



Dairynz 

Lameness Field Guide

A farmer's guide to treating lameness



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Seasonal overview

Lameness should be a year-round focus but there are times in the season when aspects of lameness management are particularly important.

Key lameness dates



Spring

Special care
for heifers



Summer

Lane
maintenance



Dry-off

Design lameness
plan for next season

All cows have the potential to become lame. Lameness management should be aimed at reducing:

- underfeeding
- poor quality facilities
- walking long distances
- long periods of time on concrete
- poorly maintained races and yards
- pushing cows on races or in the yards

Take extra care with heifers. Damage done in the first lactation can lead to life-long lameness problems.

Identifying lame cows

Early identification and treatment is key to good recovery. Use the DairyNZ Lameness Scoring system to help observe cows. (pg. 6)

Many of the early indicators of lameness are subtle and only seen with careful inspection of walking cows. For accurate scoring, don't score cows when they are moving under pressure.

Cows should be observed:

- when being brought in for milking
- as they enter the shed and stand in the bail during milking
- as they walk at their own pace to the paddock after milking

If a cow is identified as lame, she should be drafted and treated as soon as possible - within 24 hours if scored a 3 (very lame).

Visit dairynz.co.nz/lameness for more information and videos on lameness scoring



Lameness scoring

Score	Walking speed	Stride	Weight bearing	Backline	Head
0	Confident. Similar walking speed to a person. Maintains position in the herd.	Long, even and regular. Rear foot placement matches front foot placement.	Evenly placed and weight bearing when standing and walking.	Straight (level) at all times.	Held in line or slightly below the backline and steady when walking.

Walks evenly

No action required

No action required – this cow is normal.



Score	Walking speed	Stride	Weight bearing	Backline	Head
<p>1</p> <p>Walks unevenly</p>	Not normally affected, should easily maintain position in the herd.	May have uneven stride and/or rhythm. Rear foot placement may miss front foot placement.	May stand or walk unevenly but difficult to identify which leg/s are affected.	Straight when standing, may be slightly arched when walking.	May have slight bob and or may be held lower than normal.
<p>Minor action required</p> <p>Record and keep an eye on her – some cows normally walk unevenly.</p>					
					

Lameness scoring

Score	Walking speed	Stride	Weight bearing	Backline	Head
2	May be slower than normal; may stop, especially when turning a corner.	Shortened strides rear foot placement falls short of front foot placement.	Uneven – lame leg can be identified.	Often arched when standing and walking.	Bobs up and down when walking.

Lame

Action required

This cow is lame and needs to be recorded, drafted and examined within 24 hours



Score	Walking speed	Stride	Weight bearing	Backline	Head
3	Very slow, stops often and will lie down in paddock. Cannot keep up with the healthy herd.	Shortened and very uneven. Non lame leg will swing through quickly.	Lame leg easy to identify – 'limping'; may barely stand on lame leg/s.	Arched when standing and walking.	Large head movements up and down when walking.

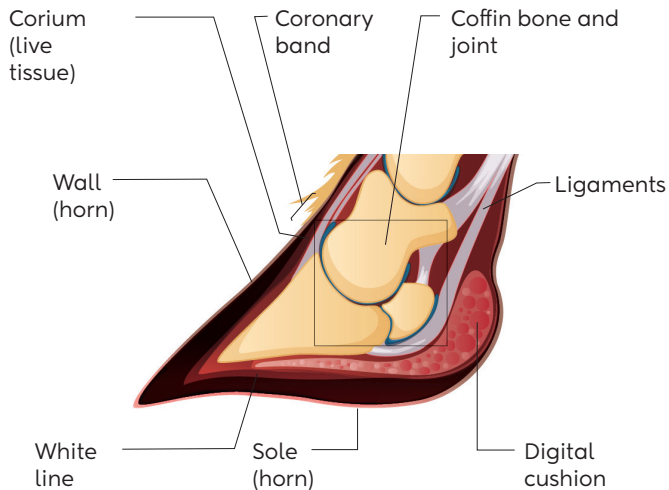
Very lame

Urgent action required

This cow is very lame and needs urgent attention. Draft and examine as soon as possible.



Hoof structure



Facilities & tools

Good facilities have:

- Shelter
- running water
- non-slip surface
- good lighting source
- safe work area for people
- safe method for restraining cows
- Purpose built crush that allows safe access to all legs



Take care when using a head crush

When using head crush, react immediately if a cow goes down on her knees as it puts pressure on her airway. Cows often don't let you know they are suffocating.

Good practice is to put a strap under the cows chest just behind the front legs to prevent the cow kneeling. Ensure the head crush can be opened when pressure is placed on it, like when a cow lies down.

How to restrain a cow

Step 1

Having assistance when treating lame cows makes the task less stressful and safe for you and the cow.

Step 2

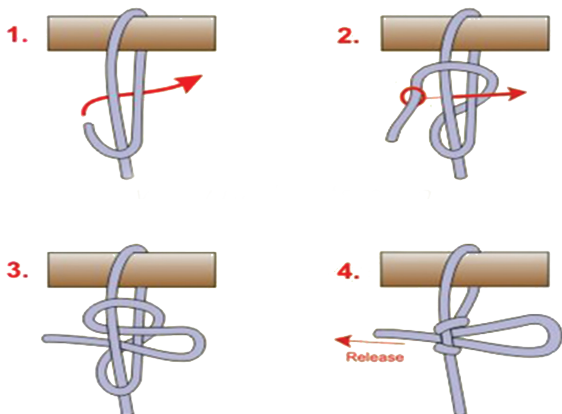
Follow the restraining technique appropriate for your facility.

Step 3

Use a quick release knot to secure the leg to the rail.



Quick release knot



Hoof treatment tool kit

- Hoof test pliers
- Hoof knives
- Hoof knife pouch
- Hoof trimmers
- Hoof grinder
- Hoof blocks or slips and glue
- Hoof-drying tools
- Sharpening stone
- Fine round chainsaw file
- Diamond hoof knife sharpener
- Antiseptic spray
- Anti-inflammatories
- Antibiotics
- Leg rope or strap
- Back bar or rope
- Glove or wrist protector
- Recording booklet or device



Knife sharpening

Blunt knives are dangerous and frustrating; having a sharp knife makes the job easier. Invest in equipment to keep knives sharp or find a professional to sharpen them for you. Many vet clinics and hoof trimmers offer this service.

Step 1

New knives will need sharpening and sometimes reshaping. Routinely ensure your knives are shaped correctly. Use a rough stone file or angle grinder with a 1mm steel cutting disk. File blade to change the inside angle to approximately 20°.



Too steep



Correct Angle

Step 2

Use a diamond file to touch for more information and videos Ensure a consistent angle. Only ever touch the inside edge of the blade.



Step 3

Protect the blade while not in use. Old milking inflations (liners) or lengths of alkathene work well.



Step 4

Touch the blade up regularly with a 1/8 chainsaw file and a diamond file.



When sharpening a knife, have it securely held to ensure a consistent and sharp edge. Take appropriate safety precautions and wear safety glasses at all times.

Treating lameness

There are five major types of hoof lesions in New Zealand herds.

White Line



Hoof wall crack



Foot rot



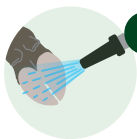
Sole injuries



Digital Dermatitis



Foot examination process



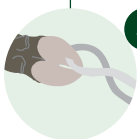
1.

Clean the foot with running water.



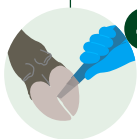
2.

Check between the claws for any trapped stones, breaks in the skin, swelling or heat.



3.

Squeeze carefully to test the claws with a hoof tester. A positive response will be muscle twitching higher up the leg. Not necessarily the cow trying to pull her leg away.



4.

Scrape clean the sole with a scraper or hoof knife and check for any holes or cracks.



5.

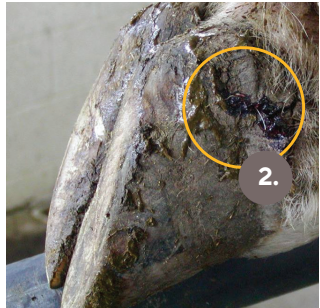
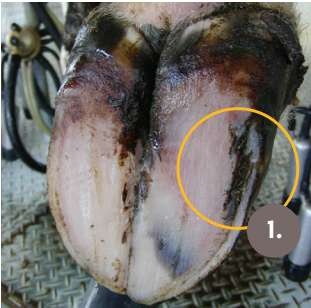
Search only if you find nothing in the foot do you start looking further up the leg for other possible causes.

Call your vet or hoof trimmer if you are unsure about a lesion or the lameness does not improve after treatment.

White Line

What you will see

- Wall is split away from the sole and may be filled with sand and gravel. (1)
- May have a break out or abscess at the coronet or at the back of the heel. (2)
- When the outside wall is trimmed, a dark line can be found running up the hoof from the sole to the coronet or heel.
- Mostly seen in back outer claws in mixed aged cows and front inner claws of heifers.



How to treat it

Step 1

Open up the white line at the bottom and the top (if there is a break out) to allow drainage. Make sure the edges aren't left sharp, as they will pinch on tissue.



Step 2

If there is a break out at the top, you will need to remove the whole side wall; do not leave a bridge.



Step 3

Ensure there is no pressure on the injured site by paring the sole and/or wall. Take the weight off the affected claw by applying a block or slipper to the healthy claw.



Sole - bruising or haemorrhage

What you will see

- Reddish/dark brown areas on the sole.
- Patches can be localised or they can cover large portions of the sole.
- Often the cow is lame in more than one foot and they are stiff when getting up and walking.



How to treat it

Step 1

Treat as below only if the bruising is a point of pain.

Step 2

Keep the cow close to the shed and consider once-a-day milking.

If one claw is involved, consider applying a block/ cowlip to the unaffected claw. This will keep the bruised claw off the ground and immediately relieve pain.



Step 3

Revisit the cow in 5-7 days, simple bruising should heal within a week.



Sole - Abscess, Ulcer

What you will see

Both lesions:

- Underrun horn
- Can be very painful

Sole abscess

- Have a dark hole or crack in the sole.
- May lead to a pocket of pus.

Sole ulcer

- Has a reddish/dark brown area that is often soft.



Abscess



Ulcer

How to treat it

Step 1

Open up the hole or area in the sole and release any pus.



Step 2

Abscess/ulcer - Pare away all under-run sole. Can sometimes be the entire sole.



Step 3

Transfer weight on to healthy claw by either paring back the sole of the affected claw (if possible) or applying a block/slip to the healthy claw.



Foot rot

What you will see

- Skin between claws is broken.
- Swelling and heat below the dew claws.
- It often smells.



How to treat it

Step 1

Clean out the cracked skin between the claws. Check for and remove any small stones.



Step 2

Spray with antiseptic/iodine.



Step 3

Treat the cow with injectable antibiotics as prescribed by your vet.



Hoof wall crack

What you will see

- A vertical crack found usually on the inside wall of the claw.
- Cracks appear in both front and back feet on any claw.



How to treat it

Step 1

Remove all under-run horn both sides of the crack.



Step 2

Pare the sole below the crack to transfer pressure away from the crack.



Step 3

Consider placing a block or slip on the healthy claw.

Digital dermatitis

What you will see

- Red or grey lesion on skin above hoof – usually between heel bulbs.
- Red surface of the ulcer sensitive to water pressure or touch.
- Can have a wart like appearance.
- The infection may get deeper into the hoof, causing underrunning of the heel horn.
- Usually in the back feet (80%).



How to treat it

Step 1

Seek veterinarian advice – it is important to accurately diagnose the disease as it is contagious and can be challenging to control.



Step 2

Clean the ulcer or wart with water.

Step 3

Dry then spray with antibiotic or disinfectant spray from your vet, allow to dry, then spray again. Repeat this treatment for two more days.

If you have multiple cases, talk to your vet about a foot bath.

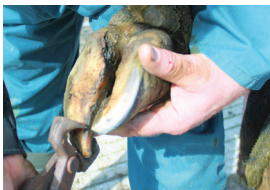
Completing treatment

Principles of treatment

Return hooves to the ideal shape so that they are balanced, more able to support the cow's weight and less likely to be affected by future problems.



Reduce pressure on a lesion by removing the horn around the lesion. This reduces pinching and aggravation of the lesion by the hard horn. It also allows dirt and slurry to drain from around the lesion which decreases the chance of an abscess forming.



Remove damaged horn to promote the growth of healthy new horn.



Transfer the weight to the other healthy claw by either paring down the sole of the affected claw and/or putting a block/slip on the healthy claw. Blocks should be used by default, unless there's an obvious reason not to (e.g. a lesion on the opposite claw). This transferred weight helps cows to walk with less pain and aids healing.

Avoid bleeding and provide pain relief. Manage pain during treatment and recovery.



If a cow does not heal or improve within one week after treatment, contact your veterinarian.

How to put on a block or slip

A block or slipper goes on the healthy claw not the injured claw.

Step 1

Clean the foot thoroughly.

Step 2

Using a paring knife, scrape the sole and wall clean.

Step 3

Dry the foot. Use methylated spirits, or a heat gun. Be careful with methods that use heat as it's easy to damage the underlying tissue.

Step 4

Check the block or slipper for size. Will it fit? If necessary, trim the claw or inside plastic of the cowslip so it is not rubbing against the skin. Blocks may need to be shaped to size.

Step 5

Refer to the glue mixing instructions for your type of block or slip. Tip: warm the liquid before mixing by placing in a container of hot water.



Step 6

Apply the block or slipper onto the healthy claw and allow the glue to dry. Clean off excess glue, making sure it does not bulge into the space between the claws or touch the coronet.



Step 7

Leave foot raised for several minutes until glue has set.



Removing a block or slipper

Do not leave blocks on longer than six weeks. Lift the foot and lever the block off with hoof cutters or pliers.

Recording and re-checking lame cows

Clearly marking and separating lame cows is good practice. This allows everyone on farm to monitor the cow and reduces risk around antibiotic withholding periods. Accurate records help to detect cows that continue to get lame.

Mark

Record

Separate

Treat



Mark:

- Identify lame cows with spray paint or other method.

Record:

- Record all lame cows, even if they did not receive an anti-inflammatory or antibiotic treatment.

Separate:

- Lame cows should be kept on pasture and not made to walk far.
- If it is not possible to treat a lame cow immediately, ensure she is removed from the main herd to a treatment mob the day she is first noticed to minimise further damage. Ensure her foot is checked and treated as soon as practically possible.

Treat:

- Deal with lame cows quickly.
- Seek advice if needed.
- Ensure at least one person on the farm is trained and skilled at treating lame cows or identify an external source to use routinely (e.g. hoof trimmer, vet).

Lame cows should be observed daily. If lameness worsens or does not improve within seven days, the foot should be lifted and examined again. It may be necessary to seek veterinary help.

Minimising lameness

By keeping good records, you can begin to understand lameness on your farm. Calculate the percentage of each type of lameness; do any types dominate your records?

Priority areas to investigate:

White line disease

- Herding pressure – on the track and/or shed.
- Management of herd in early lactation.*
- Periods of stress or ill-health.
- Walking distances and track quality.

Sole injuries

- Management of herd in early lactation.*
- Walking distances and track quality.
- Migration of gravel on to concrete & wet weather.

Foot rot

- Places where cows can pick up a stone between their claws.
- Poor drainage areas on track, gateways, trough surroundings or yard entry.
- Excessive track crowning causing cows to walk on edge of track.

Hoof wall crack

- Can occur a few months after foot rot – so look for areas causing foot rot.
- Poor conformation of hooves is a risk factor.

Digital dermatitis

- Introduction of new stock to the farm.
- Foot hygiene – look for areas where cows stand in slurry.

*Calving reduces the resilience of the corium in the hoof which can lead to lameness immediately or later in the season. For the first 6-12 weeks, reduce factors that lead to lameness – stress, herding pressure, poor lanes and yards.



Understanding cow behaviour

- Cows need to see where their feet are placed.
- Cows are fearful of slippery surfaces, shadows, different surface heights and anywhere they can't see the ground easily.
- Subordinate cows will not pass dominant cows.
- Dominant cows walk throughout the herd, not always at the front.
- Milking order is different to walking order.
- Under pressure, dominant cows push forward using back feet, and lower dominance cows reverse, using front feet to brace and push.
- Cows like predictable and gentle routines.



Stockmanship



Cows bunched, heads up in yard

Heads up suggest that the whole herd is too tightly packed. This will result in foot damage from twisting and turning.



Cows spread out, heads down

Cows need space in the yard. Space allows a cow room to move gently forward and feel for a safe place to stand.



Cows bunched up on track

Cows bunch up on a track due to herding pressure. Often this happens at congestion points on the track. Poor cow foot placement can result, causing hoof damage.



Cows spread out on track

If cows are spread out and able to drift at their own pace, foot placement is good, wearing of the sole is minimal and cows experience less stress.

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