

## McKeever Dermatology Clinics

[www.mckeevvetderm.com](http://www.mckeevvetderm.com)

952-946-0035

Nicole A Heinrich DVM DACVD

### Callus formation

#### DEFINITION

A callus is an area of thickened skin that typically occurs over bony pressure points. The thickening of the skin is due to irritation resulting from frictional contact with a hard surface on the exterior of the skin and pressure from the underlying bony prominence. Hair follicles often rupture and are replaced with scar tissue.

#### FEATURES

Callus development occurs more frequently in large, shorthaired dogs that sleep on hard surfaces. Lesions usually develop on the lateral aspect of the elbows or hocks. They may also develop on the sternum of deep-chested dogs or dogs with short limbs in which the sternum may continually contact objects such as stairs. Calluses appear as focal areas of alopecia, hyperkeratosis, and lichenification with a light gray surface. Entrapment of hair and/or sebum in a callus may result in a foreign body reaction with furunculosis, draining tracts and secondary deep pyoderma. Fissuring and secondary infection can be painful. Calluses may erode, ulcerate, and form non-healing wounds in dogs with underlying disorders such as hyperadrenocorticism. Calluses with subcutaneous hygromas may present as fluctuant, mobile masses.

#### DIFFERENTIAL DIAGNOSES

Demodicosis, Neoplasia, Dermatophytosis, Deep pyoderma, Zinc responsive dermatosis

#### DIAGNOSIS

Most calluses are easily recognizable by their appearance. Calluses are typically only problematic if they become infected.

#### TREATMENT

The sleeping habits should be modified if possible, so that the patient rests on soft bedding material such as foam rubber padding. Custom or homemade pads over the affected pressure points are also useful. Feminine hygiene pads, small beanbags and DogLeggs® (custom fit, wearable joint padding) can be used for elbow padding.

Degenerative joint disease may contribute to the development of pressure necrosis and pyoderma of calluses. Proper pain management of the underlying joint disease reduces the amount of time a patient spends recumbent, and so reduces pressure necrosis in the callused area.

Inflamed calluses should be treated with twice daily fluocinolone acetonide in dimethyl sulfoxide; this topical product can absorb deep into affected tissue. Petroleum jelly-type products are useful if the callus needs to be softened. Care must be exercised to avoid excessive treatment that creates an erosion or ulcer.

Infected calluses should be treated with a systemic antibiotic. Culture and sensitivity testing is helpful for guiding antibiotic selection. Adjunctive treatment with mupirocin ointment should be considered, because it can penetrate thickened tissue. Treatment should be continued for 2 to 4 weeks beyond resolution of lesions. This may require 4 to 8 weeks of treatment depending on the severity and depth of secondary infections.

Calluses and subcutaneous hygromas should not be surgically removed, as this frequently results in a non-healing wound.

#### KEY POINT

- Management of pressure necrosis is key for resolution and prevention of infected calluses.
- Surgical resection of elbow calluses frequently result in a non-healing wound.



Dehiscence of a surgically repaired callus.