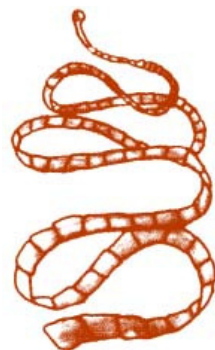
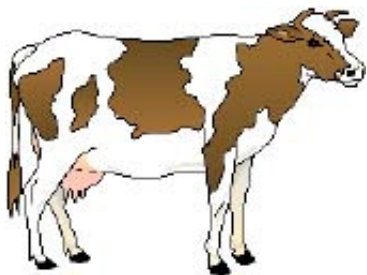




Directorate Communication



## PARASITIC CYSTS AND LESIONS IN ORGANS



**Jenny Turton**

## **Parasitic cysts and lesions in organs**

**Cysts are a stage in the life cycle of a parasite (they look like bubbles or pearls).**

**Lesions are abnormal changes in animal tissue (meat, organs and other body parts).**

**❖ They are seen at the time of slaughter of food-producing animals or in affected organs which are being sold**

**We are concerned about parasitic cysts and lesions because:**

**❖ Some can cause diseases in people, which means that control of the parasites is important**

**❖ Affected organs are condemned because of an unattractive appearance and therefore nobody wants to buy them**

**❖ Some of them can also cause loss of production, disease and even death in livestock**

---

## ***Echinococcosis (hydatid disease)***

**What is echinococcosis?**

- Echinococcosis is caused by a tapeworm, and results in cysts in the organs of sheep, goats, cattle and pigs**
- It is a very important disease in people, and approximately 100 human cases are diagnosed per**

## **year in South Africa**

### **How are animals infected?**

- **The adult tapeworms live in the intestines of dogs and wild carnivores (wild animals that eat meat). They are very small (about 5 mm long)**
- **When the eggs are passed in the faeces, they contaminate the environment. Sheep and other animals are infected by eating the eggs when grazing. In these animals the eggs hatch and develop into larvae (early stages) living in cysts in the organs**

### **Signs in affected animals**

- **In sheep and other herbivores the cysts rarely result in obvious clinical signs, and cysts in the organs are found at the time of slaughter**
- **Clinical signs can occur if the cysts are large, or there are many, or if they are in an organ where they cause damage that results in clinical signs. For example, behavioural changes can be caused by cysts in the brain of sheep and goats**

### **Signs in the organs**

- **The cysts are mainly in the liver and lungs, although they can also occur in the brain, bones and muscles. These cysts can reach 4 cm in size. They contain watery fluid and material called hydatid sand, which looks like sand but consists of the young stages of the parasite**
- **The cysts are more likely to occur in the liver in sheep and pigs, and in the lungs in cattle**
- **Old cysts can look like tuberculosis lesions or abscesses**

### **Is this disease important in people?**

- **People can be infected accidentally by eating the eggs passed by dogs as a result of poor hygiene when dogs are handled and the hands are not washed before eating. Flies can also transfer the eggs from dog faeces to food or water**
- **This is a serious condition in people, as the cysts cause disease by pressure on the organs where they occur. For example, they can result in problems with liver function, chest pain, coughing, broken bones, and nervous signs. There is no effective treatment apart from surgery. The cysts may grow as large as 20 cm in diameter in the lungs**
- **Cysts in the organs will not cause disease in humans if taken in. However, where cysts occur the entire affected organ should be condemned because of an unattractive appearance and to control the disease (needs to be destroyed so that dogs do not get access)**

## ***Taenia multiceps***

- **This is a tapeworm that causes cysts in the organs of sheep, goats and cattle**
- **It is an important disease in people**

### **How are animals infected?**

- **The adult tapeworms live in the intestines of dogs and wild carnivores**
- **When the eggs are passed in the faeces, they contaminate the environment. The food-producing species are infected by eating the eggs when grazing. Within these animals the eggs hatch and develop into larvae living in cysts in the brain**

### **Signs in affected animals**

- **This disease can cause severe clinical signs because of the presence of the cyst in the brain.**

**Signs include difficulty in walking, high-stepping gait, blindness, stumbling and paralysis. This condition is called coenurosis or gid**

## **Signs in the organs**

**Cysts of up to 5 cm diameter are seen in the brain**

**Is this disease important in people?**

- **This is an important disease in people. Cysts can occur in the brain, resulting in nervous signs and even death**
- **People are infected by accidentally taking in eggs passed by dogs and wild carnivores, as a result of poor personal hygiene (not washing hands)**
- **Cysts in the organs will not cause disease in people if taken in. However, where cysts occur the head is condemned because of an unattractive appearance**

## ***Taenia hydatigena***

**This is a tapeworm which causes cysts in the organs of cattle, sheep, goats and pigs.**

**How are animals infected?**

- **The adult tapeworms live in the intestines of dogs and wild carnivores**
- **When the eggs are passed in the faeces, they contaminate the environment. The food-producing species are infected by eating the eggs when grazing. Inside these animals the eggs hatch and develop into larvae living in cysts in the abdominal cavity (belly) and other localities**

## **Signs in the organs**

- **Cysts of up to 8 cm diameter are seen in the abdominal cavity and on the surface of abdominal organs such as the liver and other localities. They look like bubbles**
- **Old cysts can look like tuberculosis lesions or abscesses. (they look like grapes, or marbles)**



---

### Is this disease important in people?

- **This condition does not cause disease in people**
- **Affected organs are condemned because of an unattractive appearance**

### *Liver damage*

- **Many parasites (e.g. roundworms, liver fluke and tapeworms) migrate through the liver, which can result in white spots (milk spots), bleeding tracks, thick bile ducts, pale and distorted livers**
- **Such damage can occur in cattle, sheep, goats and pigs**
- **This is not harmful to people, but affected livers are condemned because of the way they look**

### *Pimply gut*

- **Pimply gut is a condition where there are lumps in the gut that range from pinpoint to pea size. It occurs in cattle and sheep intestines as a result of the nodular intestinal worm**

- **This is not harmful to people, but can lead to condemnation of the intestines**

### ***How to prevent these diseases***

- **The important question is: What should be done with organs containing parasitic cysts and lesions, and how can you prevent disease in people?**
- **It can be difficult to know whether these cysts and lesions are from parasites or other conditions such as tuberculosis, which are harmful to people if affected organs are eaten**
- **It is safest not to eat organs containing such cysts**
- **If you are slaughtering animals for your own use or to sell, remove organs with such cysts and destroy them. Do not eat or sell affected organs**
- **Do not buy meat and organs from informal slaughterings**



**C D Seegers**

- **Rather, buy your meat and organs from a hygienic butcher**
- **Do not let dogs and wild carnivores eat affected meat, because they can continue spreading some of these diseases to people**
- **Always cook meat and organs well (particularly if there is informal slaughter and meat and organs are not inspected)**

- **Always wash your hands after handling animals and before preparing food or eating**



**C D Seegers**

**For further information about these parasites speak  
to your veterinary public health officer, meat inspector, animal health technician,  
state veterinarian, nurse or doctor**

**or**

***Animal Health for Developing Farmers*  
at the **ARC-Onderstepoort Veterinary Institute**  
**Private Bag X05, Onderstepoort 0110****



2000

Compiled by Directorate Communication, National Department of Agriculture



in cooperation with  
ARC-Onderstepoort Veterinary Institute



Printed and published by National Department of Agriculture  
and obtainable from Resource Centre, Directorate Communication  
Private Bag X144, Pretoria 0001, South Africa

---

**This publication is available on the website of the National Department of Agriculture at:**  
**[www.nda.agric.za/publications](http://www.nda.agric.za/publications)**

**Information provided by**  
***Animal Health for Developing Farmers,***  
**ARC-Onderstepoort Veterinary Institute,**  
**Private Bag X05, Onderstepoort 0110**