

Ministry of Higher Education and Scientific
Research

Al -Mustaqbal University

Collage of medical and health techniques

Department of medical laboratories techniques



8TH LECTURE

Helminths , flat and round worm

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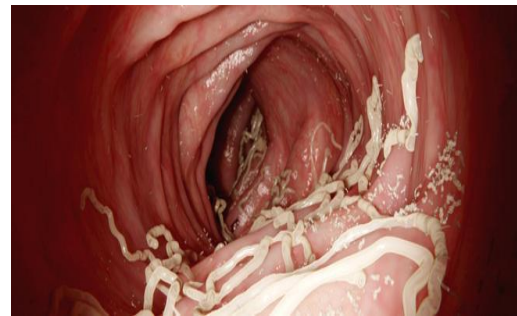
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Helminths





- ‘**Helminth**’ is a general term meaning ‘worm’.
- In terms of tropical diseases, helminths are worm-like parasites that feed on their host. Some cause no symptoms, while others cause severe illnesses and long-term damage to organs.
- There are many types of helminths, from the very large to the microscopic.

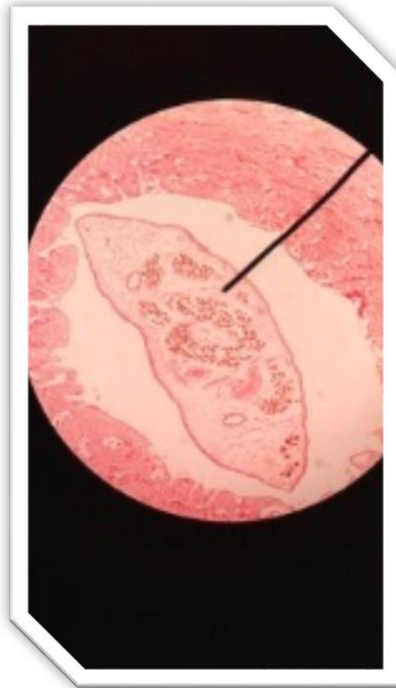
What are helminths?

- All helminths are invertebrates with long, flat or round bodies.
- There are many kinds of helminth, ranging in length from less than one millimetre to over one metre.
- Helminths infect a range of hosts, including humans. Their effects inside their host also vary, causing a wide spectrum of diseases, from mild to potentially deadly.
- Between 1.5 and 2 billion people around the world are affected by helminth infection – the leading cause of sickness in the developing world.
- Infection can cause physical, nutritional and cognitive impairment in young, developing children.
- In most cases, helminth infections are found in areas with warm, moist climates where sanitation and hygiene are poorer.

Classification

1. Flukes (Trematodes)

Adult flukes are leaf-shaped flatworms. Prominent oral and ventral suckers help maintain position in situ. Flukes are hermaphroditic except for blood flukes, which are bisexual. The life-cycle includes a snail intermediate host.



2. Tapeworms (Cestodes) flat worm

Platyhelminthes have the following important characteristics:

1. They are triploblastic, acoelomate, and bilaterally symmetrical.
2. They may be free-living or parasites.
3. The body has a soft covering with or without cilia.
4. Their body is dorsoventrally flattened without any segments and appears like a leaf.
5. They are devoid of the anus and circulatory system but have a mouth.
6. They have an organ level of organization.
7. They are hermaphrodites, i.e., both male and female organs are present in the same body.
8. They reproduce sexually by fusion of gametes and asexually by regeneration by fission and regeneration. Fertilization is internal.
9. The nervous system comprises the brain and two longitudinal nerve cords arranged in a ladder-like fashion.

Unique Characteristics of Platyhelminthes

Some of the characteristics that distinguish the organisms belonging to phylum Platyhelminthes from others are:

- Presence of flame cells.
- Ladder-like nervous system.
- Presence of parenchyma in the body cavity.
- Self-fertilization

**3. Roundworms (Nematodes)**

Roundworms are small organisms that can live in your intestine, which is part of your digestive system. Roundworms can live in the human intestine for a long time. They can be harmful and cause many problems, including abdominal (belly) pain, fever and diarrhea.

Roundworms have long, round bodies and can be of different sizes, depending on the type. The eggs or larvae (newly hatched roundworms) often live in infected soil or stool (poop).

**How does a person get infected with roundworms?**

The route into the body depends on the type of roundworm. Many of these parasites enter the body through the mouth. Infection often happens from touching stool or soil that's infected with eggs and not washing hands (fecal-oral route). Pinworm infections result from touching eggs laid near the opening of the buttocks (anus).

You can accidentally ingest roundworm eggs by preparing food or touching soil that's contaminated. The eggs then hatch inside your body. For other roundworms, eggs may hide in the food people eat. And in some cases, larvae can enter the body directly through your skin.

Regardless of how they enter, most roundworms end up in your intestines, causing infection or disease.

Who is at risk for roundworms?

Anyone can get roundworms. Roundworm infections are more common in children and people who are:

- Living in poverty, especially in underdeveloped areas of the world.
- Living in warm climates.
- Living in an institution, such as a prison or mental health facility.
- Not practicing good hygiene.

Are roundworms contagious?

Yes. If you come into contact with infected poop of people or animals, you can get roundworms. You can also get them by touching infected surfaces, like soil.

Can I get roundworms from my pets?

Yes. If your pet has roundworms, you can be exposed to the eggs or larvae in their poop. A pet with roundworms can spread the disease to many people. Talk to your veterinarian about protecting you and your pet from roundworms.

What are the causes and symptoms of roundworm infection of your intestines (ascariasis)?

This type of roundworm spreads through poor hygiene. It often lives in human feces (poop). People catch it through hand-to-mouth contact.

If you have a roundworm infection of your intestines ([ascariasis](#)), you may not have symptoms. You may see live worms in your poop though. If you do have symptoms, they may include:

- [Cough](#).
- Disturbed sleep.
- Fever.
- Restlessness.
- Severe abdominal (stomach) pain.
- Vomiting
- Wheezing.
- Malnutrition.
- Growth delay.