

# *Lameness field guide*

*A farmer's guide to treating lameness*



DairyNZ 

## *How to use this field guide*

### **Use this guide to help you and your farm team:**

1. Identify lameness.
2. Get set up to treat lame cows.
3. Understand foot anatomy and what you are looking at.
4. Identify and treat common foot problems.
5. Minimise lameness.

This guide should be used along with appropriate training from your Healthy Hoof provider, veterinarian or hoof trimmer.










## *Early identification of lame cows*






- Early identification and treatment is the key to good recovery.
- Use the DairyNZ Lameness Scoring system to help observe cows.
- Many of the early indicators of lameness are subtle and only seen with careful inspection of walking cows.
- 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
- As soon as a cow is identified as lame, she should be drafted and treated.

Visit **[dairynz.co.nz/lameness](https://dairynz.co.nz/lameness)** for more information and videos on lameness scoring.

## Identifying a lame cow

Score	Walking speed	Stride	Weight bearing	Backline	Head
<b>0</b> <b>Walks evenly</b>	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.
<b>No action required</b>					
No action required – this cow is normal.					

Score	Walking speed	Stride	Weight bearing	Backline	Head
<b>1</b> <b>Walks unevenly</b>	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 mildly arched when walking.	May have slight bob and or may be held lower than normal.
<b>Minor action required</b>					
Record and keep an eye on her – some cows normally walk unevenly.					

Score	Walking speed	Stride	Weight bearing	Backline	Head
<b>2</b>	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.
<b>Lame</b>					
<b>Action required</b>	This cow is lame and needs to be reported, drafted and examined within 48 hours.				

Score	Walking speed	Stride	Weight bearing	Backline	Head
<b>3</b>	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.
<b>Very lame</b>					
<b>Urgent action required</b>	This cow is very lame and needs urgent attention. Draft and examine as soon as possible.				

## Getting set up to treat lame cows

### Hoof treatment tool kit

- Sharp Hoof knives.
- Hoof knife pouch.
- Hoof test pliers.
- Hoof trimmers.
- Leg rope or strap.
- Back bar or rope.
- Antiseptic spray.
- Hoof block or slip and a way to dry feet.
- Sharpening tools.
- Glove or wrist protector.
- Recording book or App.



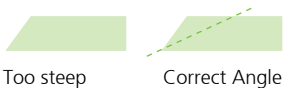
## Knife sharpening

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.

### Step 1

New knives will need sharpening and sometimes reshaping. Each season, 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°.



### Step 2

Use a diamond file to touch up the sharpened edge again. 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 or lengths of alkathene work well.



### Step 4

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



#### TIP

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.



## Treatment facilities

Ensure you have adequate facilities and use the correct techniques for handling cows.

### Good facilities have:

- good lighting
- secure, safe method of restraining cows
- running water
- safe work area for people
- non-slip surface.



### TIP

When using a 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.

## *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**

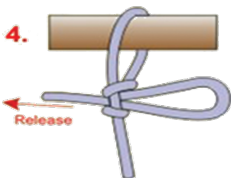
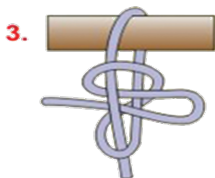
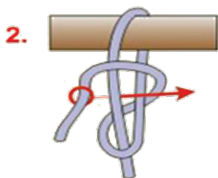
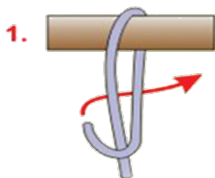
Follow the restraining technique appropriate for your facility.

### **Step 3**

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



## Quick release knot



## Foot examination process

### 1. Clean

Clean the foot with running water.

### 2. Between

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

### 3. Carefully squeeze

Carefully squeeze the claws with a hoof tester. It will save time if you know which claw is painful. A positive response will be muscle twitching higher up the leg. Not necessarily the cow trying to pull her leg away.

### 4. Scrape

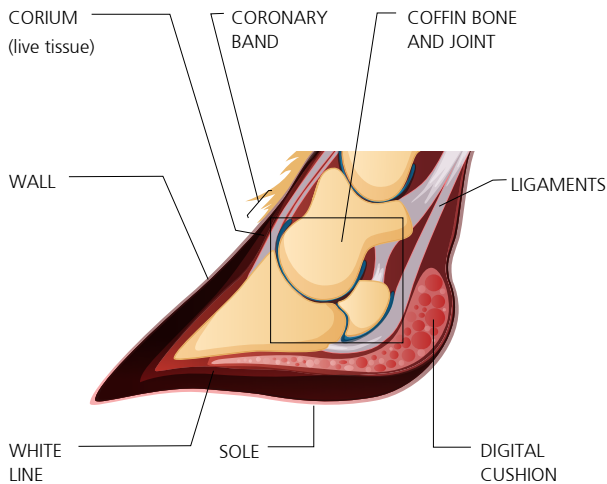
Clean the sole with a scraper or knife and check for holes or cracks.

### 5. Search

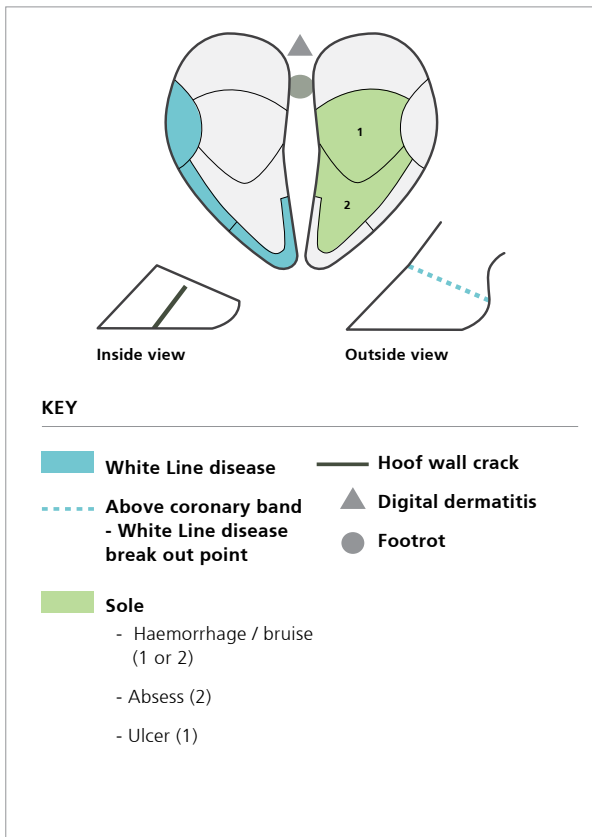
If you find nothing in the foot start looking further up the leg for other possible causes.

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

## What does a normal foot look like?



## Claw zones



## Types of lameness

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



## *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. This transferred weight helps cows to walk with less pain and aids healing.



Avoid or minimise bleeding. Manage pain during treatment and recovery. Talk to your vet about options.

This guide outlines the principles of treatment, but does not replace the need for formal training. Contact your hoof care professional for training.

## White Line

### What you will see

- Wall is split away from the sole and may be filled with sand and gravel.
- Break out or abscess at the coronet or at the back of the heel.
- 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 you treat it

### Step 1

Open up the white line at the bottom and the top (if there is a break out) to allow drainage.



### 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 injuries

### What you will see

#### Sole bruising or haemorrhage

- 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 you 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/cowslip 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 injuries

### What you will see

#### 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.
- Underrun horn.
- Can be very painful.



*Abscess*



*Ulcer*

## How you 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.



### 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.



## Footrot

### What you will see

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





## How you 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 you 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 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 you treat it

### Step 1

Seek veterinarian advice – it is important to accurately diagnose the disease.



### 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.

## *How to put on a block or slipper*

**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, a towel or a gas burner.

### **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.

### 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:**

- Download the DairyNZ App and use it to record each case of lameness.
- Record all lame cows, even if they did not receive an 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.

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 veterinarian help.

## *Understanding lameness on your farm*

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.

#### **Footrot:**

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



### Hoof wall crack

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

### Digital dermatitis

- Introduction of any stock.
- 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.*

For more analysis, visit [dairynz.co.nz/lameness](https://dairynz.co.nz/lameness) and get in contact with a Healthy Hoof provider.

## *Understand cow behaviour*

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

## Minimising lameness

### 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.





**For more information visit [dairynz.co.nz](http://dairynz.co.nz) or phone**

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