

GUIDELINE

4

Rapidly find, treat and record clinical cases in freshly calved COWS

- Antibiotic contamination
- Antibiotics
- Bacteria spread
- Cluster handling
- Colostrum milk
- Marking systems
- Mastitis herd
- Milk culture samples
- Record system
- Stripping
- Swollen quarters
- Veterinary advice
- Withholding times

Early detection and treatment of **clinical mastitis** cases in the calving period reduces the risk of severe cases developing. It also reduces the likelihood of infection being passed to other cows, and the development of chronic infections.

Clinical cases which are missed can markedly increase the **Bulk Milk Cell Count** because they produce very high numbers of cells.

A case of clinical mastitis which requires treatment occurs when there is heat, swelling or pain in the udder, or there are changes in the milk (wateriness or clots) that persist for more than three squirts of milk.

By recording cow identity and drugs used for all cases, numbers of clinical cases and responses to treatment can be monitored. Your herd has a significant problem if there are more than five clinical cases per 100 cows in the first two weeks of lactation, or two clinical cases per 100 cows in subsequent months of lactation.

Milk cultures are recommended to identify which bacteria are involved if a herd problem emerges. A sterile sample must be taken before treatment is started for each case.

More than 80% of clinical mastitis cases in Australia are caused by Staphs or Streps which should be treated with antibiotics.

It is also very important to remove infected milk from the udder by stripping out. Sometimes use of let-down hormone (**Oxytocin**) is helpful especially with hard, swollen quarters.

Clinical mastitis,
refer page 5

Bulk Milk Cell Count,
refer page 7

4.1 Look for swollen quarters and check for heat and pain in all freshly calved cows.

Cows with suspect udders should have their udders felt, or palpated, to check for hardness, heat and swelling. Foremilk should be stripped and checked for signs of mastitis.

4.2 Check milk from all quarters of freshly calved cows every milking while they are in the colostrum phase (first 8 milkings, or 10 milkings for induced cows).

Changes can be hard to assess in milk in the first few days after calving. Look for watery milk, clots or flecks, yellowy brown colours or blood. Sometimes with severe mastitis, such as mastitis caused by **E. coli**, visible changes are not obvious in the milk.

Comparing between quarters in the same udder is helpful to spot discolouration. Check the quarters you think are normal first. Milk containing infection may be spread during this procedure, so avoid splashes or sprays of milk aerosol.

Gloves should always be worn during milking and especially when checking cows for mastitis. A good practice is to disinfect gloved hands after stripping a cow with clinical mastitis, or better still, change to a fresh set of gloves.

4.3 Collect milk samples for culture to identify the bacteria involved.

It is good practice to take a milk sample in a sterile fashion from all clinical mastitis cases before you start treatment.

Milk culture samples are recommended to help identify which bacteria are involved.

The right technique must be used to collect samples, otherwise the samples will be contaminated by bacteria from the outside of the teats.

Milk samples can be collected from clinical cases before starting treatments, and stored frozen. A selection of these samples can be sent to the laboratory at a later date if:

- Cows are not responding to treatment eg more than 20% of cases are receiving a second course of treatment.
- If concerned about the number of clinical cases occurring during calving eg exceeding 3 clinical cases in the past 50 calvings.
- If concerned about the number of clinical cases during lactation.

✓ The quarter will need to be treated when there is heat, swelling or pain in the udder, or milk changes (wateriness or clots) persisting for more than three squirts of milk.



Milk sampling for culture

Refer to Fact Sheet A – Milk cultures, page 99

4.4 **Select the antibiotic to be used – consult your veterinarian.**

Work with your veterinarian to develop standard treatment protocols for your herd. Issues to be assessed include:

- Bacteria previously cultured and antibiotic responses in your herd.
- Assessment of likely bacteria in this particular case.
- Withholding periods of the products available.

In some circumstances, injectable antibiotic may be beneficial. Never use **Dry Cow Treatment** for clinical cases.

Always read the label on the antibiotic product.

4.5 **Administer the treatment as recommended.**

Strip out the quarter fully before infusing antibiotic into the quarter. This may be assisted by injecting 2–3 mL of Oxytocin into the muscle before you commence stripping.

Ensure that teats and gloves are clean.

Scrub the end of the teat with 70% alcohol before inserting the tube.

Disinfect the teat afterwards.

4.6 **Use the full course of antibiotics (as specified on the label).**

Only treat the quarters that are affected.

Check all quarters every milking during the full course.

4.7 **Milk the quarter out fully at least every milking.**

Stripping out infected milk from clinical quarters improves cure rates. Frequent stripping (three or four times per day) removes debris from the quarter.

Use of let-down hormone (Oxytocin) may be helpful in removing milk from hard, sore quarters.

4.8 **Clearly mark treated cows.**

Set up a system that works for you and ensure that all regular and relief milking staff are familiar with it.

Systems for temporary identification of treated cows should be highly visible, easy to apply and to remove. The mark should be durable enough to last for the full treatment and withholding period of the drug. Different colours or marking codes may be used to signify when withholding periods are complete.

E. coli, refer page 4

✓ **Keep treatment protocols simple. Large numbers of different treatment products are rarely needed. Using many different treatments increases the risk of mistakes.**

Refer to Fact Sheet A – Milk cultures, page 99

Dry Cow Treatment, refer page 8

✓ **Marking a cow is best done prior to treating. It's better to mark and not treat the cow than to treat and not mark her.**

4.9 Record all details.

Clinical case records are essential to track mastitis control in your herd, and improve management. These records will enhance and improve the quality of a Countdown Mastitis Focus report.

Quality Assurance programs require that details of all antibiotic treatments administered be recorded.

A clear, easily seen record should be kept in the shed for quick reference during milking. A whiteboard can be helpful. On-farm computer systems also make record keeping easy.

4.10 Observe withholding times for milk and meat.

Read the label of the drug used and calculate the correct withholding period for each treatment. Make sure the date when the milk can be returned safely to the vat is obvious to the milking team eg on the farm dairy whiteboard and in the shed diary.

4.11 Discard milk from all quarters of cows that receive treatment.

Some antibiotic will be absorbed into the bloodstream and passed out in the milk from the normal quarters. The risk of antibiotic contamination is too great to include it in the vat.

4.12 Make a particular effort to minimise spread of bacteria from infected cows to other cows.

Draft out clinical cases and milk them last.

Run a separate mastitis herd if you can.

Use gloves when milking mastitis cows.

If mastitis cows are not milked last as a separate group, use a separate, good quality cluster for mastitis cows on the test bucket. Mark the cluster with some red tape to remind all people milking that it is only to be used for mastitis cows.

Rinse and then sanitise the cluster after milking each mastitis cow. Remove the long milk tube and run water through the cups and claw bowl for 30 seconds. Then dip the cluster and your hands in a disinfecting solution such as 1% Iodophor. Disinfectants take time to kill bacteria, so don't touch any other cluster or cow for at least 20 seconds. Drying hands on a paper towel after this will also help reduce the bacteria that still remain.



Countdown Mastitis Toolkit app – Withhold period calculator

Refer to Fact Sheet B – The correct way to give intra-mammary treatment, page 104

Examples of marking systems:

- Ratchet-type plastic tail tags.
- Tail tape on the tail.
- Velcro bands above the hocks or on the legs.
- Paint (tailpaint, enamel or non-scourable spray paint) on the udder or legs.

Refer to Fact Sheet E – Records to keep on clinical cases of mastitis, page 110

4.13 Consult your veterinarian for advice about the following options if a clinical quarter fails to respond by the end of a full course of treatment (as listed on the label):

- Repeating the same treatment.
- Trying a different antibiotic .
- Drying-off the quarter (provided it is not hot or swollen).
- Drying-off the cow.
- Culling the cow, after the withholding period for meat has expired.
- Culturing the pre-treatment sample or re-sampling the quarter.

Do not use drugs in any way other than specified on the label. Don't change the dose rate or dose frequency specified on the label. This will change the **withholding period** required.

If drying-off a quarter, stop milking it and monitor the quarter to ensure it does not become hot and swollen. If it does, strip it out again.

Do not use Dry Cow Treatment in a quarter when you are continuing to milk the other quarters. Dry Cow Treatments are not registered for use in lactating cows. Some antibiotic will be absorbed into the bloodstream and passed out in the milk from the normal quarters, so there is a high risk of antibiotic contamination of the vat.

If culling the cow, check that the withholding period for meat has elapsed for all drugs used.

**Withholding period,
refer page 12**
