Why good nursing is important

Regardless of the initial cause, all down cows are at risk of nerve damage and other complications if they remain down for two hours or more, particularly on hard surfaces such as concrete. A cow needs to be got back on her feet quickly or managed appropriately to prevent this secondary damage.

Research conducted on dairy farms in Gippsland found that the quality of the nursing care had a profound effect on the cow's chances of recovery. The graph below shows that there is very little benefit in nursing a down cow unless you can provide high quality care.

The complications that arise from prolonged lying include:

- Nerve damage in the lower areas of the back, hind limb or forelimb
- Muscle damage from compression of the major muscle groups
- 'Bed sores'
- Mastitis
- Pneumonia
- Hip dislocations

Cow comfort

Nursing the down cow in the paddock may be more convenient, however the ground is often too hard or too cold and the environment may also be cold, windy and wet. Lying out in cold and wet paddocks affects the circulation to the limbs, making it less likely that the cow will be able to rise. It can also depress the cow's appetite. Leaving a down cow sitting in a paddock exposed to hot conditions will also affect her recovery.

The down cow should be nursed in a shed with at least 300mm of soft, dry bedding consisting of heaped straw or hay, rice hulls, sawdust or some other soft material.

Providing the cow with feed with sufficient energy and fibre is important, along with free access to water.

Regularly hand strip the cow's udder to relieve pressure and apply teat disinfectant to reduce the risk of mastitis.

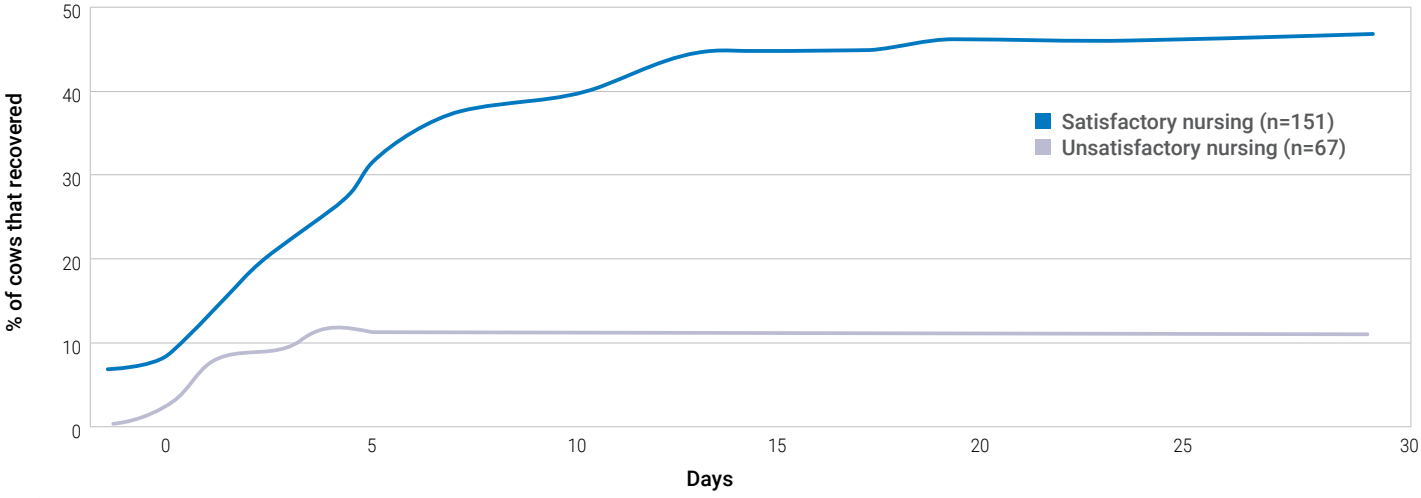


Figure 1 *A comparison of recovery rates of 218 according to their nursing care*

Rules for nursing a down cow

Provide clean, dry, soft bedding that provides a non-slip surface when the cow tries to stand.

Provide a continuous supply of clean water and good feed.

Move the cow from side to side every 3 hours to ensure her weight is not always to one side if she is unable to swap sides by herself, and flex and extend the hind limbs each time the cow is moved.

Regularly hand strip milk from the udder.

Regularly encourage the cow to rise.

Use lifting devices to get her to her feet only, never leave cows hanging in lifting devices.

Rolling

It is vital to note which leg the cow is sitting on each time she is checked. If the cow is unable to swap sides, one hind leg will take all of the pressure from her body weight. This compromises the circulation in that leg and can lead to nerve and muscle damage. If the cow tries to stand, the stronger leg will tend to push the cow onto her weaker leg, which will be the leg she always sits on, causing further damage to this weaker leg.

If the cow cannot swap sides by herself, she needs to be rolled frequently onto her other side, especially if she is trying to stand up.

Barriers

The cow should be nursed on a small area of bedding of suitable depth, with barriers used to keep her on the soft surface. The barriers will also prevent her from crawling, which often causes damage to the nerves of the lower back. The barriers need to be high enough to discourage her from trying to jump over them.

If the down cow is able to stand when lifted but falls over when trying to walk, she may need to be nursed in a small pen. This will allow her to stand but prevent her from walking. A pen can be built from large hay bales or gates, leaving a space that is small enough to stand in without walking or turning around in but large enough to be comfortable. The cow can be lifted within this pen by reaching over the top of the bales with the front-end loader.

Once she recovers to the point of being able to stand for most of the day she can be released from the pen and allowed to walk around, providing it is on a suitable non-slip surface.

It is important to be patient with down cows – before bringing a recovered down cow back into the milking herd, you will need to assess the likelihood of the cow slipping over and re-damaging herself.



Lifting

Lifting should only be done if it is effective and supervised. Cows that are lifted ineffectively or unsupervised have a poorer chance of recovery than those that are not lifted. Cows that are unable to stand 'effectively' or are unwilling to try to stand 'effectively' are best nursed without lifting, providing the bedding is suitable and they are rolled regularly, if needed.

Cow 'lifters' are not cow 'hangers'! Effective lifting means that the cow is able to stand in a natural position and take some of her own weight. If the cow is hanging from a hip clamp or slouching in a sling, without taking any weight on her legs, it can cause her more damage.

Supervision by a competent stockperson is important because down cows tire easily and should then be immediately placed down. Over-lifting can also be a problem as the pressure from lifting devices can cause swellings and pain.

Watch the video on 'Rolling the down cow'

To see how this is best done view the online video 'Rolling the down cow' on the Dairy Australia webpage: dairyaustralia.com.au/down-cows.



Moving a down cow

It is important not to cause further damage to a down cow when moving her. There are several ways to safely move a down cow:

- Load her onto a carry-all on the back of a tractor and secure her effectively.



- Load her into a front-end loader bucket on the front of a tractor. To see how to do this safely, view the online video 'Moving the down cow'
- Carry her in a sling.
- Hip clamps can only be used to move a cow over a short distance and the cow must be supported with a belt or strap under her chest.

Methods to avoid are:

- Hip clamp alone.
- Dragging – only use if there are no alternatives and the cow needs to be urgently moved over a short distance. Use slow, steady pressure and avoid jerking movement. Dragging slowly by a halter or chain around the head is safe, if done correctly. Never drag a cow by her legs.

Monitoring the down cow

The down cow's response to treatment needs to be assessed at regular intervals, which will depend on the severity and cause of the condition. A non-alert cow should be rechecked within 2–4 hours for signs of improvement and again in 6–8 hours' time. A cow with milk fever should be alert within a few hours of treatment. If not, she may have a different condition, e.g. an acute infection, so the diagnosis may need to be re-assessed and the treatment changed. Seek veterinary advice if you are unsure.

When to consider euthanasia

Cows with a low chance of recovery must not be left to suffer and must be destroyed humanely on site.

Incurable conditions e.g. fractures, tendon ruptures.

Lack of response to treatment of the primary condition within a reasonable time period.

An alert down cow becoming non-alert, indicating further complications.

Pain and suffering.

Cow is lying on her side despite adequate treatment (unable or unwilling to maintain sternal recumbency).

Not willing to eat or drink despite adequate treatment.

Obvious 'bed sores' or swollen joints/limbs.

Insufficient facilities, labour or expertise available to provide adequate nursing care for the cow.

If a down cow cannot be nursed at a high standard of care it is better for the cow's welfare that she is euthanased within a short period of time as her chances of recovery are low. Correct nursing of down cows is important for the welfare of the affected animals and the reputation of the dairy industry. Dairy farmers, veterinarians and farm advisers all have responsibilities in this area.

For alert down cows the period of time before re-assessment should be no longer than 8–12 hours from the initial treatment. If the cow is alert but unable to stand on her own after 8–12 hours, or perhaps sooner, then lifting should be tried. For detailed instructions on lifting, please refer to the online video 'Lifting the down cow'. Many cows will be able to walk away when lifted. If not, the cow should be moved to a suitable nursing environment.

Cows that are still down on the second and subsequent days need to be re-assessed at least once each day as part of the daily nursing cycle.

This involves making judgements about:

- The response to the treatment of the primary condition – if the results are not satisfactory the treatment may need to be changed.
- The original diagnosis – this may also need to be re-assessed if the response to treatment is not satisfactory.
- The need to treat secondary damage.
- Any further complications e.g. a dislocated hip, mastitis or pneumonia.
- The nursing protocols.
- Lifting – providing it can be done effectively and competently supervised.
- Euthanasia – consider if the response is not satisfactory, if the cow's welfare has been compromised or if a competent stockperson is not available to nurse the cow adequately.

There is no time limit on nursing a down cow, providing her welfare is not compromised. Some cows can take 3-4 weeks to recover or even longer. However, the longer time the cow is down, the more likely it is that secondary problems will prevent her recovery and so the quality of the nursing care becomes more important.

Preventative measures

Many of the factors that cause cows to go down are preventable. After you have nursed or euthanised a down cow it is important to review your transition cow management, calving management and sire selection to see if improvements can be made. Seek professional advice if you are unsure.

Several methods may be used to lift cows



Hip clamps

The easiest method to use and the most common. They are ideal for a quick lift, but are not suitable for extended support due to the trauma they may cause to the hip bones and muscles. They are most useful if the cow can stand when lifted, such as simple milk fever cases.



Slings

There are a variety of sling designs on the market. Cows tend to hang in them rather than stand in them, so the straps may cut into them and compromise limb circulation and mobility. Slings can also be difficult to apply.



Pelvic lift

This is a hip clamp with a seat. It has the ease of use of the hip clamp with the superior support of the seat, which supports about 40 per cent of the cow's weight. When the lift is engaged, the seat swings under the pelvis of the cow. It is effective and easy to use.



'Upsi Daisy' cow lifter

A metal frame that supports the cow under the pelvic area used together with a chest strap. The weight of the cow is distributed over different parts of the skeletal frame so it is suitable to both lift and transport cows safely and humanely.



Flotation tanks/water baths

Used overseas and claim to have good success rates. They are available in Australia. The cow's natural buoyancy enables many cows to stand in the warm water, which improves blood circulation. This prevents many types of secondary damage to the limbs and speeds up her recovery. Cows are left in the water for 8–12 hours at a time and the treatment can be repeated over several days, if necessary.



Hobbles

Hobbles can be useful to reduce the risk of secondary damage, such as a dislocated hip, in cases where the hind leg(s) deviate greatly from their normal position. Hobbles can be purchased from saddlery stores or some rural retailers. They are applied either above the hocks or on the lower leg above the fetlock, and should be padded to avoid pressure sores. The rope or chain needs to be long enough to allow the cow to try to stand but short enough to stop over-reaching.

Further resources The information in this fact sheet should be used in conjunction with the Dairy Australia wall chart 'Down cow decision tree', a guide to decision making over the first few days when you are presented with a down cow.

Dairy Australia also has a series of six online videos available for viewing on YouTube.

For further information Please visit dairyaustralia.com.au