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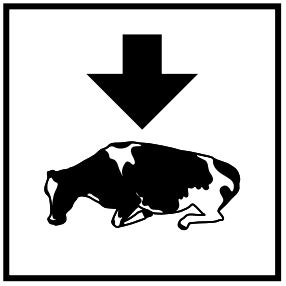
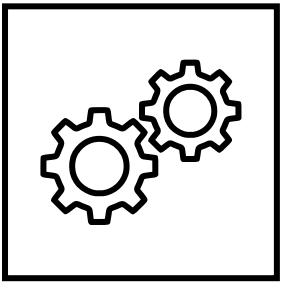
Milk fever - **Hypocalcemia** - is one of the most common bovine metabolic disorders. 3-10 % of the herd suffer from clinical milk fever. Up to 50% get sick of subliclinal hypocalcemia and its aftereffects like retentio secundinarium, endometritis, ketosis and abomasal displacement.

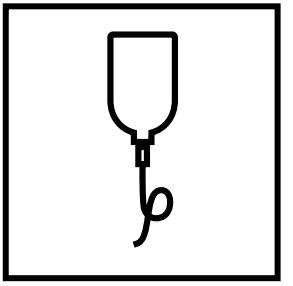
How to Treat Milk Fever

The Symtomps

Stage 1 Loss of apetite, hypersensitivity, weakness, shuffling of the hind leg.
Stage 2 Lying down with head layed in the flank, cold body surface, trembling muscles, fast heart rate.
Stage 3 Lying flat on the ground, progressive lost of consciousness, comatose, death.







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How to Treat Milk Fever

After calving the **demand for calcium** is rapidly increasing:

8g / day → 30g / day*

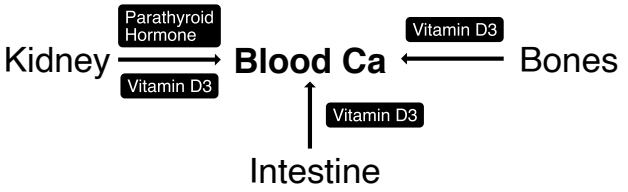
*assuming 15l colostrum

Normal blood plasma Ca: 4 - 5 g

8.0 - 12 mg/dl or
2.0 - 3.0 mmol/l

Regulation of Blood Calcium takes 24 to 48 Hours

Blood Calcium Regulation

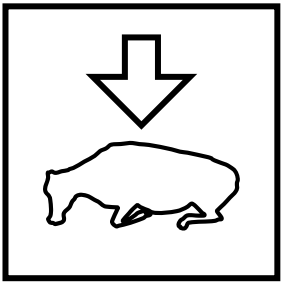


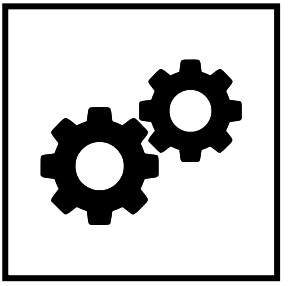
Ca is needed for muscle contraction

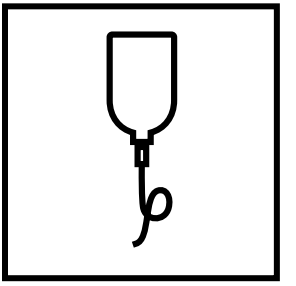
Lack of Ca increases nerve sensitivity*

*due to changes in membrane potential

Ca level is regulated by the **parathyroid hormone and vitamin D3**. **Old, high producing, fat, or Jersey** breed cows are at higher risk for milk fever







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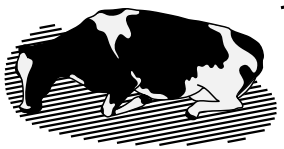
How to Treat Milk Fever

The Down Cow can still be **dangerous**:

- ⓘ Identify Danger Zones before you approach the animal. Try to avoid to enter them.
- ⓘ Be aware of sudden movement of the animal`s head.
- ⓘ Consider attempts of the cow to get up.



Danger Zone

Quick Release Knot

Fixation of the Cows Head to its own Leg allows Safe Treatment

Intravenous Calcium Infusion

Insert a catheter in the **vena jugularis** on the accesible site of the neck.
Take a **blood sample** in a heparin tube for analysis of Ca concentration.
Apply slowely a bottle of **warm calcium solution** containing 11g Ca.*

*500 ml of 24% calciumgluconat solution

Check heart rate during the infusion.* *fast to normal and fast again in case of overdose

Treatment of subclinical Hypocalcemia/ Aftercare with subcutaneous Ca application or **oral Ca boluses**.*

*i.v. application of Ca leads to high peaks in blood concentration and slows Ca utilisation in the cow. Therefore its not applicable for standing cows.