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'Pinch Grafting' for Equine Lower Limb Wounds

We know that time heals wounds, yet when our beloved horses sustain a traumatic wound, we still try to do everything we can to ensure a quick recovery. That can include skin grafting, according to a practitioner who described a practical "pinch grafting" technique that can allow wounds to heal faster at the 2011 American Association of Equine Practitioners convention, held Nov. 18-22 in San Antonio, Texas.

"Horses have very little 'extra' skin in the lower limb so when a horse is traumatically injured and large amounts of tissue are lost, it is often impossible to suture the wound closed," said Richard Hackett, DVM, MS, Dipl. ACVS, of the Department of Clinical Sciences at Cornell University's College of Veterinary Medicine. "The wound must heal on its own by second intention healing," whereby the horse's body lays down a bed of scar tissue (granulation tissue) before skin cells slowly migrate over it from the edges of the wound. In his presentation, Hackett described pinch grafting as a quicker-healing but not more attractive alternative to second intention healing.

"Second intention healing is notoriously slow and can result in an unsightly, weak scar," relayed Hackett. "The main goal of skin grafting is to accelerate healing and reduce the time an injured horse is under veterinary care. Secondary goals are to improve the cosmetic appearance and durability of the healed wound."

There are a number of useful, effective grafting techniques, but one that any veterinarian can perform easily in the field is called pinch grafting. This involves first obtaining several small pinches of skin from under the mane (for example) using a scalpel blade before placing these "donor" grafts in small scalpel-induced "stab wounds" in the wound bed.

In regards to pinch grafting, Hackett noted the following:

- Only consider grafting once wound contraction (when the skin edges are pulled together and the wound bed is shrinking) is complete;
- The granulation bed must be flush with adjacent skin and free of infection;
- Put horses on systemic penicillin, gentamicin, and a non-steroidal anti-inflammatory drug before surgery and continue administering these medications for five to seven days after surgery;
- Donor sites do not need to be sutured, as they heal on their own with a barely noticeable scar;
- Applying local anesthetic to the wound bed is not necessary as the granulation tissue over which the graft placed has no nerve supply;
- Do not worry about aligning the grafts in the direction of hair growth as hair growth after grafting is sparse;
- Post-grafting, rebandage the affected area every two to three days. Three weeks following grafting, surviving grafts should have an obvious ring of new skin growing around them; and
- If many grafts die, regrafting might be necessary.

Hackett concluded, "Pinch grafting is the easiest grafting technique in horses, requires no specialized equipment, and has a similar rate of positive outcomes as other, more advanced grafting techniques."