What is Guinea worm disease?
Guinea worm disease, also known as dracunculiasis, is a parasitic infection caused by the nematode (roundworm) parasite Dracunculus medenisis.

How do you get Guinea worm disease?
Guinea worm disease is contracted when people ingest drinking water from stagnant sources containing copepods (commonly referred to as water fleas) that harbor infective Guinea worm larvae. Inside a human’s abdomen, Guinea worm larvae mate and female worms mature and grow. After a year of incubation, the female Guinea worm, 1 meter long, creates an agonizingly painful lesion on the skin and slowly emerges from the body. The contamination cycle begins when victims, seeking relief from the burning sensation caused by emerging Guinea worms, immerse their limbs in sources of drinking water, which stimulates the emerging worm to release larvae into the water. The larvae are then eaten by water fleas. The cycle begins again when a person consumes the Guinea worm-infected water fleas.

How widespread is the problem?
In 1986, the disease afflicted an estimated 3.5 million people a year in 21 countries in Africa and Asia. Thanks to the work of The Carter Center and its partners, the incidence of Guinea worm has been reduced by more than 99 percent and more than 80 million cases of the disease have been averted.

Guinea worm disease is found in areas of extreme poverty and incapacitates its victims for extended periods of time making them unable to work or grow enough food to feed their families or attend school.

How is the disease treated and infection prevented?
There is no known curative medicine or vaccine to prevent Guinea worm disease, and patients do not develop immunity from previous infections.

Traditional removal of a Guinea worm consists of winding the worm around a small stick or gauze and manually extracting it—a slow, painful process that often takes weeks. The skin lesions invariably develop secondary bacterial infections, which exacerbate the suffering and prolong the period of disability.

The best way to stop transmission of Guinea worm disease is to prevent people from entering sources of drinking water with an emerging Guinea worm and to educate households to always use household or pipe filters to sieve out tiny water fleas carrying infective larvae.

Educating communities about Guinea worm prevention is vital to stopping the spread of the disease.

Thousands of village volunteers, who have been trained by Guinea worm health workers, are an integral part of the eradication effort, managing disease prevention activities, reporting cases, and treating patients.

Guinea worm disease is set to become the second human disease in history, after smallpox, to be eradicated. It will be the first parasitic disease to be eradicated and the first disease to be eradicated without the use of a vaccine or medical treatment.
Does Guinea worm affect nonhuman species?

A new challenge to eradication has been the emergence recently of significant numbers of infections in dogs in Chad. Guinea worm infections in domestic dogs in Chad were first detected in 2012. Those infections appear to be linked to dogs’ consumption of fish and fish entrails containing Guinea worm larvae. Volunteers trained by Chad’s Guinea Worm Eradication Program with the Carter Center’s help have been encouraging people in those areas to bury fish discards, and cash rewards are being paid for reporting infected animals and for keeping them away from water sources. Also, researchers are actively seeking a remedy for canine infections, including the use of established veterinary deworming drugs.

Substantial nonhuman infections have not occurred in any other country during the eradication campaign. In January–June 2016, Ethiopia reported three infected dogs, and Mali reported one. South Sudan’s only known infected dog was reported in 2015.

What is the Carter Center’s role in Guinea worm eradication?

Since 1986, through the leadership of former U.S. President Jimmy Carter and his wife, Rosalynn, The Carter Center has spearheaded the international Guinea worm disease eradication campaign, working with partners such as the endemic countries’ ministries of health, the U.S. Centers for Disease Control and Prevention, the World Health Organization, UNICEF, and many others.

What is the process for certifying eradication of Guinea worm disease?

The Carter Center-assisted program works with endemic communities to reach zero cases.

After transmission is interrupted in individual countries, surveillance will continue for at least three years to ensure the detection and containment of any new indigenous or imported Guinea worm cases. During this time the World Health Organization sends certification teams to assess coverage and quality of surveillance to determine whether transmission of the disease has been interrupted in that country. The certification team submits a report to the independent International Commission for Certification of Dracunculiasis Eradication. The Commission reviews and evaluates the report and makes a recommendation to the director general of the WHO. The WHO will then issue an official certification that the country is free of Guinea worm disease.

Political will is needed at all levels to eradicate the disease in the endemic pockets of the remaining affected countries—southeastern South Sudan, eastern Mali, western Ethiopia, and Chad. Making national eradication programs work in remote rural areas requires enormous dedication and attention to detail by all supervisors charged with executing the campaign. Gaining the understanding and cooperation of the remaining affected communities is necessary to make Guinea worm disease a part of history.