

## Milk Fever

### Hypocalcemia

Hypocalcemia is a common condition of freshly calved cattle and I am sure you will all be familiar with the classic “milk fever” presentation of the disease. Cows exhibiting milk fever signs are usually seen within 72 hours of calving, down, with an “s bend” in the neck, a low rectal temperature and hard faeces. Treatment is by intravenous administration of calcium and animals generally rise within 12 hours.



Hypocalcemia occurs when the demand for calcium of the udder outweighs the cow’s ability to provide it. Often, at the onset of lactation, the sudden increase in demand cannot be met with dietary supplementation and the cow will mobilise her body reserves to compensate – namely the skeleton. Even this is not always adequate to meet the demand and hypocalcemia is the result.

### Sub-Clinical Hypocalcemia

Whilst the overt clinical manifestation of hypocalcemia is milk fever, the condition can be much more insidious at the herd level, with a number of other problems seen having a link to calcium levels. This is not to say that hypocalcemia is always the cause of these issues but higher than expected levels of them may warrant a closer look at calcium levels.

### Calving

Hypocalcemia can present problems at the point of calving. Calcium is essential for the contraction of muscle and as such cows with low levels may struggle to expel the fetus despite it being normally presented and of reasonable size. This may be noticed with a high number of cows needing intervention for “not getting on with it”. This issue can be reflected in poor calves or high mortality rates in the first 48 hours of life, as slow calving often leads to metabolic acidosis in the calf.

### Prolapses

Uterine prolapse is a serious condition and requires immediate veterinary attention. Cows with hypocalcemia are at increased risk of uterine prolapse as all muscle function, including those associated with the uterus and birth canal are affected when calcium is low.



## **Postpartum Disease**

Retained fetal membranes occur when the cotyledons sustaining a pregnancy fail to detach fully after calving. Cleansing should take place within 12 hours. Cows with retained fetal membranes are at increased risk of metritis, ketosis and left displaced abomasum as well as having reduced conception rates. Cows with subclinical hypocalcemia have been shown to be 3.4 times more likely to retain their placenta, 4.3 times more likely to get metritis, 5.5 times more likely to be ketotic and 3.7 times more likely to suffer with an LDA than cows with normal calcium levels.



## **Fertility Impact**

Subclinical hypocalcemia has significant impacts on the fertility of affected cows. Cows with normal calcium levels have their first heat, on average, 24 days earlier than those with subclinical hypocalcemia. This gives them a decreased calving to first service interval and a lower number of days open compared with sub clinically hypocalcemic cows.

## **Who is at risk?**

In line with the risk for clinical hypocalcemia, older cows are at higher risk, with heifers being much lower risk than animals in their second lactation or above. Any cow that has not had a normal transition period is also at higher risk.



## **Control Measures**

Control of calcium metabolism around calving is complex and there are many management aspects to consider. The first step is to identify the issue, which can be done with blood testing. To ascertain if your cows are experiencing sub-clinical hypocalcemia, we collect red top blood samples from cows as soon as they calve. 5 or 6 samples should give us a good idea of the calcium situation and whether action needs to be taken. Corrective measures can include dietary supplementation of calcium, administration of calcium boluses, changes to the formulation of the dry cow diet or even the use of calcium binding products in the transition cow diet to promote the release of calcium from the skeleton.

If you think you may have an issue with subclinical hypocalcemia then ask your routine vet about the best options for investigation and control on your farm.

Nick

