

# backgrounder

## Colloidal Silver Products

Colloidal silver consists of tiny silver particles suspended in liquid. Usually marketed as dietary supplements, colloidal silver products have been used for a variety of health purposes—although there is no scientific evidence to support their safety or effectiveness. This fact sheet provides a general overview of colloidal silver products and suggests sources for additional information.

### Key Points

- The U.S. Food and Drug Administration (FDA) does not consider colloidal silver to be safe or effective for treating any disease or condition.
- The FDA and the Federal Trade Commission (FTC) have taken action against a number of colloidal silver companies (including some companies that sell products over the Internet) for making drug-like claims about their products.
- Colloidal silver can cause many side effects. One example is argyria, a bluish-gray discoloration of the body, which is not treatable or reversible.
- 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.

### Background

Silver is a metallic element. Its many uses include making jewelry, silverware, electronic equipment, and dental fillings; processing photographs; and disinfecting water. People are exposed to silver, usually in tiny amounts, through the air, drinking water, and food, and possibly in certain activities, such as work or hobbies.

Silver has had some medicinal uses going back for centuries. However, modern drugs have eliminated most of those uses. A few prescription drugs containing silver are still available. For example, silver nitrate can be used to prevent the eye condition conjunctivitis in newborn babies and to treat certain skin conditions, such as corns and warts. Another drug, silver sulfadiazine, can be used to treat burns. These drugs are applied to the body (i.e., they are not taken internally), and they can have negative side effects.

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Colloidal silver products consist of tiny silver particles suspended in a liquid base. The products are usually taken by mouth. Other forms of colloidal silver may be sprayed, applied directly to the skin, or injected into a vein.

## **Marketing Claims for Colloidal Silver**

Colloidal silver products are often marketed as dietary supplements with various unproven health-related claims. For example, advertisements may claim that the products benefit the immune system; kill disease-causing agents such as bacteria, viruses, and fungi; serve as an alternative to prescription antibiotics; or treat diseases such as cancer, HIV/AIDS, diabetes, tuberculosis, syphilis, scarlet fever, shingles, herpes, pneumonia, and prostatitis (inflammation of the prostate).

## **Scientific Evidence**

Reviews of the scientific literature on colloidal silver products have concluded that:

- Silver has no known function in the body
- Silver is not an essential mineral supplement or a cure-all and should not be promoted as such
- Claims that there can be a “deficiency” of silver in the body and that such a deficiency can lead to disease are unfounded
- Claims made about the effectiveness of colloidal silver products for numerous diseases are unsupported scientifically
- Colloidal silver products can have serious side effects
- Laboratory analysis has shown that the amounts of silver in supplements vary greatly, which can pose risks to the consumer.

## **Side Effects and Risks**

Animal studies have shown that silver builds up in the tissues of the body. In humans, buildup of silver from colloidal silver can lead to a side effect called argyria, which causes a bluish-gray discoloration of the skin, other organs, deep tissues, nails, and gums. Argyria is permanent and cannot be treated or reversed. Other side effects from using colloidal silver products may include neurologic problems (such as seizures), kidney damage, stomach distress, headaches, fatigue, and skin irritation. Colloidal silver may interfere with the body’s absorption of some drugs, such as penicillamine, quinolones, tetracyclines, and thyroxine.

## **Federal Regulation**

The Federal Government regulates dietary supplements (including those that contain colloidal silver) primarily through the FDA, but the laws about putting dietary supplements on the market and keeping them there are generally less strict than the laws for drugs. For example, manufacturers of dietary supplements, unlike manufacturers of drugs, do not have to prove their product’s safety and effectiveness to the FDA before it is marketed. However, if the product is found to be unsafe after it is marketed, the FDA can take certain actions, such as removing it from the marketplace. (To learn more about dietary supplements and their regulation, see the NCCAM fact sheet, *Using Dietary Supplements Wisely*.)

The FDA issued a ruling in 1999 that no products containing colloidal silver are generally recognized as safe and effective. In addition, the FDA and the FTC have sent warning letters to the operators of many Web sites that market colloidal silver with drug-like claims (i.e., claims that their products diagnose, treat, cure, or prevent disease).

## If You Are Thinking About Using Colloidal Silver Products

- There is a lack of evidence for effectiveness and a risk for serious side effects from colloidal silver products. The FDA does not consider colloidal silver to be safe or effective for treating any disease or condition.
- Do not use any dietary supplement as a replacement for conventional care, or as a reason to postpone seeing a doctor about a medical problem.
- 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 in the body, and many have not been tested in pregnant women, nursing mothers, or children.
- 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 NCCAM's Time to Talk campaign at [nccam.nih.gov/timetotalk/](http://nccam.nih.gov/timetotalk/).

## Selected References

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## For More Information

### NCCAM Clearinghouse

The National Center for Complementary and Alternative Medicine (NCCAM) Clearinghouse provides information on complementary and alternative medicine (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)

### U.S. Food and Drug Administration (FDA)

The FDA oversees the safety of many products, such as foods, medicines, dietary supplements, medical devices, and cosmetics.

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

Toll-free in the U.S.: 1-888-463-6332

## **Center for Food Safety and Applied Nutrition (CFSAN)**

CFSAN oversees the safety and labeling of supplements, foods, and cosmetics. It has information on dietary supplements.

Web site: [www.fda.gov/food](http://www.fda.gov/food)  
Toll-free in the U.S.: 1-888-723-3366

## **MedWatch**

MedWatch, the FDA's safety information and adverse event reporting program, allows consumers and health care providers to file reports on serious problems suspected with dietary supplements.

Web site: [www.fda.gov/Safety/MedWatch/HowToReport/ucm053074.htm](http://www.fda.gov/Safety/MedWatch/HowToReport/ucm053074.htm)  
Toll-free in the U.S.: 1-888-463-6332

## **Federal Trade Commission (FTC)**

The FTC is the Federal agency charged with protecting the public against unfair and deceptive business practices. A key area of its work is the regulation of advertising (except for prescription drugs and medical devices).

Web site: [www.ftc.gov](http://www.ftc.gov)  
Toll-free in the U.S.: 1-877-382-4357

## **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. CAM on PubMed, developed jointly by NCCAM and NLM, is a subset of the PubMed system and focuses on the topic of CAM.

Web site: [www.ncbi.nlm.nih.gov/sites/entrez](http://www.ncbi.nlm.nih.gov/sites/entrez)  
CAM on PubMed: [nccam.nih.gov/research/camonpubmed/](http://nccam.nih.gov/research/camonpubmed/)

## **Acknowledgments**

NCCAM thanks the following people for their technical expertise and review of the content update of this publication: Pamela L. Drake, M.P.H., National Institute for Occupational Health and Safety; Edmund Pribitkin, M.D., Thomas Jefferson University; and Wendy Weber, N.D., Ph.D., M.P.H., NCCAM.

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