Beef tapeworms live in the food canal of people.

A tapeworm is flat, white and very long (up to 10–15 metres).

Its body consists of many segments as shown in the picture.

New segments are formed at the neck.

Segments are pushed downwards to the end of the worm as new ones are formed.

The segments at the end of the body mature/develop. This means that they are filled with eggs.

These segments become loose and either leave the body of the human passively with the excreta or crawl out of the anus.

Every time the segment moves, it deposits thousands of eggs on every surface it comes into contact with.

People get beef tapeworms by eating beef which has not been cooked well and which contains measles.

Cattle get measles by grazing on pastures soiled by the excreta of humans who have beef tapeworms.

They also get measles from animal handlers who are infected with beef tapeworms, when the worms crawl out of the handlers and infect the kraal, feed and water-troughs.
Beef with measles

- After the tapeworm eggs have been ingested by cattle, they hatch in the food canal.
- The young worms go through the wall of the food canal and enter the bloodstream.
- The worms reach the muscles (beef) through the blood and become fixed there in the form of measles.
- Measles in beef look like little white sacs filled with water (as indicated by the arrows).

If you are infected with beef tapeworms, you will

- always feel hungry
- and lose mass

This is because beef tapeworms are parasites which absorb the food you need. They allow you to digest the food you have eaten and then use the digested food for their own growth, leaving very little for you.

This will lead to
- stomach cramps
- headaches
- dizziness
- tiredness.

How do you know you have beef tapeworms?

The mature segments can move on their own. They leave the human body through the anus and move around on your clothes.

Therefore:
- you will feel uncomfortable and itchy around the anus
- you will see flat, white, fleshy sacs in your underwear, on your clothes and even shoes
- you will see long, white strips in your excreta.

What to do if you think you have beef tapeworms

- Go to a clinic. They will do tests and prescribe medicine to kill the worms.
- If you see something strange in your underwear or in your stool, collect it in a bottle or bag and take it to your clinic for examination.
Remember!
- People are often too embarrassed if they suspect that they have beef tapeworms to discuss the matter with someone who can help them.
- But it is better to be healthy than to be ashamed and ill! Tapeworms can be very dangerous.
- Do not delay if you think you have worms. You are not only neglecting your own health but you are spreading the worms and infecting other people as well.
- Speak to the doctor or nurse today!

### How to prevent tapeworm infection
- Do not buy meat from informal (unregistered) butchers because it may have measles.
- Make sure that you eat meat which is well cooked. This will kill the measles.
- Do not eat raw meat.
- If you suspect that beef contains measles you must freeze it for at least 3 days at a very low temperature before eating it (–18 °C).
- Use proper toilets. Never use the veld as a toilet.

### How to prevent measles in your cattle if you are a farmer
- Provide proper (clean) toilet facilities for your herdsmen.
- If toilets are well-ventilated, people are more inclined to use them. Unventilated toilets cause a foul repugnant odour.
- Inform your employees (workers) about tapeworm infection.
- Provide treatment for your employees against beef tapeworm.
- Keep your animals in fenced pastures—do not let them graze on roadside verges because inconsiderate travellers frequently defecate there.

### Why should you prevent measles in your cattle?
- You must ensure that you produce safe food for the consumer.
- You will get less money for your beef if your cattle are slaughtered at a controlled abattoir where proper meat inspections are carried out and your cattle are found to be infected with measles.
- Beef containing measles will infect more people, which in turn will infect greater numbers of cattle!

### How will you know that your cattle are infected with measles?
- There are no signs (symptoms) in cattle infected with measles.
- When you slaughter your cattle on the farm, carry out meat inspections by making a few cuts in the jaw muscles and inspecting the cut surface for white, water-filled sacs.
Can you treat your cattle for measles?

- Yes, but it is VERY expensive.
- Cattle can be reinfected after treatment.
- All the cattle should be treated, because there are no signs to make detection easy.

Substitute the vicious cycle with a good cycle!

- Beef tapeworms and measles in beef represent a vicious health-threatening cycle—we can all prevent it in our daily food chain.
- The farmer, butcher and consumer also create a cycle for food production.

**Butcher**
*(link between farmer and consumer)*

**Farmer**
*(produces beef)*

**Public**
*(consume beef)*

**Need for food**
*(encourage the farmer to produce more beef)*

Everyone has to cooperate in ensuring a healthy cycle

- **The farmer** – by implementing good farming practices
  - by taking precautions to limit exposure of cattle to measles.
- **The butcher** – by protecting clients
  - by ensuring the beef sold is properly inspected for measles.
- **The public** – by supporting the farmers in producing safe food
  - by being considerate and maintaining good hygiene at all times.

**Prevention is better than cure!**

For further information contact the Onderstepoort Veterinary Institute of the ARC
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