Hypocalcaemia

What causes hypocalcaemia?

Calcium is essential for many body functions, especially muscle contraction, nerve conductivity and bone strength. Maintenance of normal blood concentrations is achieved by a combination of release from bone stores and absorption of dietary calcium from the gut.

Hypocalcaemia is caused by the animal being unable to mobilise calcium from the bone quickly enough to maintain normal blood calcium levels, or when compounds (known as oxalates) bind up the calcium in the blood.

Ewes in their last six weeks of pregnancy and in the first month of lactation are most at risk as during this time the ewe is providing calcium for lamb bone development and milk production. Older ewes are more susceptible to hypocalcaemia.

What you will see

	Behaviour	Muscles	Death
Any sheep	Struggle when approached, sit on brisket with head to flank	Tremors then staggering walk, paralysis	Within a day of collapse

Strategic prevention

- Test pasture and supplements for calcium:phosphorus (Ca:P) ratio and ensure a balance of 2:1.
- Avoid sudden feed changes.
- Limit time off feed.
- Use low-stress stock handling techniques and avoid handling within four weeks of lambing.
- Use calcium supplements (licks, ground limestone or quality hay) with ewes and weaners to buffer against a disease trigger if diet is low in calcium. Often loose licks with 33% salt, 33% limestone/Ca and 33% magnesium (Mg) are used – particularly with grazing crops.
- Have combined calcium and magnesium injecting solution on hand at lambing time.
- Seek professional advice if seeing high prevalence on improved pastures or utilising grazing crops.

Tactical response

Quickly seek a professional diagnosis to rule out pregnancy toxaemia. If unable to get timely professional advice, treat for both.

- Act immediately.
- Treat with a combined calcium and magnesium injecting solution under the skin and massage the area to aid rapid absorption into the blood stream.
- Response is expected in a few minutes (burping, muscle tremors, voluntary movements) with full recovery usually within an hour. Treatment occasionally needs to be repeated.
- Get professional help if sheep haven't responded 30 minutes after treatment.

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Likelihood

This condition develops when there is increased demand for calcium or limited feed volume or quality.

Likely triggers for hypocalcaemia:

- sheep are under high physical stress or have limited access to feed (e.g., yarding, droving, trucking, shearing, crutching, cold snap).
- sheep have concurrent diseases that reduce feed intake (e.g., infection or lameness).
- during high demand from late pregnancy or lactation.
- feed (paddock or supplements) high in phosphorus compared to calcium (Ca:P ratio), a young pasture flush, rapidly growing cereal crops, high grain diets, sudden changes in feed, a cold snap or growth of edible oxalate weeds (e.g., goosefoot/mintweed, fat hen, pigweed, soursob, sorrel, dock or doublegee).

Impact

- Sudden onset of symptoms.
- Many sheep can be affected at once (at any age).
- Most affected are ewes in the last month of pregnancy or with lambs up to six weeks old and weaners.
- If treated quickly, impact can be minimised.

TIPS AND INFORMATION

- **For strategic prevention manage stress, nutritional requirements, feed and supplements.**
- **Have calcium injections on hand to treat affected sheep.**

Resource links

AWI Drought resources

MLA Hypocalcaemia / Milk fever

MMFS Tool 11.16 Common sheep diseases and predisposing factors

Veterinary Handbook – Hypocalcaemia

New South Wales

Assessing stock feed additives and mineral supplements

Queensland

Lambing sickness and milk fever in ewes

South Australia

Sheep diseases – the farmers' guide

Tasmania

Hypocalcaemia in sheep (milk fever)

Western Australia

Pregnancy toxaemia and hypocalcaemia of ewes

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