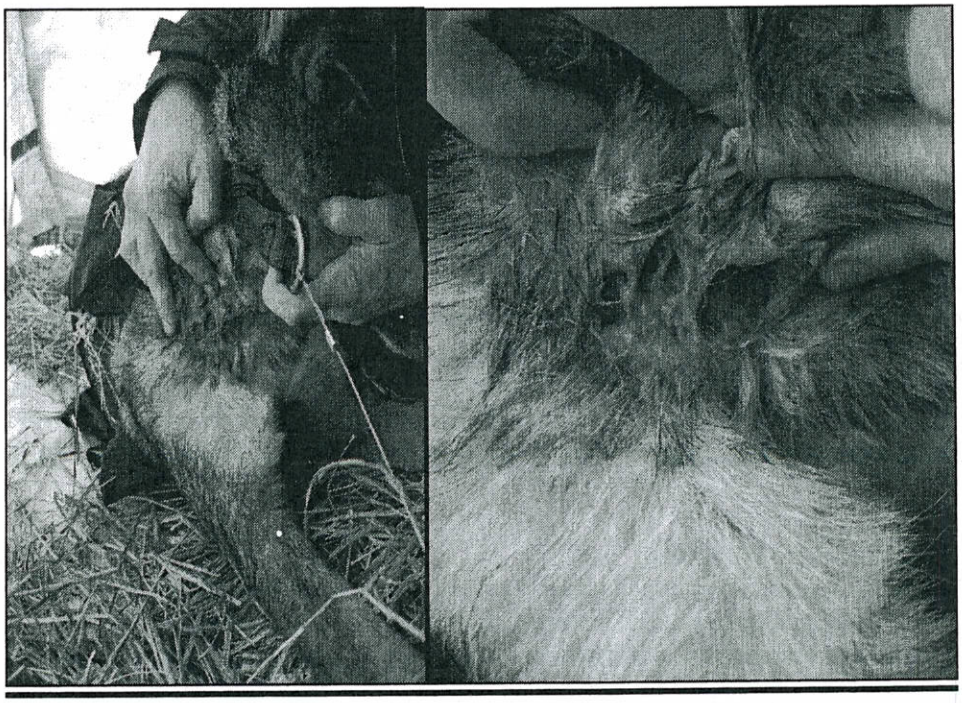
Basics of Wound Care in the Sled-Dog



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Skin defects from trauma or mass removal are very common in small-animal practice. Appropriate wound care and techniques to close skin defects are necessary for a good functional and cosmetic outcome. The purpose of this chapter is to provide or refresh basic knowledge in wound treatment, to give an update on recent techniques of wound management and to introduce practical and easily performed techniques for wound closure. Most wounds discussed may be seen in the kennel or on the trail. Specifics on injuries of the pads are covered elsewhere in this book. An outlook on more involved cases is also provided. Finally, complications in wound management and unconventional wound treatment options are briefly discussed.

WOUND HEALING

Wound healing progresses via four phases: Inflammation, proliferation, maturation and remodeling. During the inflammatory phase, the initial clot is formed and neutrophils migrate into the wound. Fibroblasts and epithelial cells migrate into the wound during the proliferative phase. During maturation and remodeling the wound takes on its final appearance. A normal skin wound heals within two to four weeks, depending on size and severity of the wound. However, healing can be delayed by local or systemic factors. Local factors include technique and experience of the surgeon, diminished blood supply, increased tension, presence of infection, mechanical stress, shape of the wound, suture material, foreign material, or radiation injury. Systemic factors include hypoproteinemia, hypovolemia, edema, malnutrition, hypovitaminosis, systemic diseases, age, immunodeficiency, or cytotoxic drugs. Appropriate patient support is indicated to achieve best healing results.

THE USE OF ANTIBIOTICS IN WOUNDS

The definitive choice for an antibiotic should be based on culture and sensitivity results. However as this is frequently not practical in a sled-dog environment, broad-based coverage may be achieved by administration of 1st generation cephalosporins (Cephalexin) or amoxicillin with clavulanic acid (Clavamox). Antibiotics should be given for at least 14 days. To prevent nosocomial or highly resistant infections, radical debridement and lavage is preferred over the inappropriate use of antibiotics. As soon as healthy granulation tissue appears in the wound, the risk of infection decreases, and antibiotics may be discontinued.

TREATMENT OF FROSTBITE

Frostbite is a common problem in the sled dog (Figure 1). The recommended recipe below is based on an original recipe by Dr. Van Pelt of Fairbanks, AK. Ingredients: 4# Zinc oxide ointment, 1# Thuja zinc ointment, 3# Triple antibiotic ointment (Bacitracin/Neomycin/Polymyxin B), 1# 0.1% Triamcinolone ointment, 875cc mineral oil. Preparation: Warm jars in hot water (coffee pot), pour into tub and mix with drillsand paint stirrers (keep this tub within outer larger tub with hot water to keep ointment warm and liquid), pour into cake decorating bag, and squeeze into 4 oz. REI food tubes filling slightly less than three-quarters. Directions: Apply to affected areas 2-3 times daily. Other treatments such as povidone iodine based ointments have also been shown to help treating frostbite.

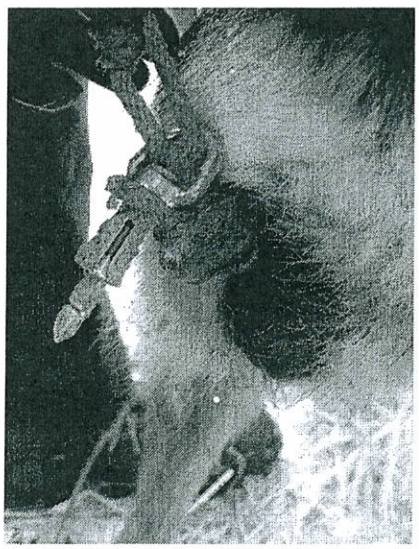

Figure 1: Frostbite on the scrotum.