



Artemisinin and Its Derivatives in Cancer Care: Patient Resource

What is artemisinin?

Artemisia annua is a medicinal plant with a long history of use in Traditional Chinese Medicine. Artemisinin is an extract from *Artemisia annua*. Several semi-synthetic derivatives have been developed including artesunate and dihydro-artemisinin. Artemisinin and artesunate are approved for the treatment of malaria. They are sometimes used in cancer treatment, usually in oral or intravenous (IV) form.

What are artemisinin and its derivatives used for?

Artemisinin and its derivatives are sometimes used with the aim of improving cancer outcomes, including response rate and survival, although they are not approved for this use. Oral and IV artesunate are the most common forms and routes used in cancer care.

Artemisinin and its derivatives are not a cure for cancer. These agents are not an alternative for chemotherapy or other cancer treatments.

Does artemisinin and its derivatives work?

Due to limited research, no conclusive statement can be made regarding artemisinin's efficacy as an anticancer agent. Two randomized clinical trials (one placebo-controlled), four single-arm trials (published in 6 reports), six small clinical trials and several case reports have studied the effect of artemisinin in cancer. Although several case reports describe positive outcomes for

response and survival, the only clinical trial to assess survival found no difference in survival in patients with lung cancer.

How does artemisinin and its derivatives work?

Although several anti-cancer mechanisms of action have been studied, the primary mechanism believed to be responsible for an anti-cancer effect is the production of hydroxyl radicals leading to oxidative stress.

Is artemisinin safe?

Most studies have found artemisinin and its derivatives to be safe. The majority of studies to date use artemisinin and its derivatives on their own as a singular therapy. Research on use alongside cancer treatments is not available.

Please contact your healthcare provider to discuss whether you are a good candidate for artemisinin or its derivatives for therapy in the context of cancer.

What are the side effects of artemisinin?

Common side effects reported from use are anemia (low red blood cells), neutropenia (low levels of a type of white blood cell), and gastrointestinal disturbances like diarrhea and nausea.

A full list of reported side effects can be found in our health care provider monograph.



What is the recommended dose, frequency, and length of use of artemisinin?

Doses that have been used in clinical studies and reported by health clinics are listed below.

Oral artesunate: 100-250 mg daily for 2-4 weeks

Oral artemisinin: 200 mg/day to 400 mg 3x/day, one case series used it every other week for up to 24 months.

IV artesunate: 2.4 mg/kg is most common (e.g., 168 mg for a 70 kg adult), 1-2 times/week for 2 weeks, followed by a week off.

Where can I get more information?

For more detailed information including references you can read the companion healthcare professional version on the [CCNM research website](#). You can also consult with a health care provider such as a naturopathic doctor, medical doctor, or nurse practitioner who is experienced in the use of artesunate.

Disclaimer

This monograph provides a summary of available evidence and neither advocates for nor against the use of a particular therapy. Every effort is made to ensure the information included in this monograph is accurate at the time it is published. Prior to using a new therapy or product, always consult a licensed health care provider. The information in this monograph should not be interpreted as medical advice nor should it replace the advice of a qualified health care provider.