

The background of the slide is a microscopic image showing several stages of the Strongyloides stercoralis parasite. In the lower-left corner, there is a large, oval-shaped egg with a thick, multi-layered shell. In the center, a larva is visible, characterized by its long, thin, curved body and a distinct head region. The surrounding area is filled with numerous smaller, dark, granular particles, likely representing other stages of the parasite or fecal matter. The text is overlaid on this image in a large, bold, black, italicized font.

*Strongyloides  
stercoralis*

# Morphology

- Parasitic female  
measures 2.2 x 0.04 mm



# Life Cycle

- Direct cycle (like hookworm):
  - Adult in duodenum → eggs hatch in intestine → larvae in feces → rhabditiform in soil → become infective filariform larvae → penetrate intact skin of man → circulatory system → capillaries of lung → break out → swallowed → adult female matures in duodenum → begins ovipositing about 28 days from infection
- Indirect cycle:
  - Adult in duodenum → eggs hatch in intestine → larvae in feces → rhabditiform larvae in soil can develop into free-living adult males and females. These then produce rhabditiform larvae which can become infective filariform larvae or continue the free-living cycle

*S. stercoralis*  
rhabditiform larva  
wet mount

- Autoinfection
  - Adult in duodenum → eggs hatch in intestine
    - rhabditiform larvae may develop into infective filariform while in the intestine → penetrate the intestinal mucos or perianal skin
      - resulting in persistent infection over many years
- Hyperinfection
  - A severe form of autoinfection, wherein the filariform larvae, due to decreased immune defenses, migrate in increased numbers not only through the lung, but throughout the whole body

**i** = Infective Stage  
**d** = Diagnostic Stage

**6** Infective filariform larvae penetrate the intact skin initiating the infection.

**5** The rhabditiform larvae develop into infective filariform.

**4** Rhabditiform larvae hatch from embryonated eggs.

**3** Eggs are produced by fertilized female worms.

**2** Development into free-living adult worms.

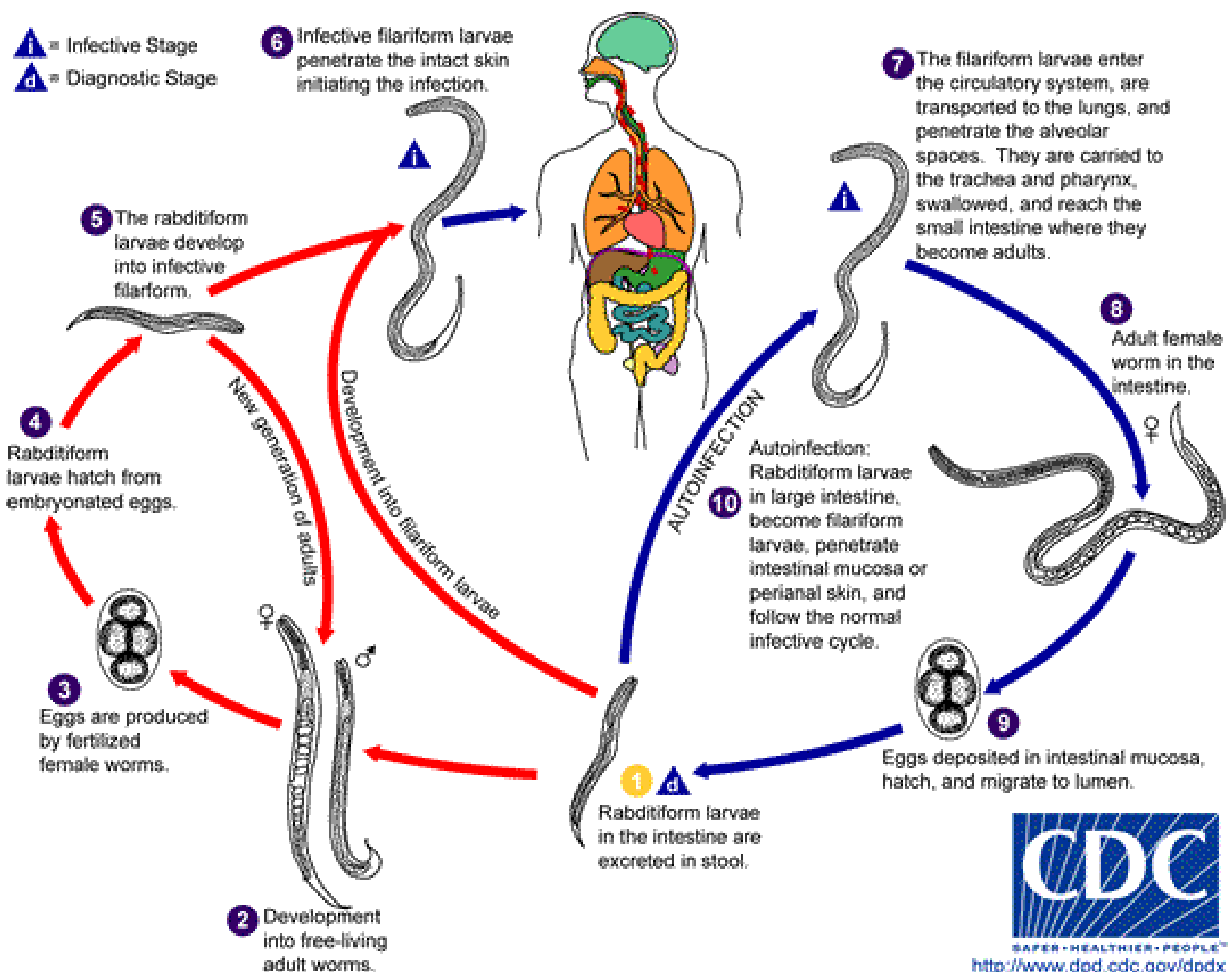
**1** Rhabditiform larvae in the intestine are excreted in stool.

**7** The filariform larvae enter the circulatory system, are transported to the lungs, and penetrate the alveolar spaces. They are carried to the trachea and pharynx, swallowed, and reach the small intestine where they become adults.

**8** Adult female worm in the intestine.

**10** Autoinfection: Rhabditiform larvae in large intestine, become filariform larvae, penetrate intestinal mucosa or perianal skin, and follow the normal infective cycle.

**9** Eggs deposited in intestinal mucosa, hatch, and migrate to lumen.



# Epidemiology

A microscopic image of a free-living male *S. stercoralis* worm. The worm is elongated, translucent, and has a distinct head region with a mouthpart. It is shown in a curved, C-shaped position, typical of its free-living stage. The background is a light, granular texture, likely feces.

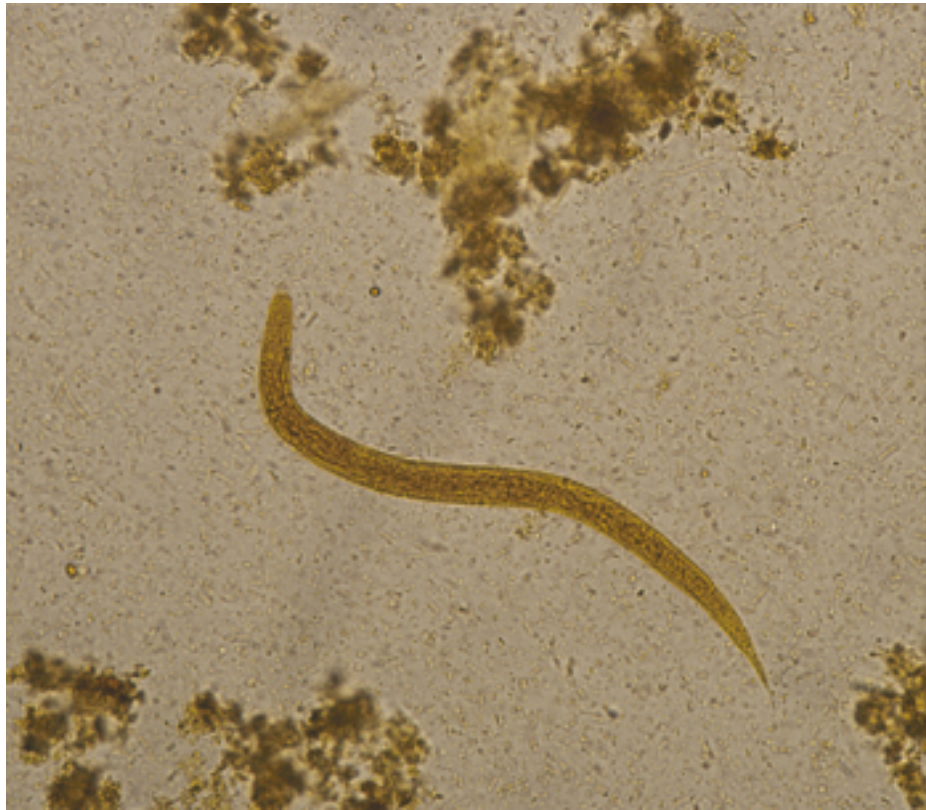
- Worldwide in tropical and subtropical regions
- In cold climates where close living allows maintenance, such as among the Eskimos

***S. stercoralis***  
free living male in  
feces (wet mount)

**DMR 1999**

# Diagnosis

- Finding larvae in stool or duodenal aspirate



# Symptomatology

- Acute:
  - Severe, watery diarrhea (Cochin-China diarrhea), may be debilitating due to water and electrolyte loss. Many cases have few or no symptoms.
- Hyperinfection:
  - Usually seen in immunosuppressed or debilitated individuals
  - A low-grade autoinfection cycle blossoms to a hyperinfective cycle when host barriers go down.
  - Early signs include leukocytosis and eosinophilia, and diarrhea followed by symptoms referable to organs involved (brain, lung, heart, kidney, muscles).
  - Gram-negative sepsis may result as larvae laden with gram-negative organisms enter the circulation



# Treatment

- Thiabendazole
- Pyrvinium pamoate
- Pyrantel pamoate
- Mebendazole



Rhabditiform larvae in feces

# Prevention

- Proper disposal of fecal material
- Wearing shoes

