

# WORM of the WEEK

## Onchocerciasis *Onchocerca Volvulus*

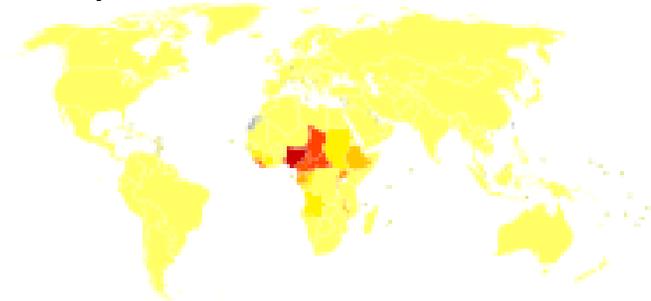
### Onchocerciasis

Onchocerciasis is caused by the filarial worm *Onchocerca volvulus*. Transmission is via the bites of infected blackflies of *Simulium* species, which carry immature larval forms of the parasite from human to human. In the human body, the larvae form nodules in the subcutaneous tissue, where they mature to adult worms. After mating, a female can lay up to 1000 microfilariae/day, which move through the body, and when they die they cause a variety of conditions, including blindness, skin rashes, lesions, intense itching and skin depigmentation. A total of 18 million people are infected with the disease and have dermal microfilariae, of whom 99% are in Africa.

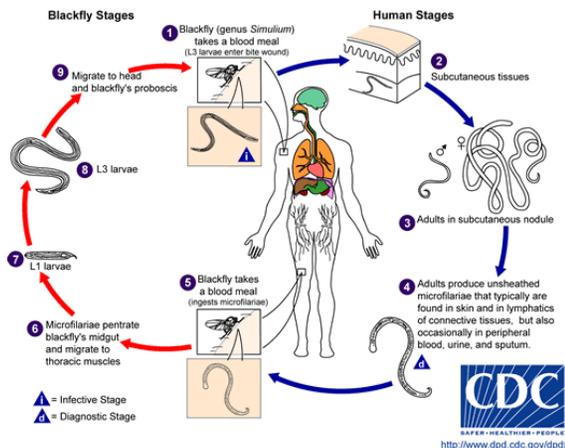
### Symptoms

**Ocular involvement** provides name associated with river blindness. The microfilariae migrate to the surface of the cornea. Keratitis in the infected area but clears up as the inflammation subsides. If chronic, sclerosing keratitis occurs, making the affected area opaque. The entire cornea may become opaque, leading to blindness. **Skin involvement** includes scattered pruritic papules (onchodermatitis), hyperpigmentation; skin atrophy; depigmentation; lichenified onchodermatitis (hyperpigmented papules and plaque with edema, lymphadenopathy, pruritus and common secondary bacterial infections).

### Populations/Countries Affected

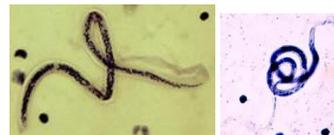


*Onchocerca volvulus*



### Diagnosis

Microscopic identification of microfilariae in blood smear.



### Treatment

**Ivermectin** kills microfilaria. Surgical removal of nematode from eye. Doxycycline may kill endosymbiont bacteria *Wolbachia*.

### Prevention and Control

Controlling the spread of the black fly and distribution of the anti-worm medicine ivermectin are in effect to prevent and treat Onchocerciasis. Antibiotic treatment of *Wolbachia* may help reduce the severity of river blindness in already-infected individuals. Recent studies demonstrate that doxycycline treatment kills *Wolbachia* and sterilize the nematodes, breaking the life cycle. In contrast, ivermectin treatments only reduce numbers of microfilariae. Other approaches include avoiding the black fly by sleeping under bed nets, using repellent, and wearing long sleeves and pants.

Sources: <http://www.cdc.gov/ncidod/dpd/parasites/onchocerciasis/default.htm>  
Just 50 cents campaign: <http://www.globalnetwork.org/just50cents>

