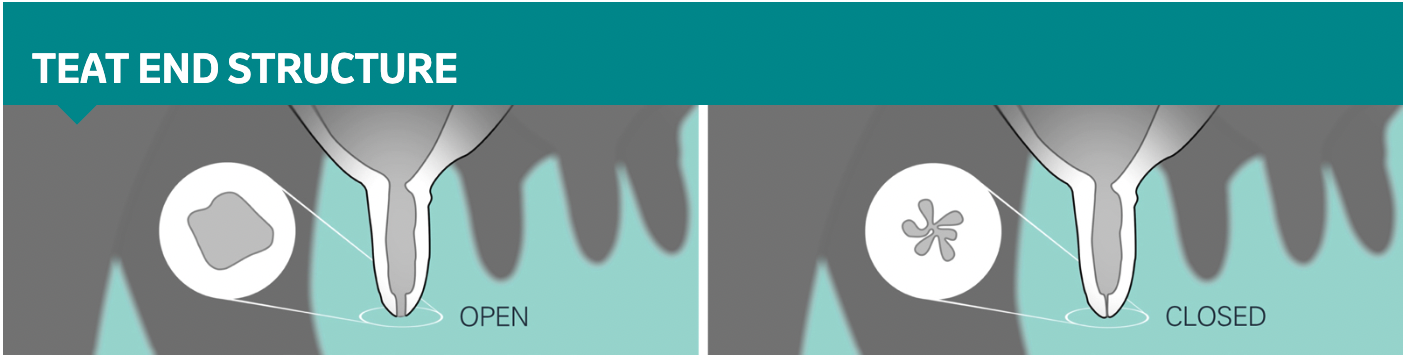
**Mastitis**

Mastitis is the inflammation of udder tissue caused by bacteria entering through open teat ends. It is a significant concern for dairy farmers due to its impact on milk production and cow health. By implementing proper management practices, mastitis can be prevented or effectively managed



Mastitis is the most common disease of dairy cattle. It is estimated the cost to the average New Zealand dairy herd is $15,000/years and the cost of mastitis in the New Zealand dairy industry has been estimated at $180 million per year.

**Causes of mastitis**

Mastitis is caused by bacteria entering the udder and causing an infection.

* **Environmental: -**

Wet muddy areas and races soiling the udder and producing cracks and sores on the teats. These cracks and sores harbour bacteria, which can easily enter the udder through the teat canal when dirty teats are washed.

## **Rough Handling: -**

Crough handling can cause injury to the udder which can prevent the teat canal from closing allowing bacteria to enter the udder.

## **Poor Milking Techniques: -**

These include over milking, removing caps roughly, and cross infection through not milking mastitis cows last.

## **Faulty Milking Machines: -**

Milking machines that are not operating efficiently can damage the ends of teats allowing bacteria to enter.

## **Stress**

Any stress is predisposing cause. For example – poor feeding, rapid change in diet, and cold weather.

## **Hygiene**

With dirty cups, hoses, aprons and other surroundings, bacteria are easily transferred to cow’s teats via the milker’s hands.

**Prevention and Management**

### A healthy cow can usually prevent mastitis before any signs appear. Natural defences against mastitis include:

* Teat end structure — skin folds close the teat end between milkings preventing bacteria from entering the udder. Ensure proper teat end structure to prevent bacteria from entering the udder between milkings.
* Somatic cells (white blood cells)—part of the cow’s immune system, which fight bacteria inside the udder. Somatic cell count (SCC) is a useful indicator of mastitis. It can be measured in an individual cow at herd testing or by RMT, or in an entire herd by bulk milk testing.  Monitor SCC to identify potential cases.

To support the cow’s natural mastitis defences, a farmer can:

* Feed her well.
* Reduce stress during handling and milking.
* Keep her teat ends as clean and dry as possible to reduce bacteria at the teat ends.
* Use an efficient milking technique and maintain milking equipment to prevent teat end damage.
* Teat spray after milking.

## **Symptoms**

If the signs of mastitis are clearly visible to the milker, the disease is called clinical mastitis.

If there are no visible signs of the disease but it is known to be present, then the disease is called subclinical mastitis.

1. The symptoms of clinical mastitis are:



* swelling, hardening or high temperature
* clots, blood or other abnormalities in the milk

1. Subclinical mastitis can be detected only by use of one or more special tests on the milk. The most common one is testing the mix for somatic cell counts. These can be thought of as white cell counts:

White cells in the body rush to sites of infection. In the udder these white cells enter the milk and measurement of the number of these cells gives an indication of the degree of infection in the udder.



## **Treatment**

When mastitis is detected in a cow, it is usually in one or two quarters of the udder only. The steps in treatment are:

1. Affected cow(s) should be drafted out and milked last to prevent cross infection via the milking machines.
2. The milk from the infected quarter(s) should be milked into a bucket and discarded.
3. An antibiotics is generally the first-line treatment for cows with mild uncomplicated mastitis in a single quarter. Systemic antibiotics should be used when more than one quarter is affected, when udder changes are marked or when the cow is obviously ill. When a cow is being treated for

**Treating mastitis with antibiotics**

Antibiotics are a valuable to for managing mastitis and other bacterial diseases in dairy cows. But overuse of antibiotics in animals can lead to a greater risk of bacteria developing resistance to specific antibiotics. Using antibiotics responsibly can minimise this risk.

***Exercise***

***Watch the following***

*video* [*https://www.topfarmers.co.nz/know-how/mastitis/what-is-mastitis/*](https://www.topfarmers.co.nz/know-how/mastitis/what-is-mastitis/)

[*DairyNZ Healthy Udder*](https://www.topfarmers.co.nz/know-how/mastitis/what-is-mastitis/)

*https://www.youtube.com/watch?v=jmlPtlr0oKc*

*1. Describe what causes mastitis*

*2. Describe predisposing causes of mastitis and explain how they can be prevented.*

1. *Describe the symptoms common to mastitis.*
2. *Describe a management practices a farmer would do prevent mastitis in the herd and explain how this would help minimise this disease.*
3. *Explain how a farmer would treat a cow with mastitis?*
4. *Explain why blanket dry cow therapy is not recommended.*
5. *Discuss the economic impact of mastitis on farm production and the cost to the industry.*

* *For a disease you have studied on a primary production system*
* *describe what causes the disease*
* *explain a management practices a farmer could use to prevent or reduce and treat the disease.*
* *explain the effect of the disease on farm productivity.*