

April 2021

## Treatment of Clinical Mastitis Cases

Given the current issues surrounding the (lack of) availability of most of the intramammary antibiotic tubes used to treat clinical mastitis, it is worth considering what factors are likely to be important in treatment success rates. Clinical mastitis cure rates during lactation are often quoted as being around 30 – 50% in the UK. Research has shown that a number of factors are likely to affect cure rates following treatment for clinical mastitis (i.e. clots in the milk, sick cows), including the type of bacteria present and individual cow cell count. Bacteria such as Staph. aureus and Strep. uberis tend to have poorer treatment success rates, hence the importance of identifying the main causes of mastitis. How long the infection has been present within the udder is also a major determinant of successful treatment. NMR data showed that cows with new udder infections (as measured by high cell counts) have approximately a 50% likelihood of being cured at the next milk recording. However, cows with a chronic high cell count for multiple months have only a 14% likelihood of being cured at the next recording.

Overall, **chronic infections are less likely to cure.**

Other factors affecting successful cure based on cell counts include age (younger cows have better treatment success rates), previous treatment, stage of lactation, number of quarters affected (more quarters affected equals lower success rates), higher cell counts and presence of internal abscesses in udder (i.e. lumps in the udder). A first lactation heifer with only one quarter affected has a much higher likelihood of cure compared to an older cow with multiple quarters affected.

The other consideration is: when is the right time to be treating the cow, especially for longstanding infections? A recent UK survey shows a median dry period cure rate of 77% (cows dried off with a high cell count, but then calving in with a low cell count), with the top 25% of herds achieving the target 85% of cows cured during the dry period. Admittedly, these are all based on cell count data (and so subclinical mastitis rather than clinical mastitis), but all of the data would suggest that treatment is much more effective during the dry period. Therefore, **drying chronic high cell count cows off early** represents the best chance of cure. Whilst choosing the correct antibiotic is important, it is also key to recognise the involvement of these other factors in how well a cow will respond. Indeed, a recent review looked at 30 research trials on the treatment of cows with clinical mastitis using Critically Important Antimicrobials (CIA). They found **no difference in treatment success rates for cows with non-severe clinical mastitis treated with CIA and non-CIA**, and concluded that “CIA in general are not necessary for treating non-severe clinical mastitis in dairy cattle”. Mastitis is the main reason for treating adult dairy cows with antibiotics, and treating cows promptly with appropriate antibiotics is undoubtedly key. However, antibiotic resistance is a rare cause of poor response to treatment. The best approach remains to prevent cows getting mastitis in the first place, by reviewing mastitis control measures with your Parklands vet.

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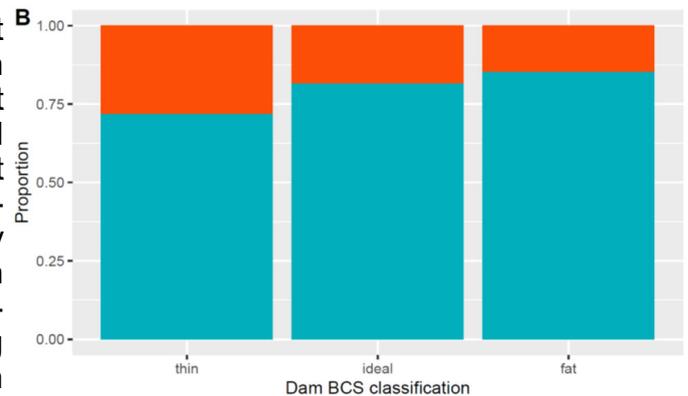
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## Improving Calf Survival

With calving underway for many suckler herds, it is worth reviewing the factors that affect the performance of calves. Without a doubt, the first week of life represents the time where we can make the biggest impact on calf survival. A recent study looked at the factors that influenced whether cows required assistance at calving. In the study, around 1 in 6 of the calves required at least some assistance at birth. As you would expect, being **born to a heifer, being a twin, being sired by a large birth weight breed/bull, and being male were all risk factors for calves requiring assistance**. What was surprising from the data was that calves that were born to cows that were classified as thin (under condition score 2.5 out of 5.0) were nearly twice (Odds Ratio 1.92) as likely to require assistance at calving than calves born to cows who were classified as being in ideal body condition (2.5-3.5 out of 5.0). There is some evidence from dairy cows that body condition loss in late pregnancy increases the number of cows that require assistance at calving, and it is interesting to see this association between thin cows and calving assistance in suckler calves.

The proportion of calves requiring assistance at birth (red box) based on dam body condition score (BCS) at calving. Green box is cows that did not require assistance. Cows were classified as thin (BCS <2.5), ideal (BCS 2.5-3.5) or fat (BCS >3.5). It is important to note that the analysis did not include calves that died at or shortly after calving or those calves born by Caesarean section, and so the study does not exclude obesity in suckler cows being a risk factor for calving assistance. Reassuringly, only 7% of the cows in the study were over body condition 3.5 out of 5.0, and only 4 of 1097 cows were severely obese i.e. over body condition score 4.0 out of 5.0. This would suggest that obesity in 2018 on the study farms at least was relatively uncommon. In a separate analysis of the same calves, assistance at calving was identified as a significant risk factor (Odds Ratio 1.91) for failing to absorb sufficient colostral antibodies (i.e. failure of passive transfer), and that these **calves with poor colostral antibodies are significantly more likely to require antibiotic treatment or die prior to weaning**.



So how can we make use of this information to improve calf survival this calving season?

1. Body condition score your cows now. Spring calving cows that are under body condition score 2.5 out of 5.0 should be grouped together and provided with supplementary feed
2. If the cows are still more than two months away from calving, you could attempt some controlled body condition loss for fat cows. However, no attempt should be made to reduce body condition in the last month of pregnancy
3. If you have cows scanned with twins, group them with your thin cows so that they can also benefit from additional feeding
4. Pay particular attention to these thin and twin carrying cows at calving time – they are significantly more likely to require help
5. Don't risk colostrum supply at calving. If you've calved a cow, strip off all her colostrum and feed it to the calf using a bottle or stomach tube. If there is less than 4 litres, supplement the calf with colostrum from another cow of known good disease status.

Please speak to a Parklands vet for advice on cow management.