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## Take care with heifers

In recent years researchers have explored ways to minimise mastitis in heifers in their first lactation. Heifer mastitis can be a significant problem for some herds and can threaten production and udder health in first and subsequent lactations. Heifers that develop mastitis in the first 30 days after calving produce less milk and are likely to be less profitable over their lifetime. Given the substantial costs associated with rearing heifers, it is imperative that mastitis is prevented in the first lactation. In addition to the costs incurred with a case of mastitis, mastitis is also a significant welfare issue.

Heifer mastitis is commonly diagnosed after calving when the animal begins milking and either abnormal milk or an increased SCC is detected. Although many similar pathogens that cause mastitis in adult cows can result in heifer mastitis, pathogens like *Streptococcus uberis* and *Non-aureus staphylococci* (NAS) (previously referred to as *coagulase negative staphylococci* or CNS) and other environmental pathogens are often responsible for heifer mastitis. Exposure of the teats to pathogens in the pre-calving environment can result in infection before calving. Some infections may arise from bacteria living on the teat skin or from environmental bacteria that enter the teat end and initiate infection.

Before considering control strategies, you must first decide if you have a specific heifer mastitis problem. Then in conjunction with your veterinary practitioner, investigate the problem and decide on specific management strategies that are most relevant to your farm. Investigations and specific controls are warranted **if more than 15% of your heifers, either have clinical mastitis at/around calving, or have a first milk recording of SCC > 150 000 cells/ml, when recorded at 15-35 days in milk.** Heifer mastitis also includes cases where one or more quarters are non-functional, commonly known as having a 'blind quarter', at calving. A strategy to prevent and control heifer mastitis should include goal setting, assessment of the current farm systems, application of farm specific interventions and monitoring of outcomes. This will require good records of clinical mastitis cases and a first milk recording carried out within 35 days of the start of lactation.

## Management of risk factors associated with heifer mastitis

### Importance of good youngstock management

- Prevent cross-suckling in calves and young stock; this practice can be implicated in the development of heifer mastitis in later life.
- Implement an effective and efficient fly control system, as flies can have a role in the development of summer mastitis even in non-lactating animals.
- Keep young and the pre-calving heifers in a clean and hygienic environment and separate from older cows. It is important that the pre-calving accommodation is fit for purpose, has enough space and provides a clean, dry and comfortable environment- give as much attention to the hygiene and cleanliness of this group of animals, as is spent on the lactating animals.
- Address any issues that cause teat skin lesions, for example if teat warts are an issue, a long-term control strategy should be pursued, and these issues dealt with well in advance of calving.

### Importance of correct nutrition of pre-calvers

- Avoid any nutritional deficiency, particularly with regard to vitamins and minerals, such as vitamin E and selenium. Minimize the risk of negative energy balance before and after calving through appropriate transition feeding systems.
- Reduce the incidence of udder oedema (flagging), through optimized peripartum management; although this area is poorly understood, some contributing factors are thought to relate to feeding practices, over-fat heifers as well as a genetic component. The interval from calving to first milking is also important and should be as short as possible. Veterinary advice should be sought if heifers are uncomfortable.

### Importance of pre-calving management and training of heifers to milking area

- Measures such as teat spraying 3 times per week with an appropriate teat spray for the last 2-4 weeks before calving has been shown to reduce the number of certain strains of *Streptococcus uberis* bacteria at the teat ends, and reduces the risk of calving with intramammary infections.
- Consider training heifers in the milking parlour pre-calving. It takes about two weeks for most heifers to establish a quiet, reliable response to milking. Training heifers by moving them through the milking parlour pre-calving reduces difficult behaviour post calving.
- Minimize stress around calving, for example by not moving heifers to the calving pen when already in labour.
- Take your time moving animals into the milking parlour- do not rush.

## Importance of good hygiene and milking practices

- Ensure the calving pen is clean and well maintained to minimise peripartum disease (uterine infections and mastitis around calving) and ensure that the calving area is not the same area that is used as the hospital pen for sick animals.
- Improve udder health at farm level to decrease the infection pressure of udder pathogens from older cows to heifers.
- Ensure all quarters of all heifers are milked out.
- Ensure heifers have a milk let-down response at each milking after calving. The injectable form of the let-down hormone, oxytocin, may be recommended for individual heifers that are slow to establish a good let-down response. It can also be prescribed by a veterinary practitioner for individual heifers that have not had a full let-down within 24 hours of calving and for heifers that have severe oedema preventing proper milk let-down. Use of oxytocin as a general treatment for helping heifers to establish a milk let-down response is unproven.
- Research has shown that teat sealing heifers 4-6 weeks before calving, if done properly, can reduce the incidence of heifer mastitis in **problem** herds. The procedure is not without risk to the heifer, unless it is done with the greatest attention to hygiene and is dangerous for the operator without suitable handling facilities such as a rollover crate. Teat sealant should not be used as a substitute for good husbandry and management of heifers. The use of teat sealant in pre-calving heifers is used successfully in some countries but this product is **not** licensed for use in heifers in Ireland and should only be done in consultation with your veterinary practitioner.