

# TRICHURIASIS

## INTRODUCTION

Trichuriasis is an infection of the large intestine caused by the human whipworm (*Trichuris trichiura*). Trichuriasis is part of a family of parasites known as the soil-transmitted helminths. Whipworms thrive in warm, humid tropical climates and infect 604 million people worldwide.

Trichuriasis is transmitted through accidental ingestion of contaminated soil or unwashed vegetables fertilized with human feces. Once inside the body, whipworm eggs migrate to the small intestine and hatch into adult worms which embed themselves in the lining of the large intestine and colon. Adult whipworms can live in the body for up to a year, and female worms can shed between 3,000 and 20,000 eggs per day. The eggs are passed out of the body via the stool of the human host; if inadequate sanitation exists, they will again be transmitted into the soil, beginning the cycle again.

Children are at high risk for whipworm because they often play outside in the dirt or soil and put their hands in their mouths without washing them. Prolonged exposure to whipworm can cause serious health consequences including malnutrition, anemia, and physical growth retardation, particularly in children.

## DISEASE OVERVIEW

### Risks

- Warm, moist tropical climates (whipworms cannot survive in hot, dry climates)
- Young children

### Symptoms

- Chronic, bloody diarrhea
- Abdominal pain
- Nausea & vomiting
- Weight loss
- Malnutrition and dehydration (in severe cases)
- Anemia (in severe cases, particularly in children)
- Rare cases can lead to rectal prolapse or appendicitis, particularly in children

### Transmission

Whipworm eggs are ingested from contaminated food or soil. The eggs hatch in the large intestine and attach themselves to the lining of the large intestine, causing abdominal upset, diarrhea, and, depending on the number of worms ("worm load"), malnutrition, dehydration, and anemia.

## Treatment

- Anti-helminthic drugs albendazole (Albenza) or mebendazole (Vermox) on an annual basis
  - 50 million tablets of mebendazole donated per year by Johnson & Johnson,
  - Albendazole available from GlaxoSmithKline for 2¢ per pill
- Currently no vaccine exists for trichuriasis

## DISEASE BURDEN

### Prevalence

- 604 million people worldwide, particularly in warm, humid, tropical climates
- World's third most common worm infection

### Disease Impact

- Causes physical weakness and anemia
- Leads to stunted growth and cognitive defects in children

## EFFORTS AT CONTROL

As with the other soil transmitted helminths, treatment of the active trichuriasis infection is coupled with education efforts aimed at proper waste disposal and sanitation management, effective hand washing techniques, and the washing, peeling and/or cooking of vegetables before eating. Anti-helminthic drugs are also used to treat the disease.

## FACTS AT A GLANCE

- The human whipworm infects 604 million people around the globe
- Education efforts aimed at proper sanitation techniques can have a significant impact on the disease burden