

STRONGYLOIDIASIS





Strongyloides stercoralis (threadworm)

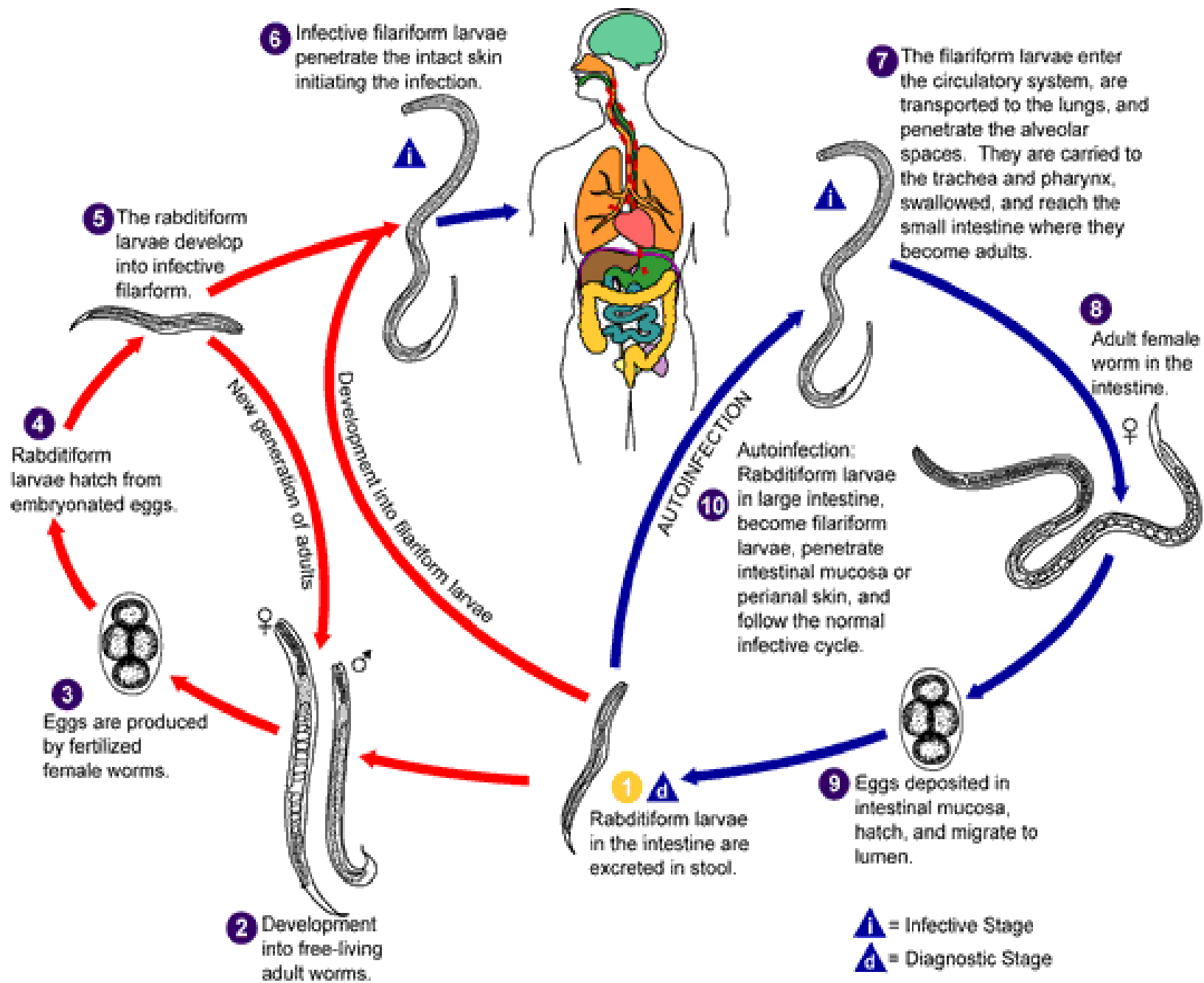
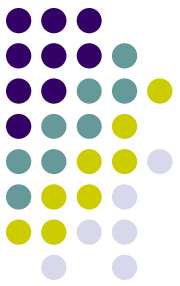
- Parasite of **small intestine**
- Adult worms very small: 2- 3 mm
- Can be parasitic or free-living



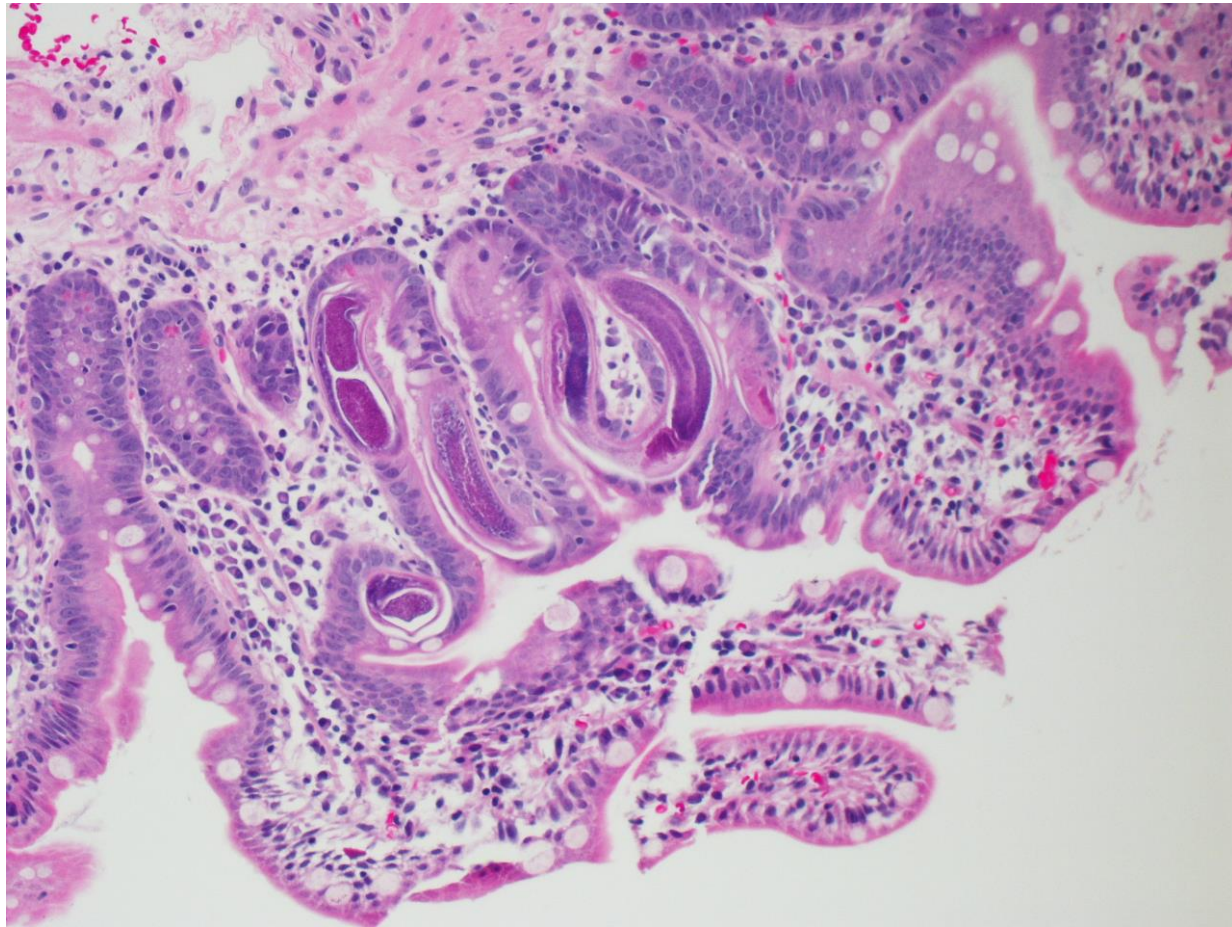
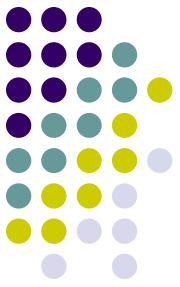
internal
sexual cycle



external
sexual cycle



Section of Doudenum

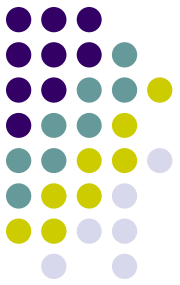


Auto - infection

L₁ larvae develop into L₃ larvae inside bowel lumen

Re-invade body through intestinal mucosa (internal) or perianal skin (external)

Multiply indefinitely in humans – **persistent infection** (upto 20-30 years) even without external re-infection





Transmission

- Free-living L₃ filariform larvae in contaminated soil penetrate skin or buccal mucosa
- Maintenance inside host by auto-infection

Epidemiology

- Infection not as widespread as other STH
- Much rarer in Sri Lanka than the other STH infections
- May be very high in some communities

Clinical features

Immunocompetent individuals:

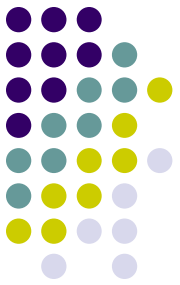
Larva currens - caused by migrating larvae

- recurrent rash around anus & on trunk
- linear appearance, itchy, transient

Urticaria - allergic rash in sensitised persons

Diarrhoea & enteropathy

Hypereosinophilia





Immunosuppressed persons:

Generalised, severe infection – disseminated strongyloidiasis

May be fatal

- Severe diarrhoea with malabsorption
- Oedema
- Hepatomegaly
- Paralytic ileus
- Encephalopathy
- Pyogenic meningitis



Diagnosis

- Identify L₁ rhabditiform larvae in stools
 - ddx - hookworm larvae
- Easier to differentiate at L₃ filariform larval stage
- Culture stools to enable larvae to mature from L₁ to L₃ stage
 - Agar culture plates
 - Harada - Mori culture technique
 - charcoal culture



Strongyloides stercoralis rhabditiform larvae

Oregon State Public Health Laboratories

Treatment



- Requires anthelmintic with systemic activity: must be absorbed well
- Thiabendazole: long course of treatment, many side effects
- Albendazole: 5-day course
- Ivermectin

Prevention and control

Prevention as for any other STH

Not usually common enough to justify control programmes

Hookworm

576-740 million people
infected worldwide

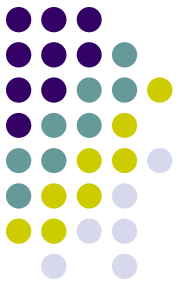
Scientific names:

- *Necator americanus*,
- *Ancylostoma duodenale*

Adult worms 2 – 3 cm in length,
whitish in colour

Have cutting mouthparts

Mouthparts of adult
hookworms



Head end

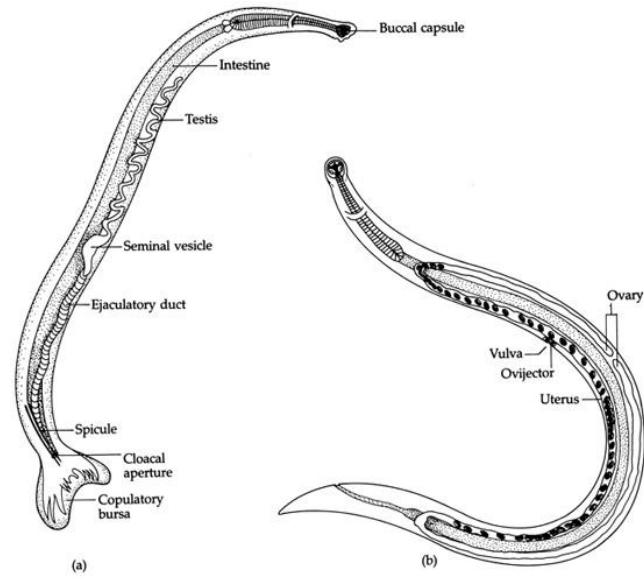


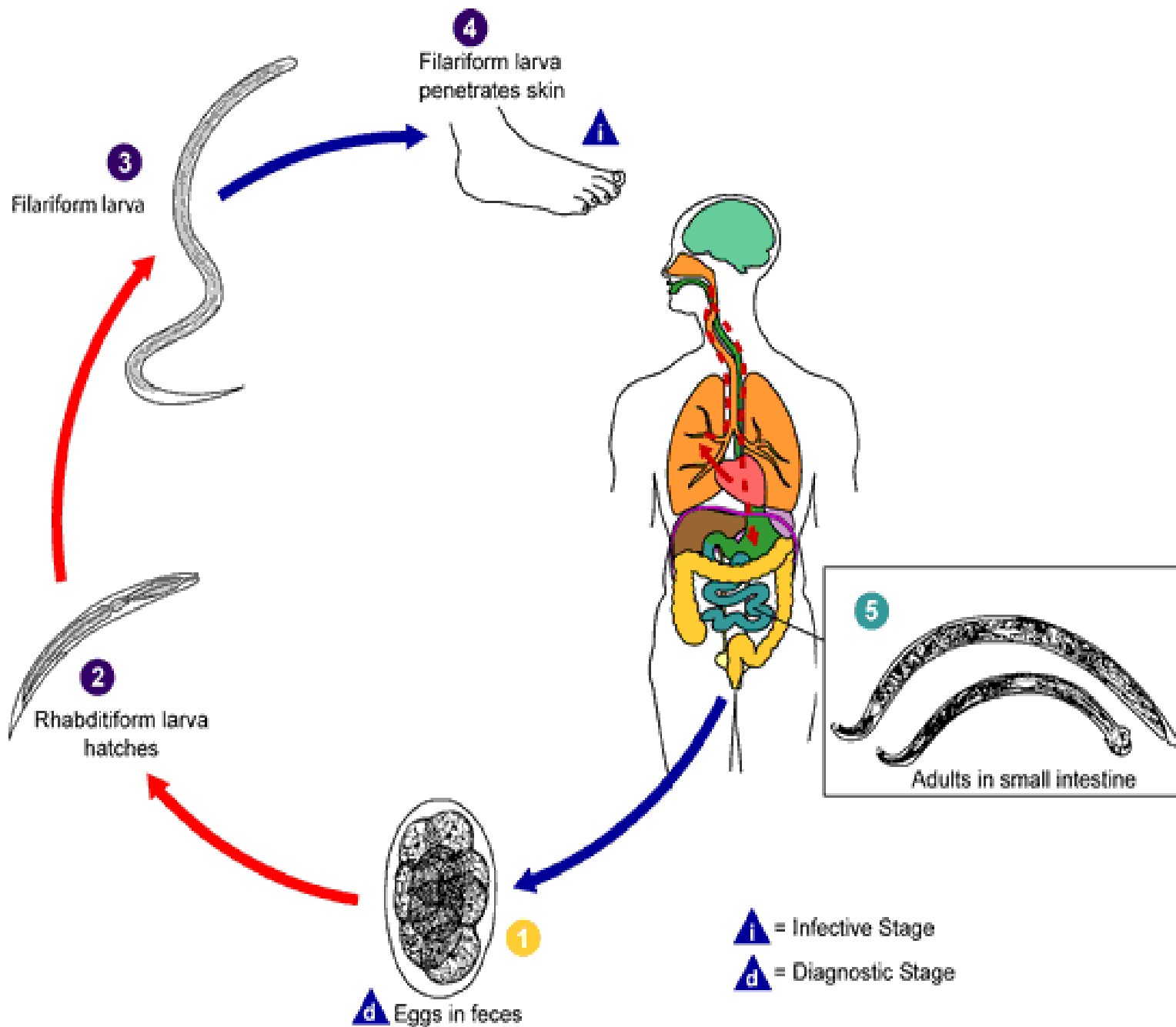
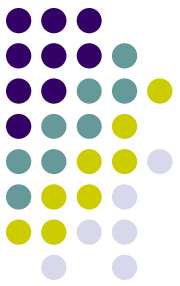
Spherical buccal capsule
with cutting plates

Smooth cuticle with fine
transverse striations

Muscular oesophagus
with posterior expansion









Life cycle

- Single host: only parasitizes humans
- Adult worms live in small intestine; eggs passed out in faeces; obligatory period of development in soil
- Climatic conditions must be suitable for eggs to hatch and larvae to develop in soil
- New infections occur when larvae penetrate bare skin
- Larvae migrate through lungs during maturation



Clinical features

- Anaemia due to blood loss
- Malnutrition and stunting of growth
- Impaired learning ability

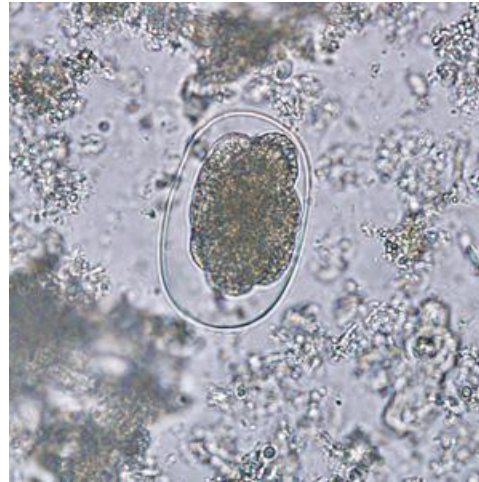
Epidemiology

- Common in tropics; less so in subtropics
- Prevalence increases with age (adults often infected)

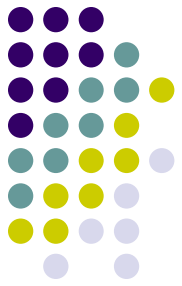
Diagnosis of intestinal worm infections



Examine faecal smears under microscope and look for worm eggs



Culture



Harada mori technique

Bermans technique

