

# Bovine Teat and Udder Surgery

---

## Physical Exam

### Udder Exam



The ideal udder has symmetrical quarters and teats that subjectively look ideal for milking. Pendulous and irregular quarters are generally the result of stretching due to repeated episodes of oedema after calving or inflammation. These udders can be more difficult to milk, but are probably not making the cow sick. It is rare that all 4 quarters have mastitis, but common that all 4 quarters have oedema. Generally, an abnormal quarter will be obvious compared to the other 3 normal quarters. Abnormalities in consistency of the glandular tissue of the udder include oedema, hardening, and acute swelling. The palpation findings should be integrated with the examination of the mammary secretions and the physical exam findings.

First, milk should be stripped from each quarter onto a strip plate. Any deviation from normal milk in colour and consistency is abnormal. Then strip each quarter's secretion on top of each other and repeat in the reverse order. Any subtle abnormalities in secretion from quarter to quarter will be picked up in this method. This technique of stripping a quarter's milk onto a pooled milk sample is an excellent way to pick up watery milk.

It is critical to evaluate the mammary gland and integrate your findings with the rest of the physical exam to arrive at an accurate diagnosis and treatment plan. For example, a cow with clots in the milk or a watery secretion accompanied by a normal physical exam is handled differently than a cow with a watery secretion, elevated heart rate and temperature, rumen stasis and diarrhoea.

In general, contagious organisms, such as, *Staphylococcus aureus*, *Streptococcus agalactia*, and *Mycoplasma bovis* tend to cause sub-clinical mastitis. The udder palpates normally, the milk grossly looks normal, and the cow's physical exam is normal. Special tests, such as, the cow-side California Mastitis Test or DHIA somatic cell counts would be needed to quantitate any inflammation in the udder, and bacterial culture would be necessary to make a

diagnosis of the organism causing the sub-clinical mastitis. In general, the environmental organisms cause clinical mastitis (abnormal milk /- swelling in the udder). The *Strep. nonag.* group of organisms cause clinical mastitis 50% of the time, and the coliform organisms (*Eschericia coli*, *Klebsiella*, *Enterobacter sp.*, etc.) cause clinical mastitis 90% of the time. Probable diagnosis of the organism causing the mastitis can be made in certain cases. Secretions that smell foul and have a necrotic odour are usually caused by *Arcaobacterium pyogenes* or some anaerobe. Secretions that are very watery accompanied by a swollen udder are generally caused by coliform organisms. Secretions that are watery, but red accompanied by a sick cow are generally caused by *Staph. aureus* and carry a poor prognosis for recovery. All other gradation of secretions between the normal milk and the extreme watery secretion are indistinguishable from each other, and bacterial culture would be necessary to identify the organism causing the mastitis.