12 commonly used medicinal herbs. *Archives of Family Medicine*. 1998;7(6):523-536.
- Rambaldi A, Jacobs BP, Gluud C, et al. Milk thistle for alcoholic and/or hepatitis B or C virus liver diseases (review). *Cochrane Database of Systematic Reviews*. 2007;(4):CD003620.
- Sarin SK. Management of hepatitis C: what should we advise about adjunctive therapies, including herbal medicines, for hepatitis C? *Journal of Gastroenterology and Hepatology*. 2000;15(suppl):E164-E171.
- Seeff LB, Lindsay KL, Bacon BR, et al. Complementary and alternative medicine in chronic liver disease. *Hepatology*. 2001;34(3):595-603.
- Seeff LB, Curto TM, Szabo G, et al. Herbal product use by persons enrolled in the hepatitis C antiviral long-term treatment against cirrhosis (HALT-C) trial. *Hepatology*. 2008;47(2):605-612.
- Strader DB, Bacon BR, Lindsay KL, et al. Use of complementary and alternative medicine in patients with liver disease. *American Journal of Gastroenterology*. 2002;97(9):2391-2397.
- Wellington K, Jarvis B. Silymarin: a review of its clinical properties in the management of hepatic disorders. *BioDrugs: Clinical Immunotherapeutics, Biopharmaceuticals and Gene Therapy*. 2001;15(7):465-489.

For More Information

NCCAM Clearinghouse

The NCCAM Clearinghouse provides information on NCCAM and complementary health practices, 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

E-mail: info@nccam.nih.gov

National Digestive Diseases Information Clearinghouse

A service of the National Institute of Diabetes and Digestive and Kidney Diseases, NIH, the clearinghouse responds to inquiries, offers publications, and makes referrals. For a list of publications on hepatitis, go to digestive.niddk.nih.gov/ddiseases/pubs/hepatitis/.

Toll-free in the U.S.: 1-800-891-5389

Web site: www.digestive.niddk.nih.gov

NIH Clinical Research Trials and You

The National Institutes of Health (NIH) has created a Web site, NIH Clinical Research Trials and You, to help people learn about clinical trials, why they matter, and how to participate. The site includes questions and answers about clinical trials, guidance on how to find clinical trials through ClinicalTrials.gov and other resources, and stories about the personal experiences of clinical trial participants. Clinical trials are necessary to find better ways to prevent, diagnose, and treat diseases.

Web site: www.nih.gov/health/clinicaltrials/

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