

# Canine - Severe Bite Wound

This Irish Wolf Hound was presented with a severe bite wound on a flank and abdomen with delayed primary closure and VetGold cream.

Wound appearance two weeks post-initial injury. This was managed with daily irrigation & tie-on bandage.



## Presentation and History

A three year male neutered Irish Wolf Hound weighing 64kg presented with a severe and large bite wound on the left flank and left abdominal area. The wound measured 40x15cm across the left abdomen including some of the inguinal area and the craniomedial thigh.

The dog was presented to our veterinary practice one hour after he was bitten by a greyhound.

## Clinical Examination and Investigation

The dog was in distress, panting and restless. He had slightly pale mucous membrane and had tachycardia. The wound appeared fresh and very traumatic with large tissue deficit. A large de-gloving injury emerged and it was unclear as to the future of this large flap of skin. No other pathologies noted apart of this extensive wound.

## Problem List / Differential Diagnosis

Traumatic wound with large deficit cardiovascular compromise. Risk of sepsis without prompt treatment.

## Pre-operative Management

Fluid therapy was initiated using ringer's lactate solution at 90ml/kg/hr for the first 15 minutes then 10ml/kg/hr. Clavulanic/Amoxicillin antibiotic was given 20mg/kg IV and the wound was protected temporarily with a sterile dressing. After an hour, the dog was sedated for a close inspection, cleaning debridement and irrigation of the wound. The large skin flap was sutured in place trying to preserve as much skin as possible. After several days, the true extent of the injury was evident and the wound was managed as an open wound with initial surgical debridement and daily irrigation. Enterococcus caecofaecalis was cultured from this wound. The wound was managed until negative culture and no necrosis was seen. The antibiotic was replaced to Enrofloxacin and Metronidazole based on the culture and sensitivity. The wound size reduced substantially and healthy granulation bed could be seen 12 days post injury.

## Surgical Procedure

12 days post initial presentation the wound bed allowed closure. The vast skin deficit was closed using a sub-dermal plexus rotational skin flap.

## Post-operative Care

The distal aspect of the flap dehisced 3 days post surgery and the flank area became open, due to excessive motion and self-mutilation. This was managed as an open wound with regular irrigations and VETGOLD cream for a few days.

A second delayed closure was planned for the following week, utilising an axial pattern flap from the caudal superficial epigastric artery.

VETGOLD cream was continued 3 times a day over the weekend and the wound was protected from self-trauma

Delayed primary closure using sub-dermal plexus rotational flap.



Wound appearance before the weekend with reasonable granulation and very little epithelisation.

## Post-operative outcome/Complications

The wound was examined early the following week. Its size reduced dramatically, the granulation tissue appeared very healthy and advanced epithelisation was evident. It was decided to abort the planned surgery and continue with open wound management.

## Follow-up

The dog was discharged home with VETGOLD cream to be applied 3 times a day. The wound healed completely after a further two weeks.

## Discussion

Bite wounds are often misleading when presented shortly following the incident. The nature of this injury is very traumatic and hiding vast tissue compromise and infection. These wounds should be dealt with as open wound until the true extent of lesion determined. In most cases, infections should be dealt with before final closure. In this case, the large skin flap did not survive despite its initial healthy appearance.

The last 10-15% of the skin flap used to close the wound, was dehisced mostly due to movement at the flank area and self-mutilation as the dog managed to reach the wound despite its protection. The distal part of a sub-dermal plexus flap is usually the most vulnerable part of the flap and proved to be unreliable in this case.

VETGOLD was applied for about a week until the wound was inspected prior to a second skin flap for closure. Due to the rapid wound contraction and healthy granulation bed, it was decided to allow the wound to heal as an open wound. This would reduce costs substantially, eliminating the necessity of anaesthesia and reducing total hospitalisation time. This was both advantageous for the owner and dog. VETGOLD had a dramatic impact in the healing of this wound and would be recommended in similar circumstances where alternative options are limited.

Wound appearance 3 days later. Healthy granulation bed, strong wound contraction and advanced epithelisation.

