

THREADWORM CAN BE AN ITCHY PROBLEM

Threadworms are very common and the Royal College of General Practitioners estimates that 40% of children under 10 years of age suffer from threadworms at least once.

Threadworm

Threadworms (*Enterobius vermicularis*) are thin, parasitic worms which mature and reproduce in the intestines. At night, the female emerges from the anus and lays up to 15,000 eggs on the surrounding skin, which may lead to itching.

Despite being unpleasant: serious complications from threadworms are rare, but infestation may contribute to insomnia, restlessness and irritability. Some sufferers endure an intense itch, so pharmacists should also be alert for problems linked to scratching, such as skin irritation, haemorrhage or secondary bacterial infections.

However, most threadworms infestations are asymptomatic – a characteristic that helps the parasite spread and means that all the family should be treated to help prevent re-infection. In addition, pharmacists can, by combining OTC medications with hygiene advice, effectively treat most cases of threadworm.

Threadworm treatment

OTC medications for threadworms are highly effective and well tolerated. Mebendazole and piperazine cure around 90% of infestations. Both drugs can cause a number of adverse events including gastrointestinal side effects and hypersensitivity reactions, although these are rare.

Mebendazole inhibits the formation of microtubules, the intracellular cylinders that maintain the cell's shape, aid mitosis and contribute to organelle function. Mebendazole binds to the threadworm's beta-tubulin, a protein in microtubules, at much lower concentrations than to the mammalian version of the polypeptide. Mebendazole also inhibits mitochondrial function and glucose uptake, both of which contribute to its efficacy.

Piperazine acts through a different mechanism. Piperazine, a GABA (gamma-amino-butyric acid) agonist, relaxes the threadworm's muscles, thereby paralyzing

the worm. The paralysed worms are too flaccid to reproduce and patients pass the limp worms in their faeces.

To aid expulsion, OTC formulations of piperazine include sennosides. Once again, a marked dose difference separates the concentration that paralyzes worms and that producing side effects in the host. Piperazine is available as a sachet that parents stir into milk or water, which often makes dosing children easier. Pripsen Powders are the only drug treatment for threadworms which can be given to children under the age of two years old (from 3 months of age).

Threadworm Advice

Five key points are worth remembering when advising customers about threadworm treatments:

1. Many children don't develop the intense itch that is threadworm's hallmark, but they can still pass on the infection. Therefore, the entire family might need treatment with either piperazine or mebendazole, whether or not they suffer symptoms.
2. Some customers should see their GP before using piperazine or mebendazole. Those with liver or kidney disease, have a history of epilepsy or are breast-feeding, should not take piperazine. Mebendazole is not suitable for children under the age of two years.
3. Pregnant women should not take either drug. Rather they should use the hygiene measures described below, which will usually eradicate the infestation in six weeks. You can reassure pregnant women they will not pass the worms to their baby and their baby is unlikely catch the infection during birth.
4. Remind customers and their families to take a second dose 14 days after the first. This clears any un-hatched worms. If symptoms don't resolve after the second dose, the GP should be consulted.
5. Recommend the hygiene measures outlined:

Good Hygiene

The importance of good hygiene should be emphasised:

- Keep nails short
- Wash hands and scrub nails after using the toilet and before meals
- Wear pyjamas or pants at night to help prevent scratching
- Wash underwear and nightwear each day to destroy eggs laid during the night
- Change the bedding as often as possible. However, don't shake the linen, which can spread the eggs
- Take a bath or shower in the morning to dislodge any eggs laid during the night
- Eggs can spread on bath towels and flannels. Therefore, everyone should use their own, which should be washed regularly at high temperature
- Eggs may survive for a fortnight on clothing, bedding and carpets; so these need regular washing and clearing
- Parents should do their best to discourage children from sucking their fingers or thumbs and biting their nails

The whole family will need to follow these measures for up to six weeks to eradicate threadworms.

Double-dose Pripsen

Pripsen Powder (Piperazine Phosphate) is raspberry flavoured and is suitable for children from the age of three months. It can be mixed with water or milk.

Pripsen Mebendazole Tablets are chewable with a pleasant orange taste and can be taken by children over the age of two. The first dose of Pripsen treats the adult threadworms, but some eggs may be left behind, so a second dose is taken two weeks later which breaks the threadworm life cycle.