Our Mission

. . . . is to develop and manage medical materiel to protect and sustain the Warfighter on point for the Nation.

Our Vision

. . . . is to integrate with USAMRMC, Federal agencies, and the DoD, as part of the joint biomedical research and materiel community, to focus on delivering the best medical solutions for today and tomorrow.

Our products will be an integral part of the DoD Force Health Protection Program, to include vaccines, drugs, and medical devices, to prevent, diagnose, and treat infectious diseases, combat-related casualties, and CBRNE threats.

Our products will enhance far-forward medical care across the full spectrum of health care missions worldwide.

USAMMDA
1430 Veterans Drive
Fort Detrick, MD 21702
301.619.7056
www.usammda.army.mil

USAMRMC

U.S. Army Medical Research Materiel Command

Intravenous Artesunate

Life-saving, Intravenous Treatment for Severe Malaria

USAMMDA

U.S. Army Medical Materiel Development Activity

Developing Quality Medical Products for U.S. Forces

Protect the Warrior; Sustain the Force.

Updated: Oct. 2009

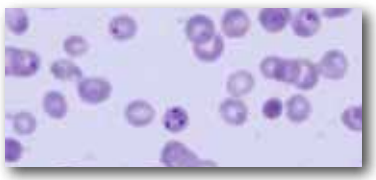
What is Artesunate . . .

Artemisinin, the naturally-isolated parent drug of artesunate, is extracted from 'qing hao' or sweet wormwood (Artemisia annua L.). It has been part of traditional Chinese herbal medicine for centuries. Artesunate was rediscovered and isolated as the active antimalarial agent in Artemisia annua L. in 1972 by Chinese scientists, and later independently by scientists at the Walter Reed Army Institute of Research (WRAIR) seeking new treatments for malaria. Many million malarial patients have been treated with oral artesunate tablets produced in China and it has been found to be highly effective in malaria parasite clearance and fever reduction when given by the oral, intrarectal, intramuscular, or intravenous route.

Meeting the challenge . . .

The challenge has been to produce an intravenous formulation that meets U.S. Food and Drug Administration (FDA) manufacturing standards.

WRAIR has produced a product, Intravenous Artesunate, that has been shown to be safe and effective in clinical trials performed in the U.S. at the Uniformed Services University of the Health Sciences and globally.



Benefits to the Warfighter . . .

In travelers and Soldiers, untreated malaria may be fatal. Parasites clog the blood vessels to the brain, lung and kidneys, and severe anemia can ensue from destruction of the red cells. Once severe organ failure ensues, malaria is uniformly lethal without treatment.

Quinidine is currently the only U.S. FDA approved drug for the treatment of severe malaria, but it is not an ideal drug. Quinidine must be given three times a day via an infusion pump usually in an intensive care setting to avoid cardiac arrhythmias. Most significantly, quinidine may soon cease to be available in the U.S.

Intravenous Artesunate can be given as an IV push without any intensive care unit (ICU) monitoring. Intravenous Artesunate is the first-line treatment for malaria recommended by the World Health Organization (WHO).

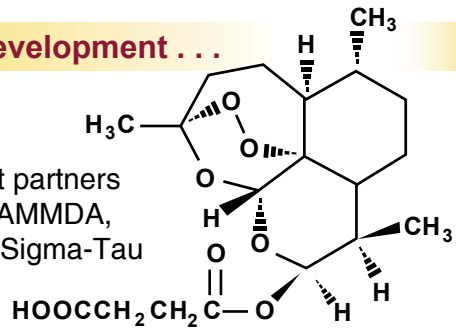
Why Intravenous Artesunate . . .

Intravenous artesunate has been proven to be effective in the treatment of severe malaria in several large clinical trials, with a 35% mortality benefit over quinine.

Since 2007, it has been used in the U.S. in cooperation with the Centers for Disease Control and Prevention under a Treatment Investigational New Drug (IND) Protocol. Under this protocol Intravenous Artesunate has saved the lives of over 70 people, including three military personnel with imported severe malaria.

Product Development . . .

Intravenous Artesunate's development partners include: USAMMDA, WRAIR and Sigma-Tau S.p.A.



WRAIR

sigma-tau
industrie farmaceutiche riunite