


*Trichinella spiralis*-

# *Habitat*

- ▶ Mucosa of small intestine of pig, rat, bear, and man
- ▶ No free-living forms



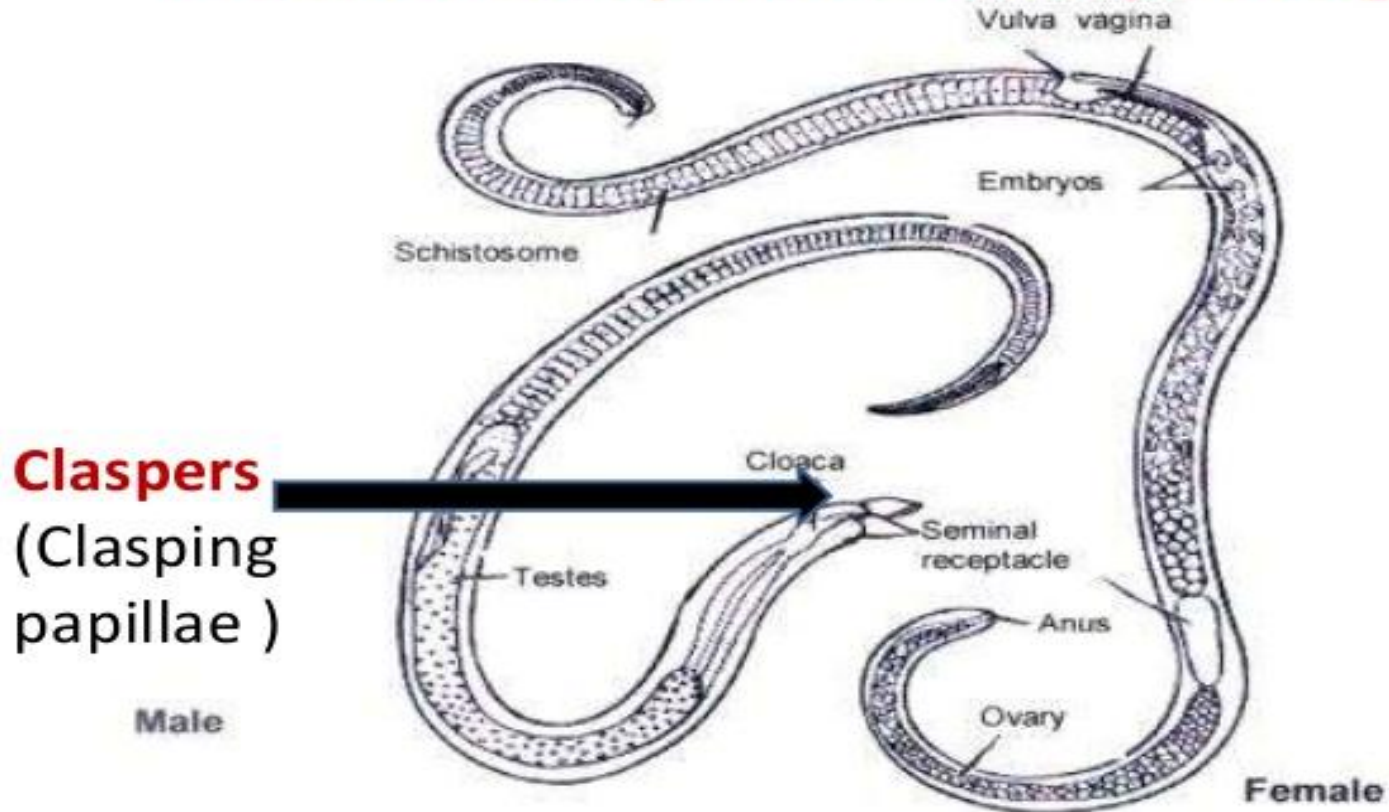
<https://www.google.com/search?q=trichinella+spiralis&sxsrf=ALeKk00jA8kWusnVv>

- ▶ *Trichinella* species, the **smallest nematode** parasite of humans.
  - ▶ It is an ovoviviparous.
  - ▶ It is sometimes referred to as the "pork worm".
  - ▶ It should not be confused with the distantly related pork tapeworm.
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# Morphology

- ▶ Adult Worm
- ▶ Male worm
- ▶ Female worm
- ▶ Larvae

# Trichinella spiralis- Morphology



<https://www.google.com/search?q=male+trichinella+spiralis&tbm=isch&ved=2ahUKEw>

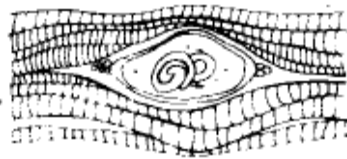


<https://www.google.com/search?q=larva+trichinella+spiralis&tbm=isch&ved=2ahUKEwjDqJmO>

# Life cycle

- ▶ *Trichinella spiralis* can live the majority of its adult life in the intestines of humans.
- ▶ To begin its life cycle, *Trichinella spiralis* adults will invade the intestinal wall of a pig, and produce larvae that invade the pig's muscles.
- ▶ When another animal (perhaps a human) eats the infected meat, the larvae are released from the nurse cells in the meat (due to stomach pH), and migrate to the intestine, where they burrow into the intestinal mucosa, mature, and reproduce.

2. MEAT FIBERS AND CYST WALLS ARE DIGESTED WHICH...



3. RELEASE TRICHINAE... WHERE IN SMALL INTESTINE DEVELOP INTO...



1. INFECTED MEAT EATEN BY HOST



## LIFE CYCLE OF TRICHINELLA SPIRALIS

4. SEXUALLY MATURE ADULTS... WHICH MATE



5. FEMALE GIVES BIRTH TO YOUNG TRICHINAE (1,000-1,500) IN MUCOSA OF INTESTINE



6. YOUNG TRICHINAE TRAVEL BY WAY OF INTESTINAL LYMPHATICS TO BLOOD CIRCULATION TO...



7. MUSCLES OF HOST WHERE THEY ENCYST



[https://www.google.com/search?q=life+cycle+trichinella+spiralis&tbm=isch&ved=2ahUKewijxYm6vr\\_pAhUC\\_hQKH](https://www.google.com/search?q=life+cycle+trichinella+spiralis&tbm=isch&ved=2ahUKewijxYm6vr_pAhUC_hQKH)

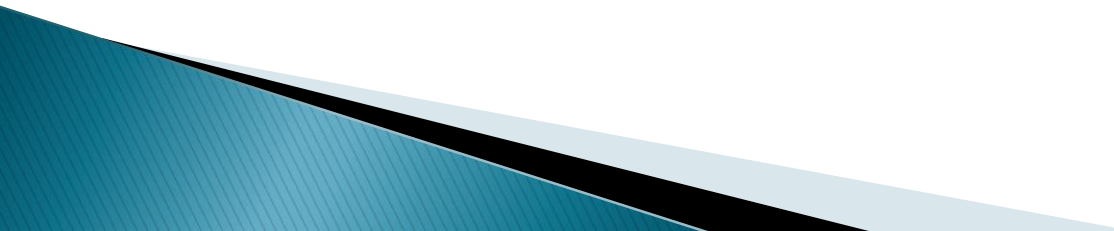


# Symptoms

- ▶ Mostly gastrointestinal including:
  - ▶ Nausea
  - ▶ Diarrhea
  - ▶ Vomiting
  - ▶ Abdominal pain

- ▶ The classic trichinellosis symptoms often occur within 2 weeks after eating contaminated meat, and can last up to 8 weeks,
  - Muscle pain
  - Fever
  - Swelling of the face, particularly the eyes
  - Headache
  - Weakness or fatigue
  - Chills
  - Itchy skin or rash
  - Cough
  - Diarrhea
  - Constipation

# Prevention and control

- ▶ The best way to prevent trichinellosis is to cook meat to safe temperatures.
  - ▶ Curing (salting), drying, smoking, or microwaving meat alone does not consistently kill infective worms.
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- ▶ Freeze pork less than 6 inches thick for 20 days at  $-15^{\circ}\text{C}$  to kill any worms.
  - ▶ Wash hands with warm water and soap after handling raw meat.
  - ▶ Clean meat grinders thoroughly after each use.
  - ▶ Do not allow pigs or wild animals to eat uncooked meat, scraps, or carcasses of any animals.
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