



INTESTINAL WORMS

THE IDEA

Several different types of worms live in the intestine. These worms produce eggs or baby worms called larvae which pass out of the body in the faeces, but are too small to see. Children get infected by swallowing the eggs, or the larvae enter the body through the skin. In the intestine, the worms feed on our food, or on blood. If there are many worms inside a child, he may become ill or not grow properly. Worms are easy to treat with medicine. An infected child can infect other people, so it is important always to use a latrine, and to wash our hands before eating.

Millions of people have worms in their bodies. They get into our bodies in different ways. The most usual way is by eating food infected by worm eggs or larvae. Children as young as one year old can suffer from worms. It is important they are encouraged to use a latrine, or that faeces are buried, and they wash their hands afterwards.

There are many different kinds of worms, some large, and some so small that we cannot see them. Sometimes the ones we cannot see are worse than the bigger ones. Children often get even more worms than adults.

How do they make us ill?

Some people think worms in the body are not dangerous. This is wrong. Worms are very dangerous because they live off us, by taking the food or sucking the blood inside us. They make us weak because they eat our food. Large numbers of worms may lead to loss of appetite and poor absorption of food. Children with worms can be bad-

tempered and tired, and may not do well at school. Worms can stop children from growing properly. When a child has worms, it may not be noticed at first. Intestinal worms live for one to three years. A worm load is accumulated slowly by continual exposure to eggs or larvae. The more worms there are, the more likely it is that the child will become weak and ill.

How do we get worms?

There are three main ways in which we become infected with intestinal worms:

- By swallowing the eggs or larvae (young worms) of worms such as the large roundworm.
- By picking up infectious larvae of hookworm from the soil through the skin.
- By swallowing infectious larvae of worms such as the tapeworm which are found in under-cooked beef or pork, or on the skins of fruit and vegetables.

During its lifetime, one worm can lay millions of tiny eggs which we cannot see, but only

Where and how these activities have been used

These activities are closely linked with Activity Sheets 6.3, 6.4 and 6.5 and like these they are often best passed on by example. Health committees in schools and health-conscious families at home can set such examples. Characters in comic strips or radio plays provide good and amusing examples of how not to behave.

Many general rules of hygiene not only prevent the spread of worms but also the spread of many other diseases and this makes children aware of the effect their actions can have on other people, their families and the community as a whole. Some children in Oaxaca, Mexico, did a project on worms. They performed a play showing how dirty hands and food make it easy for worms to spread. They also used a balloon filled with water and spaghetti to help them imagine worms in the intestine.

a few of these eggs actually become worms. When a worm reaches the intestine it lays eggs which pass out of the body in the faeces. Most worm eggs take over a week to become infectious, so old faeces are more dangerous than fresh.

If the faeces are left where we walk and sit and eat, the eggs in the faeces get onto things we touch: furniture, water, soil, dust, etc. Flies can move from the faeces and carry the eggs onto our plates and cups, or onto the food we eat. Eggs also get onto food that is prepared or eaten with dirty hands.

We swallow these eggs without knowing, and they grow into worms inside us. Then they travel through the different parts of our body until they reach our intestines, where they have easy access to our food.

REMEMBER

Wash your hands before touching or preparing food, and before eating.

How do we prevent worms?

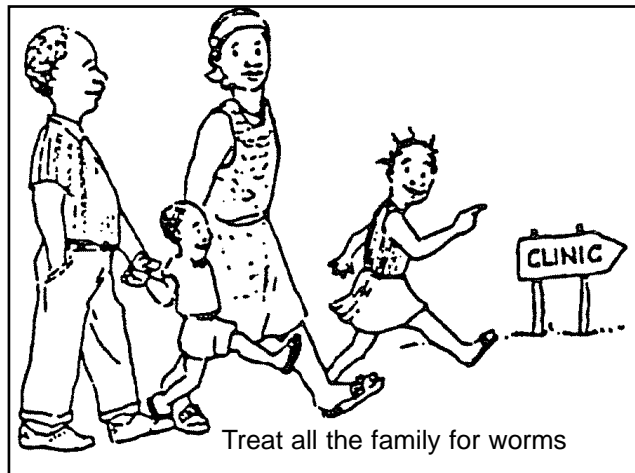
To become infected, a person needs to come in contact with old faeces, not freshly passed faeces. Even though faeces may have rotted away and can no longer be seen on the ground, they are still dangerous. Although the ground may appear to be clean, the eggs of some worms can live for many months in moist and shady places. It is therefore important that children are encouraged to use a latrine or potty from an early age. Where this is not possible, all traces of faeces lying on open ground should be removed, and either dropped in a latrine or carefully buried in a newly dug hole. The eggs may continue to develop even when the faeces are buried, so the hole should be deep. It is not enough to simply cover the faeces with dirt.

Children should also be taught to wash their hands after defecation, and before eating. Personal hygiene is very important, as it is possible for a child to become reinfected immediately after treatment, so within a few months the child may have as many worms as before.

REMEMBER

All intestinal worms are spread by bad sanitation and poor hygiene.

Because an infection can be difficult to diagnose, and because the treatment is simple and harmless, it is recommended that all members of a family should be treated to avoid infection from the person suffering from worms.



Some common harmful worms

There are many different kinds of worms. Most of them are not harmful if present in small numbers. But when there are large numbers inside the body, they can make us ill.

Threadworm (also called Pinworm)

These are very common, especially in young children. They are tiny white worms like bits of thread. Threadworm can be seen on a child's anus especially at night, because that is the time when the female comes out to lay her eggs which are too tiny to see. The eggs are covered by a sticky fluid that makes the child's anus very itchy. This makes the small child scratch and collect eggs under their nails. Then they leave the eggs on whatever they touch, e.g. their own mouth, food, the bedding and their clothes. In this way, they can swallow more eggs, and the whole family can easily get threadworm.

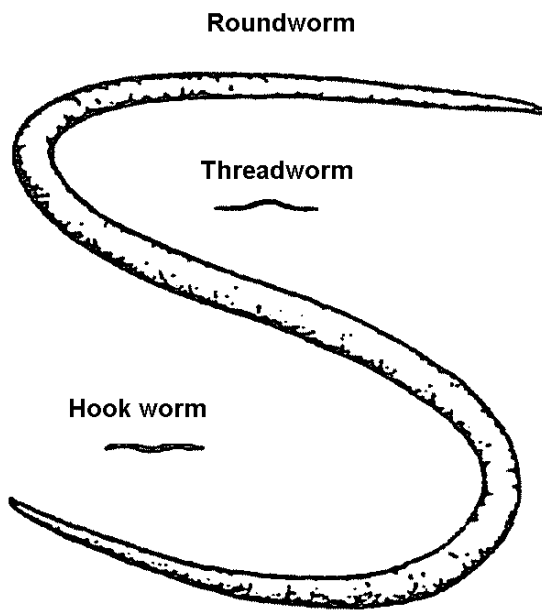
Children with threadworm may be bad-tempered and tired because they sleep badly, and uncomfortable because they itch.

What can we do to prevent threadworm?

- Wash hands and bottoms.
- Wash clothes and bedclothes thoroughly to destroy any eggs.
- Cut fingernails short.
- Dispose of children's faeces away from living and play areas.

To cure threadworm:

Threadworm can be easily cured if the whole family takes worm medicine.



Hookworm

Hookworm cannot be seen or felt when it goes into the body through our skin. Once the worms are in our body, they hook onto the intestine and suck blood. Their millions of eggs pass out in the faeces. Then they hatch into larvae (young worms) which get into bare feet when we walk on them, into hands, or into children's bare bottoms when they sit on the ground.

Hookworms suck blood. Children get anaemia (too thin blood), they become weak, tired, ill and can even die. They get other illnesses more easily, and do not get well quickly. Sometimes they cannot learn and think well at school, and they do badly in their studies. If someone has anaemia, their skin, gums, fingernails and the insides of their eyelids become pale, and they are weak and tired.

What can we do to prevent hookworm?

- Wear shoes.
- Dispose of faeces cleanly and always use a latrine.
- Make a clean place for small children to play and crawl.



To cure hookworm:

If we think children have hookworm, ask a doctor or health worker at the clinic what is the most effective medicine.

Roundworm

These worms are pink and long, with pointed ends. Female roundworms can grow to be 35 centimetres or longer. They can easily be seen in the stools, and sometimes children cough and spit them out. But most of them live in the intestines where the females lay their eggs. These eggs, as small as a speck of dust, have hard shells. When the eggs come out of the body in the faeces, their hard shell allows them to live in the ground for a long time, especially in damp, shady places. These eggs get into water, flies carry them on their legs, they can be found on fruit and vegetables that are not washed well, and even on our hands. When we swallow them, we cannot see them.

Children with roundworm have stomach pains and do not feel hungry. Sometimes they are thin but have a big abdomen and they become weak and thinner. Too many roundworms can block the intestines by forming a big ball. Sometimes after treatment worms may get tangled, so children should be watched carefully for signs of intestinal problems for a few days after treatment.

What can we do to prevent roundworm?

- Use the latrine. For young children, use a potty or a banana leaf, or a latrine especially made for children (see Activity Sheet 3.3 **Children's Faeces and Hygiene**).
- Bury faeces by digging a deep hole and covering them.
- Wash hands before eating food or before using household drinking water.

- Cook food well to kill the eggs.
- Peel fresh fruit and vegetables.
- Cut fingernails short.

To cure roundworm:

In areas where roundworms are common, make sure that all children receive regular treatment.

Tapeworm

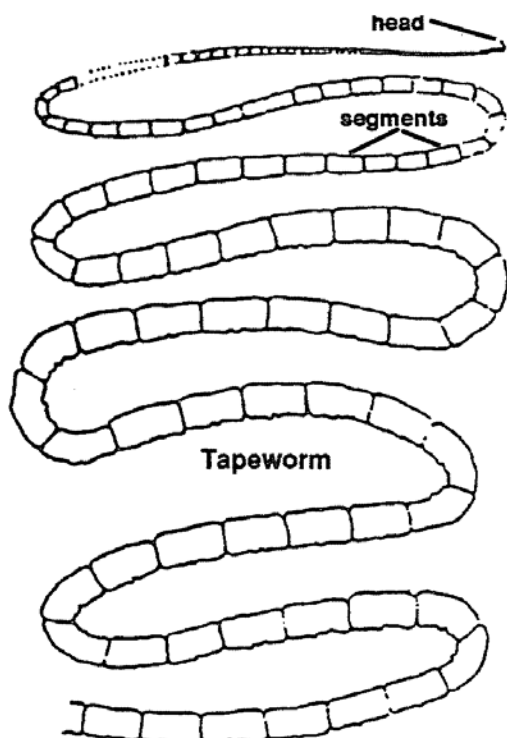
Tapeworms are flat, usually long, worms. The largest come from eating raw fish, or fish that is not well cooked. Eating poorly-cooked pork that is infected by the eggs of the pork tapeworm can make us dangerously ill.

Tapeworms have a head and a body which is made up of many short pieces (or segments). As the tapeworm grows, its end segments become heavy with eggs and break off. These pieces pass out of the body in the faeces, where they can be seen.

Some kinds of tapeworm can make us tired and weak, and some can be very dangerous, especially for young children.

What can we do to prevent tapeworm?

- Always cook meat thoroughly before eating it to kill any tapeworms.
- Always use a latrine.



To cure tapeworm:

Special medicines can cure tapeworms.

REMEMBER

The health centre can give simple treatment for worms. It is important to get this so that children and others can get well and stop worms from spreading to others.

Community action can help to prevent worms from spreading if everyone cooperates by observing the rules of good hygiene, and especially:

- building and using latrines.
- getting rid of small children's faeces safely and quickly, away from places where we sit and eat.
- keeping the places where people live and eat.
- clean and free from flies, faeces and other dirt.
- washing hands before eating and after using the latrine.
- keeping food and water safe from flies and dirt.
- cooking food well, and storing it safely.

REMEMBER

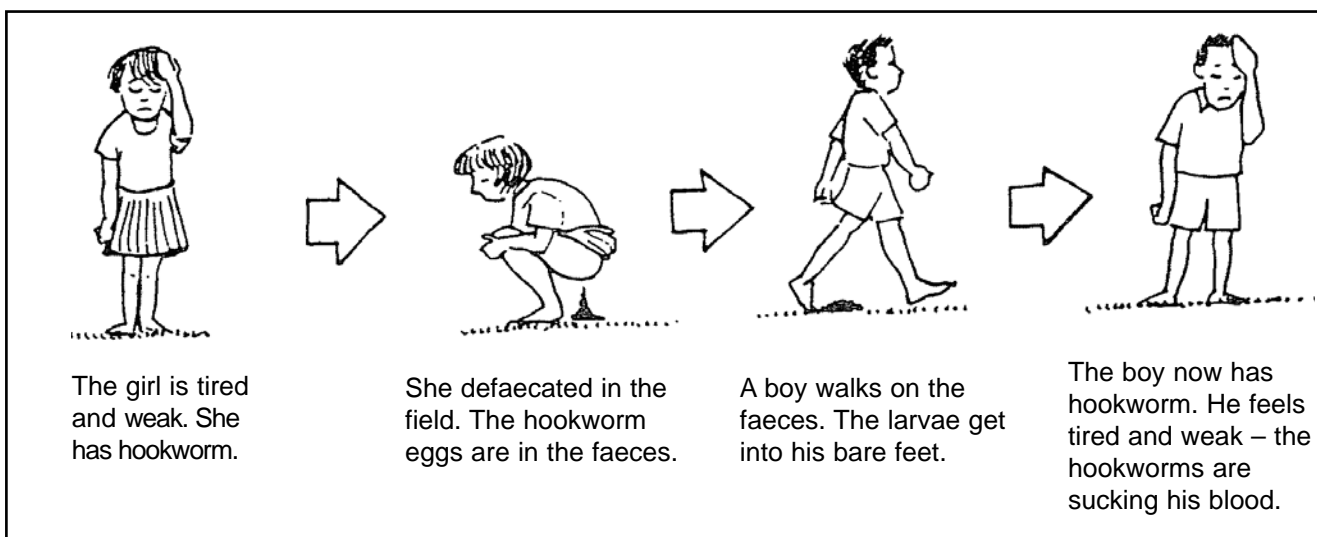
Every person in the community must help. If ONE person does not follow the rules, they SPREAD WORMS to HUNDREDS of other people.

Activities

What we learn about worms is no use if we only observe the rules of hygiene at school and forget them at home. If we use the latrine at school and do not help our younger brothers and sisters to use it at home, we cannot get rid of worms.

Finding out

Worms Who in the group has had worms? How did they feel? Do people at home have them? Have you seen worms? (Hookworms)



are too small, but threadworms (or pinworms) and tapeworms are large enough to see. Where did you see them? Do you know people who have worms you can't see? Do your younger brothers and sisters get more worms than you? Why are young children more likely to get worms? (They crawl on the ground, put things in their mouths, eat soil, suck their fingers or thumbs.)

Latrines Where are there latrines? At home? How many at school? How many for teachers? How many for children? Do you know any public ones? Who looks after them? Make a guide or map to the latrines you know. Which of them have a cover and are kept clean?

Water Where do people get their drinking water? Is the source of drinking water clean? Where can they wash their hands before they eat and after they have been to the latrine?

Discuss

How can children get rid of worms?

Write a story called 'My Life as a Fly' or 'My Life as a Worm'. Write songs about worms and flies.

Draw and discuss a health map which shows dangerous places where worms are spread. Show how flies spread germs and worms. Watch the flies and see where they go. Then draw a plan of their journey on the map.

In maths, work out how many eggs one female roundworm can produce in three months if she lays 200,000 eggs every day.

Taking action

Observe the rules of hygiene, keep clean, and use a latrine. Keep all water supplies clean and safe. Protect cooked food from flies, and wash raw fruit and vegetables before eating. Make sure the family at home understands about worms. Teach younger children to use latrines, make latrine covers, wash hands (with soap if possible) after using the latrine. Keep a clean, safe place where small babies can play.

At school How can you keep the latrine clean, and make it free of worms? Kill flies, improve and cover latrines, provide water for washing hands, keep the compound clear of dirt. Report to teachers, parents, health workers when there are flies, worms, dirt, or problems with latrines.

Make posters and picture stories about:

- taking children to the clinic for treatment.
- keeping the places we sit, walk and eat clean and free from faeces and flies.

Hang these posters up at school, at the market, at home.

Follow-up

How many children can remember the main idea three months later? How many have been able to use the information, at school, at home? What did they do? Are there more latrines, latrine covers, children wearing shoes? Who has gone to the health centre for worm treatment? Have the older children helped the younger ones by getting rid of faeces, showing them how to use the latrine, talking about worms with their parents? How else did they help?