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Caroline qualified in 2001 after attending Myerscough College, whilst working in Carlisle. For the last six years, she has worked at a small animal practice in Durham. Since attending a CPD course in 2010, she has developed a keen interest in wound management.

Wound management – Part 3: bandaging complications

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ABSTRACT: This is the final article in a series of three individual wound management case studies. It covers one of the common complications that can occur following the application of long-term dressings – decubitus ulcers ('pressure sores'). Ideally bandaging should be problem-free, but in reality pressure sores can, and do, occur. This raises issues on how to continue to manage the primary problem – invariably a broken bone – as well as dealing with the pressure sore. In this case, by the time the pressure sore had fully developed, the original injury had been managed; so the main focus could be switched to the pressure sore. The author has found that once the pressure is relieved, a dramatic improvement in the wound can be seen relatively quickly when moist wound management is implemented, as this article shows.

Introduction

'Daisy', a six-year-old crossbreed, initially presented with lameness of the left fore leg after rest. A fluid swelling was present over the dorsolateral left carpus. The owner reported the swelling increased after exercise.

Anaesthesia was arranged for the following day in order to X-ray the joint. This revealed a swollen joint capsule, with small loose, bone fragments/osteophytes visible in the joint of the dorsal aspect of the carpal bone. The cause was suspected to be trauma.

Support dressings were to be used for three weeks to immobilise the joint. The patient was discharged with aftercare information (**Table 1**). Dressing changes were advised every five days and the joint was to be reviewed by the veterinarian in three weeks.

This article starts from the point where a severe pressure sore had developed – thought to have originated from the dew claw imprinting into the skin – and how it progressed through to healing. At each dressing, the wound was cleaned and assessed (**Table 2**).

TABLE 1 Bandage aftercare for owners

The owner was advised to monitor for any of the following signs which may have indicated a problem with the dressing:

- odour
- discharge through dressing
- swelling
- skin irritation/soreness
- lameness
- patient interference

In addition, the owner was asked to contact the surgery immediately if either of the following occurred so that the wound could be redressed:

- if the dressing became dirty or wet
- if the dressing slipped from original position

TABLE 2 Dressing changes and wound assessment

- Ideal dressing frequency is ~5 days
- Wear gloves when handling an open wound
- Flush the wound with saline (Aquspray, Animalcare)
- Note the following:
 - how easy/difficult it was to remove the dressing
 - wound exudate (colour, smell, volume, viscosity)
 - size of wound (take measurements)
 - stage of wound healing (necrotic, sloughing, granulating, epithelialising)
 - signs of infection (pain, inflammation, increase in exudate, heat, redness, tracking, bleeding easily, heat around wound)
- Based on assessment, decide which is the most appropriate topical dressing to use (honey or a hydrogel)
- Select an appropriate secondary dressing. A hydrophilic foam dressing supports a moist wound environment
- If the wound is on a limb, then the limb should be massaged at each dressing change to encourage blood flow and circulation – particularly important in long-term dressings

Case Diary

Day 1 (19 days after the original dressing)

A large wound had developed below the dew claw and the bone was exposed. The wound was cleaned and assessed. A large volume of discharge had been produced and exuberant granulation tissue was present.

The wound was dressed using medical grade honey (Activon, Dechra) and a secondary hydrophilic foam dressing (Cutimed Siltec, BSN). A small hole was cut in the foam pad through which to insert the dew claw in order to ensure

that it wasn't imprinting on the wound. A lighter dressing was used, as the joint no longer needed full support.

Day 6

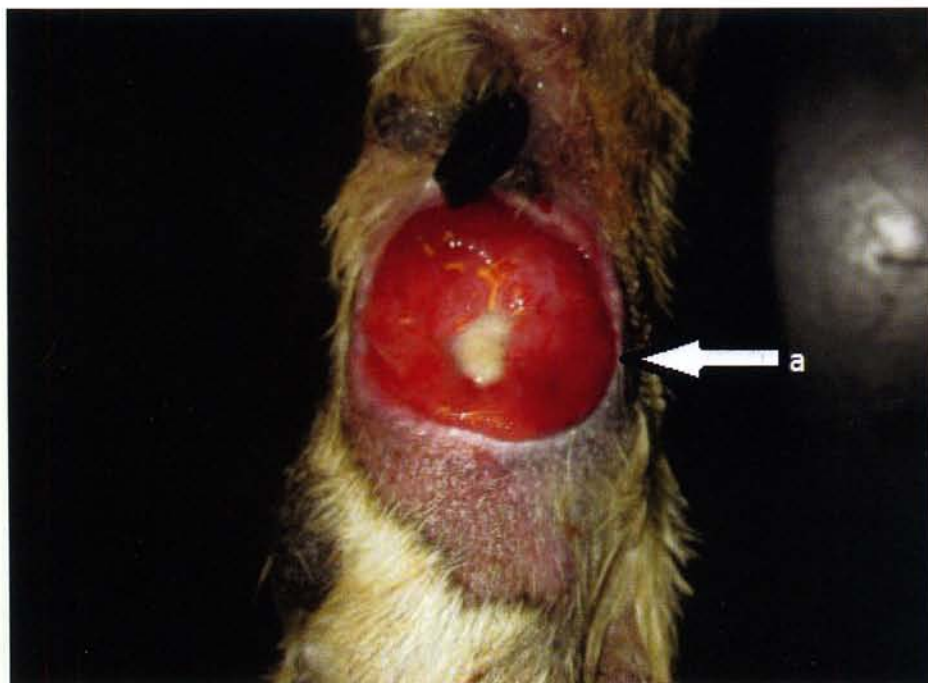
The case was referred to the author. A severe pressure sore wound was present, measuring 2.4cm wide x 2.1cm long (Figure 1). There was bone exposure in the centre of the wound and a large volume of thick, pale discharge was present. There was exuberant granulation tissue protruding from the wound which was preventing re-epithelialisation.

The wound edges were macerated (Figure 1).

After consultation with the vet on duty, it was decided to debride the wound. From a side view, the reduction in granulation tissue can be seen in Figure 2. A 10-day course of antibiotic, cephalexin (Rilexine, Virbac), was prescribed. The patient was already on meloxicam (Metacam, Boehringer Ingelheim).

▣ **Figure 2:** Day 6. Following debridement of the protruding granulation tissue

▣ **Figure 1:** Day 6. 2.4cm x 2.1cm wound with bone exposure. Note white, macerated wound edge [a]



The wound was redressed, as before, with honey and hydrophilic foam dressing, Cutimed Siltec. A smaller, lighter dressing was applied, excluding the foot, to try and release general pressure in the area and movement (Figure 3).

Figure 3: Day 6. Partial leg dressing



The owner was instructed to monitor for any problems with the dressing – particularly swelling of the toes. The priority at this stage was to ensure the coverage of the exposed bone to prevent infection.

Day 8

The bandage had stayed on. The owner reported that the toes had swollen slightly. The wound had reduced to 1.7cm wide x 1.3cm long. The edges were no longer macerated and the bone was far less exposed than before. There was only a small amount of discharge and smoother, healthy granulation tissue was present (Figure 4).

Figure 4: Day 8. 1.7cm x 1.3cm. Note inflammation of digit 3 (a)



The medial surface of digit three was inflamed (Figure 4), so fucidic acid/betamethasone was applied (Fuciderm, Dechra). The wound was redressed with a 1:1 mix of honey and an amorphous hydrogel (Cutimed Gel, BSN). The foam dressing was secured in place using elastic adhesive bandage (Tensoplast, BSN) and a partial dressing as before.

Day 12

There was a dramatic improvement in the appearance and condition of the wound (Figure 5). It was contracting and epithelialising well. It had decreased in size to 0.8cm wide x 0.7cm long. Only a very small amount of bone could be seen below a thin layer of granulation tissue. The wound was redressed as before.

Figure 5: Day 12. 0.8cm x 0.7cm. Wound contracting well.



The generalised inflammation present on digit 3 at day 8 had gone and a very superficial wound was present. This had been caused by the edge of the Elizabethan-style collar rubbing against the foot. The patient had also been able to lick it. The owner was asked to use the honey on the area, in conjunction with a protective boot.

Day 17

Only a very small superficial wound was present measuring 0.2cm x 0.2cm (Figure 6). The wound on digit 3 had healed. The toes were becoming quite sweaty (probably from use of the protective boot). It was advised not to use the boot constantly but to remove it when the patient was supervised. The wound was redressed as before.

Figure 6: Day 17. 0.2cm x 0.2cm



Day 18

The patient had managed to remove the dressing. The wound had not been affected, so it was redressed as before. A larger collar was given to prevent further interference with the dressing.

Day 23

The patient had managed to remove the dressing again. The wound had extended to 0.8cm wide x 0.7cm long but was still superficial (Figure 7). It was dressed using hydrogel only and a secondary hydrophilic foam dressing (Advazorb Plus, Dechra).

Day 27

The author did not see the patient on this occasion. The wound was improving (Figure 8). The vet had advised that the wound was to be left open so that the owner could bathe it twice daily with saline, and to apply the hydrogel three times daily and the honey once daily.

Figure 7: Day 23. Wound extended to 0.8cm x 0.7cm after patient interference



Day 44

The client returned for the author to see the wound fully healed. Thickened scar tissue was present. Unfortunately the photograph was lost so the owner returned on Day 111 so the author could have a final photograph of the area (Figure 9) and Daisy (Figure 10)! Only a very small patch of darkly pigmented scar tissue was present.

Figure 8: Day 27. Wound improving



Figure 9: Day 111. Fully healed



Figure 10: 'Daisy'



Discussion

As with the previous wound management cases, both owner and patient compliance were very good. The owners had been warned of the potential risks of pressure sores occurring when long-term dressings are used.

Bandaging is a complex affair and when dressing a limb the main objective is to avoid any iatrogenic injury. This can be done by ensuring it is not too tight but at the same time not too loose so that it will slip. It is difficult to achieve the right balance, and the only way to gain a 'feel' for how much tension is required comes from practice. Adequate cotton padding

is needed, especially over vulnerable areas and between toes.

From an owner's point of view, they must be advised on the proper aftercare of bandages to try and avoid any complications, because even over-exercising can cause slippage. If a bandage slips, it will cause friction and undue pressure in certain areas.

Direct or shear pressure may also contribute to complications by causing ischaemic injury – through the interruption and reduction of blood flow to the area – which will, in turn, prevent healing. So any problems with a bandage

should be considered of great importance and should not be ignored.

The author would have expected the overall healing time to have been less in this case, but it was increased by patient interference.

Since this case the author has trialled a recently launched product, 'Protective Sleeve Taz' (J.A.K Marketing) which is a fabric sleeve that covers a front leg to protect wounds and/or bandages (see www.medicalpetshirts.com). The author believes this would have been an ideal alternative to the collar and boot in this case, but the product was unavailable at the time. [vni](#)

NEWS REVIEW by Jean Turner

BVNA attends Cruft's

The BVNA attended Cruft's for the first time this year where the main objective was to promote the work of the Veterinary Nurse and National VN Awareness Month in May 2013, as well as to give veterinary nursing career and pet care advice.

The BVNA was also invited to participate in the launch of 'The Hounds for Heroes' charity campaign 'Fit in Kit', and council member, Lucy Hayne (back row centre), was photographed with other professionals. [vni](#)

