



Loiasis (African Eye Worm): Factsheet

Parasitic worm infections are among the most widespread neglected tropical diseases, affecting **more than 1.5 billion people worldwide**, primarily in sub-Saharan Africa and other tropical regions.

One of these infections is **Loiasis**, commonly known as **African eye worm** – a parasitic infection that can result in transient swelling and, occasionally, visible migration of worms under the skin or across the eye.

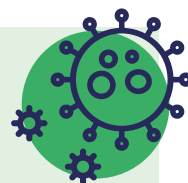
What Causes Loiasis?

Loiasis is caused by the filarial nematode *Loa loa*. Adult worms live in the subcutaneous tissues of infected individuals where they mate and release microfilariae, the progeny of filariae, in the peripheral blood to sustain the transmission.



How Is It Transmitted?

Transmission occurs through the bite of infected female tabanid flies (deerflies) of the genus *Chrysops*, primarily *C. silacea* and *C. dimidiata*. These flies breed in forested areas and transmit infective larvae during a blood meal, which then develop into adult worms.



Who Is Affected?

- The disease is **restricted to rain forest and adjacent savannah regions of Central Africa and parts of West Africa**.
- Ten countries are considered endemic: **Angola, Benin, Cameroon, Central African Republic, Chad, Congo, Democratic Republic of the Congo, Equatorial Guinea, Gabon, Nigeria, and South-Sudan**.
- Western Central Africa and northeastern Democratic Republic of Congo represent major hyperendemic zones, where **at least 40% of the population report a history of eyeworm**.



What Happens in the Body?

Adult *Loa loa* worms migrate through subcutaneous tissues and may occasionally pass under the conjunctiva of the eye – which gives the disease its common name, “eye worm.”



Some infected individuals remain asymptomatic. When symptoms occur, they may include:

- Calabar swellings – transient, itchy, non-painful swelling that often appears near joints
- Visible worm migration under the skin
- Worm crossing the surface of the eye
- Generalised itching
- Muscle and joint pain
- Severe headache
- Fatigue
- Temporary paralysis

Symptoms are typically intermittent and linked to immune reactions to migrating worms and numbers of microfilariae, the filarial progeny.

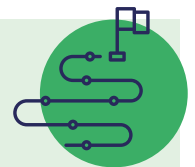
Current Treatment

Treatment options include **diethylcarbamazine (DEC)**, **ivermectin**, and **albendazole** depending on the patient’s clinical profile (especially microfilariae burden). Careful assessment is required before treatment, as fast killing of high microfilariae numbers can lead to life-threatening inflammatory responses.



Remaining Challenges

- Some infections are asymptomatic and some infections do not show microfilariae in the blood, complicating surveillance.
- High microfilariae loads increase the risk of severe adverse reactions to treatments.
- Co-endemicity with other filarial diseases complicates mass treatment strategies.



We at eWHORM are generating the clinical evidence needed to support the registration of oxfendazole (OXF) as a broad-spectrum treatment for multiple worm infections, including loiasis. Based on preclinical findings, OXF has the potential to be the first safe adult-worm killing candidate for loiasis. This would be a major step toward achieving WHO’s 2030 goals to eliminate filarial and soil-transmitted helminth infections and strengthen health systems in endemic countries.



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