



# Skin Disorders of the Nose in Dogs

## (Canine Nasal Dermatoses)

### Basics

#### OVERVIEW

- Conditions characterized by abnormalities of the skin on the nose, involving either the haired portion (bridge of the nose) or non-haired portion (known as the “nasal planum”)
- “Dermatoses” is the plural of “dermatosis,” which is the medical term used to describe any skin abnormality or disorder

#### SIGNALMENT/DESCRIPTION OF PET

##### Species

- Dogs

##### Breed Predilections

- Zinc-responsive skin disorder (known as “zinc-responsive dermatosis”)—Siberian huskies, Alaskan malamutes
- Inflammatory disorder that affects the skin and muscles of unknown cause (condition known as “idiopathic dermatomyositis”)—collies and Shetland sheepdogs
- Syndrome in which the dog has inflammation in the front part of the eye, including the iris (known as “anterior uveitis”) and coexistent inflammation of the skin (known as “dermatitis”), characterized by loss of pigment in the skin of the nose and lips (condition known as “uveodermatologic syndrome”)—Akitas, Samoyeds, Siberian huskies
- Systemic lupus erythematosus and discoid lupus erythematosus (auto-immune diseases that involve the skin)—collies, Shetland sheepdogs, German shepherd dogs
- Inflammation of the arteries of the nose (known as “nasal arteritis”)—Saint Bernards
- Sun-related skin disorder of the nose (known as “nasal solar dermatosis”)—lightly pigmented breeds
- Excessive crusting of the nose of the skin (known as “nasal parakeratosis”)—Labrador retrievers

##### Mean Age and Range

- Fungal infection (known as “dermatophytosis”) of the nose, zinc-responsive skin disorder (zinc-responsive dermatosis), inflammatory disorder that affects the skin and muscles (dermatomyositis), and demodectic mange (known as “demodicosis”)—more likely in dogs less than 1 year of age
- Epitheliotropic lymphoma (skin cancer that develops from lymphocytes, a type of white-blood cell formed in

lymphatic tissues throughout the body)—old dogs

### **Predominant Sex**

- Discoid lupus erythematosus (auto-immune disease that involves the skin) may occur more often in females

### **SIGNS/OBSERVED CHANGES IN THE PET**

- Loss of pigment of the hair and/or skin of the nose (known as “depigmentation”)
- Darkening or increased pigment of the skin (known as “hyperpigmentation”)
- Reddening of the skin (known as “erythema”)
- Loss of the top layer of the skin of the nose (known as an “erosion” or “ulceration”)
- Blister or small, circumscribed elevation of the outer layer of the skin filled with clear fluid (known as a “vesicle”) or small, circumscribed elevation of the outer layer of the skin filled with pus (known as a “pustule”)
- Dried discharge on the surface of a skin lesion (known as a “crust”)
- Scarring
- Loss of hair (known as “alopecia”)
- Small, solid masses (known as “nodules”) and/or thickened, raised, flat-topped areas that are slightly higher than the normal skin (known as “plaques”)

### **CAUSES**

- Skin infection of the nose, characterized by the presence of pus (known as “nasal pyoderma”) and nodular abscesses in the skin (condition known as “furunculosis”)
- Demodectic mange (demodicosis)
- Fungal skin infection (dermatophytosis)
- Deep fungal infections—cryptococcosis, sporotrichosis, aspergillosis
- Immune-mediated disease—examples include the following auto-immune diseases that involve the skin: systemic lupus erythematosus, discoid lupus erythematosus, pemphigus foliaceus, pemphigus erythematosus
- Mosquito-bite inflammation of the skin (known as “mosquito-bite dermatitis”)
- Inflammation of the arteries of the nose (arteritis)
- Inflammation of the skin in the lightly pigmented skin of the nose secondary to exposure to sunlight (known as “nasal solar dermatitis”)
- Inflammatory disorder that affects the skin and muscles (dermatomyositis)—collies and Shetland sheepdogs
- Zinc-responsive skin disorder (zinc-responsive dermatosis)
- Inflammation in the front part of the eye, including the iris (anterior uveitis) and coexistent inflammation of the skin (dermatitis), characterized by loss of pigment in the skin of the nose and lips (uveodermatologic syndrome)
- Condition characterized by symmetrical lack of pigment in the skin and white hair coat, especially involving the face and nose (known as “vitiligo”)
- Loss of pigment of the hair and/or skin of the nose (nasal depigmentation)
- Inflammation of the skin resulting from contact with some offending substance (known as “contact hypersensitivity”)—inflammation of the skin of the nose secondary to contact with plastic food bowls (known as “plastic-dish dermatitis”), skin inflammation secondary to application of medication onto the nose (known as “topical drug hypersensitivity”; the antibiotic, neomycin, frequently is involved)
- Tumors or cancer—types include the following: squamous cell carcinoma, basal cell carcinoma, epitheliotropic lymphoma [mycosis fungoides], fibrosarcoma, cutaneous histiocytosis
- Trauma
- Mass or nodular lesion with no evidence of bacteria or fungus of unknown cause (so-called “idiopathic sterile granuloma”)
- Thickening of the skin of the nose of unknown cause (so-called “idiopathic nasal hyperkeratosis”)
- Canine distemper virus inflammation of the skin (known as “canine distemper virus dermatitis”)

### **RISK FACTORS**

- Adult cats—may be inapparent carriers of types of fungus (known as “dermatophytes”) that live on the skin, hair, or nails
- Rooting behavior—skin infection of the nose, characterized by the presence of pus (nasal pyoderma), superficial fungal infection (dermatophytosis)

- Sun exposure—inflammation of the skin in the lightly pigmented skin of the nose secondary to exposure to sunlight (nasal solar dermatitis) and auto-immune diseases (systemic lupus erythematosus, discoid lupus erythematosus, pemphigus erythematosus)
- Poorly pigmented nose—inflammation of the skin in the lightly pigmented skin of the nose secondary to exposure to sunlight (nasal solar dermatitis), skin cancer (squamous cell carcinoma)
- Large, rapidly growing breeds over supplemented with calcium or fed high-cereal diet—zinc-responsive skin disorder (zinc-responsive dermatosis)
- Decreased ability to produce a normal immune response (known as “immunosuppression”)—demodectic mange (demodicosis), skin infection characterized by the presence of pus (pyoderma), superficial fungal infection (dermatophytosis)
- Insect exposure—mosquito bites

## Treatment

### HEALTH CARE

- Outpatient, except cases with systemic lupus erythematosus in which several organs are involved or with tumors requiring surgical removal and/or radiation therapy
- Reduce exposure to sunlight—inflammation of the skin in the lightly pigmented skin of the nose secondary to exposure to sunlight (nasal solar dermatitis); auto-immune diseases (systemic lupus erythematosus, discoid lupus erythematosus, pemphigus erythematosus), and skin cancer (squamous cell carcinoma)
- Discourage rooting behavior—skin infection of the nose, characterized by the presence of pus (nasal pyoderma), superficial fungal infection (dermatophytosis)
- Protect from insect exposure/bites
- Warm-water soaks—aid removal of discharge and dried discharge on the surface of the skin (crusts)
- Replace plastic or rubber dish and avoid contact with topical drug or other agent causing hypersensitivity reaction

### ACTIVITY

- Limit sun exposure

### SURGERY

- Surgical biopsy may be necessary for diagnosis
- Surgical removal may be necessary for treatment of tumors or cancer and for early localized fungal lesions
- Surgical removal of the mass or nodular lesion of unknown cause (idiopathic sterile granuloma), when feasible

## Medications

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all inclusive

- Determined by underlying cause; treatment should be directed at specific disease
- Fungal infections—medications to treat fungal infections administered by mouth (known as “systemic antifungals”): griseofulvin, ketoconazole, itraconazole; medication to treat fungal infections applied to the skin directly (known as “topical treatment”): enilconazole for aspergillosis
- Inflammation of the skin in the lightly pigmented skin of the nose secondary to exposure to sunlight (nasal solar dermatitis)—steroids applied to the nose directly (topical steroids); antibiotics for secondary infection; sunscreens; tattoo skin that is light or has lost pigment
- Mass or nodular lesion with no evidence of bacteria or fungus of unknown cause (idiopathic sterile granuloma)—medications to decrease the immune response (known as “immunosuppressive therapy”) with steroids and possibly with other medications (such as azathioprine, cyclosporine, tetracycline, and niacinamide)
- Discoid lupus erythematosus (an auto-immune disease involving the skin only, usually the face)—steroids or tacrolimus applied to the skin (topical treatment); tetracycline and niacinamide; other medications to decrease the immune response (immunosuppressive therapy) may be necessary in severely affected dogs
- Systemic lupus erythematosus (an auto-immune disease that affects the skin and other organs of the body), pemphigus foliaceus, and pemphigus vulgaris (auto-immune disorders)—medications to decrease the immune

response (immunosuppressive therapy) with steroids and possibly with other medications (such as azathioprine, chlorambucil, or gold salts [known as “chrysotherapy”])

- Vitiligo or loss of pigment in the hair and/or skin of the nose (nasal depigmentation)—no treatment
- Tumors or cancer—surgical removal; chemotherapy; radiation therapy
- Thickening of the skin of the nose of unknown cause (idiopathic nasal hyperkeratosis)—antibiotic-steroid cream applied to the skin of the nose for furrows or slits (known as “fissures”) of the thickened skin; skin moistening product applied to the skin directly (known as a “topical humectant”), such as (KeraSolv Gel from DVM Pharmaceuticals); topical tacrolimus (Protopic)

## **Follow-Up Care**

### **PATIENT MONITORING**

- Varies with specific disease and treatment prescribed

### **PREVENTIONS AND AVOIDANCE**

- Limit sun exposure (for cases with inflammation of the skin in the lightly pigmented skin of the nose secondary to exposure to sunlight [nasal solar dermatitis] or auto-immune diseases)

### **POSSIBLE COMPLICATIONS**

- Scarring with deep infections or overly vigorous cleaning

### **EXPECTED COURSE AND PROGNOSIS**

- Vary with specific disease

## **Key Points**

- Conditions characterized by abnormalities of the skin on the nose, involving either the haired portion (bridge of the nose) or non-haired portion (known as the “nasal planum”)
- Limit sun exposure (for cases with inflammation of the skin in the lightly pigmented skin of the nose secondary to exposure to sunlight [nasal solar dermatitis] or auto-immune diseases)
- Discourage rooting behavior
- Replace plastic or rubber food dish and avoid contact with topical drug or other agent causing hypersensitivity reaction

# Notes

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