

## Causes of Dry or Flaky Skin on Dogs

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Scaliness of the skin, which can look like dandruff, may simply be caused by dry skin, however, there are many other causes, some of them serious. Many of the conditions which can cause scaliness are described in the table below. This is a long list, so you can understand why a quick diagnosis may be difficult to make and various diagnostic tests may need to be performed. The most common conditions causing scaling are color-coded gray in the table (some may be more common in certain geographical areas).

Condition	Description	Symptoms	Diagnosis	Treatment
<b>Bacterial infection (pyoderma)</b> <i>See Impetigo</i>	Often occurs as a result of another condition such as a parasite, allergic, or hormonal condition			
<a href="#">Black hair follicular dysplasia/ alopecia/ dystrophy</a>	Rare hereditary disease in dogs with hair of multiple colors; more common in Bearded Collies, Basset Hounds, Salukis, Beagles, Dachshunds, and Pointers	Loss of dark or black hair only; symptoms appear between 3 and 6 weeks of age; sometimes scaling	Clinical signs, biopsy	Shampoos for scaling, if necessary
<a href="#">Canine distemper (hard pad disease)</a>	With vaccinations, canine distemper has become rare in many areas; foot pad lesions are common in this disease	Puppies may develop impetigo; thickening of the end of the nose and foot pads; also see other signs of illness associated with distemper	History of no vaccination; physical exam; blood tests to detect antibody response to viral infection	Supportive treatment; may be fatal or result in permanent problems
Castration responsive dermatosis	More common in young unneutered dogs, and in Chows, Samoyeds, Keeshonden, Alaskan Malamutes, Miniature Poodles, and Pomeranians	Symmetrical hair loss in genital area and neck; hair loss may progress onto trunk; skin may appear darker; severe scaling; hair color may fade: coat is similar to a 'puppy coat'	Physical exam and history; eliminate other causes; blood tests for hormone levels	Castration

<a href="#"><u>Cheyletiella (rabbit fur mite) mange</u></a>	Infection with the <i>Cheyletiella</i> mite	Itching, scaliness; some hair loss, if severe	Skin scraping and microscopic examination - the mite is often very difficult to find	<a href="#"><u>Pyrethrin</u></a> , <a href="#"><u>Permethrin</u></a> (Do NOT use permethrin on cats.)
<a href="#"><u>Cushing's disease (hyperadrenocorticism)</u></a>	Caused by an increase in corticosteroids in the body - either due to increased production by the body or as a side effect of high doses or prolonged therapy with <a href="#"><u>corticosteroids</u></a>	Hair loss, thinning of skin, hyperpigmentation, easy bruising, seborrhea, comedones (black heads), may see calcinosis cutis; lethargy, increased thirst and urination, pot-bellied appearance	Adrenal gland function tests, urinalysis, chemistry panel, CBC	If due to glandular tumors, selegiline, o,p-DDD (Mitotane), or surgical removal of tumor; if due to high steroid doses, withdraw use of steroids slowly
<a href="#"><u>Demodectic mange (red mange, puppy mange)</u></a>	Infection with the <i>Demodex</i> mite - occurs when the immune system is deficient	Hair loss, scaliness, redness, pustules, ulcers, sometimes itching, darkening of the skin	Skin scraping and microscopic examination	NO Steroids Amitraz (Mitaban) dips
<b>Dermatomyositis</b>	Some breeds predisposed; cause unknown; aggravated by trauma and UV light	Redness, scaling, crusting, hair loss, and scarring on face, ears, and tail; atrophy of muscles involved in chewing	Skin biopsy	Minimize trauma and exposure to UV light; Vitamin E, fatty acids, short-term use of prednisone, oxpentoxifylline; some severe cases do not respond to treatment, and euthanasia may be considered
<b>Epitheliotrophic lymphoma (mycosis fungoides)</b>	Rare cancer of T lymphocytes seen in older dogs	Can take multiple forms: redness with itching and scale; ulcers and loss of pigment; one or more nodules; oral ulcers	Needle or other biopsy	Poor response to treatments, which include chemotherapy, surgical removal, retinoids, fatty acids

<a href="#">Flea allergy dermatitis (flea bite hypersensitivity)</a>	Severe reaction by the animal to the saliva of the flea	Intense itching, redness, hair loss, papules, crusts, and scales; sometimes development of infection or hot spots	Presence of fleas; reaction to <a href="#">intra-dermal testing</a>	<a href="#">Flea control</a> in the environment and on the dog; steroids and antihistamines for the itching
<a href="#">Hypothyroidism</a>	Decreased production of thyroid hormone; most common hormonal disease affecting the skin in dogs	Hair loss, dry and brittle hair, seborrhea; secondary bacterial and yeast infections; lethargy, obesity, slow heart rate; changes in skin pigmentation may occur	Thyroid gland function tests, chemistry panel, CBC	Lifetime thyroid supplementation
Ichthyosis (fish scale disease)	Very rare	Excessive thickening and crusting of skin and foot pads; seborrhea; odor; symptoms start in puppies	Biopsy	Difficult to treat; intense, lifetime management required; treat seborrhea; retinoids
<a href="#">Impetigo</a>	Usually affects puppies less than one year of age; often a <i>Staph</i> infection	Localized area of small pustules especially on the abdomen (belly), crusts, circular areas of scaling	History and physical exam; bacterial culture; skin scraping	Topical hydrogen peroxide; chlorhexidine or benzoyl peroxide shampoos; antibiotics, if serious; puppies usually outgrow it
<a href="#">Leishmaniasis</a>	Caused by a parasite of blood cells; can be transmitted to people who develop a very severe disease	Hair loss, scaling, ulcers on nose and ears, sometimes nodules; many other nonskin-related signs	Identify the organism in blood or biopsy; blood tests	Because it causes severe disease in people, and treatment of dogs is not curative, euthanasia may be performed
<b>Lupus erythematosus</b>	Autoimmune disease affecting many body systems including joints, kidneys, muscles. and	Skin lesions may include thickening or ulcers of the foot pads, scaling, and recurring bacterial infections with pustules	Special blood tests (LE test); biopsy	Prednisone and other immunosuppressive drugs; treat underlying infections

	nervous system			
<a href="#">Malassezia</a>	Usually follows some other underlying disease	Itching, redness, hair loss, greasy scales; if chronic, develop hyperpigmentation	Skin scraping/smear and microscopic examination, culture	Treat underlying disease; oral ketoconazole; miconazole shampoos
<b>Nasal solar dermatitis</b> <i>See solar dermatitis</i>				
<b>Nasodigital hyperkeratosis</b>	Thickening of nose and footpads may be due to underlying diseases such as lupus, distemper, or zinc responsive dermatosis; in other cases, cause unknown	End of nose becomes thickened, dry, and rough; foot pads thicken and crack making it painful to walk	History, physical exam, biopsy, look for underlying disease	Treat any underlying disease; remove excess thickening, soak areas and apply Retin-A
<b>Pelodera dermatitis</b>	Accidental infection with larvae from a non-parasitic worm that lives in straw and other organic material	Affects areas of skin touching ground; intense itching, redness, hair loss, papules, crusts, and scales	Skin scraping and microscopic examination	Remove bedding; mild antibacterial shampoo; steroids if necessary to control itching
<a href="#">Pituitary dwarfism</a>	Hereditary condition in which the pituitary gland does not produce the necessary hormones	Young puppies fail to grow; dogs retain puppy coat and condition progresses to hair loss over much of the body; thin skin, scale and secondary infections	Special blood testing for the presence of certain hormones	Hormone replacement therapy
<b>Pyoderma-superficial</b> <i>See Impetigo</i>				
<a href="#">Ringworm</a>	Infection with several types of fungus	Hair loss, scaliness, crusty areas, pustules, vesicles, some itching; can	Culture	Miconazole, lime sulfur dips; oral <a href="#">griseofulvin</a> or <a href="#">itraconazole</a>

		develop a draining nodule called a 'kerion'		
<a href="#">Sarcoptic mange</a>	Infection with the <i>Sarcoptes</i> mite	Intense itching and self-trauma, hair loss, papules, crusts, and scales	Skin scraping and microscopic examination - the mite is often very difficult to find	Amitraz (Mitaban) dips (off-label use*); ivermectin (off-label use*)
<b>Sebaceous adenitis</b>	Sebaceous glands are destroyed, cause unknown; certain breeds more susceptible	Short-haired breeds: Circular areas of hair loss with fine scale; Long-haired breeds: More widespread hair loss and scale, hair mats easily; may see itching in all breeds	Clinical signs, breed, skin biopsy	Antiseborrheic shampoos, fatty acid supplements; in more severe cases, steroids, retinoids
<a href="#">Seborrhea</a>	Can be primary (inherited) or secondary (resulting from other disease processes such as allergies, hypothyroidism)	Scales; depending upon the type, may have a dry or oily coat; odor; some scratching; may see hair loss	Blood tests, skin scrapings, etc., to find underlying cause	Treat underlying cause if present; antiseborrheic shampoos; fatty acid supplements
<a href="#">Solar dermatosis</a>	Skin reaction to sunlight, especially unpigmented skin; most common on the noses of Collies, Shelties, and similar breeds	Redness, hair loss, and scaling on nose and ears, later crusts and ulcers	History, breed, physical exam, skin biopsy	Must avoid further sun exposure, especially 9 am - 3 pm; sunblock, steroids; tattoo nose or apply black ink
Testosterone responsive dermatosis (hypoandrogenism)	More common in old neutered dogs, and in Afghans	Dull, scaly, dry coat; seborrhea; hair loss in genital and anal areas progressing onto trunk	Physical exam and history; eliminate other causes; response to therapy	Testosterone replacement therapy

<b>Vitamin A responsive dermatosis</b>	May not be due to an actual deficiency of Vitamin A, but does respond to increased levels of Vitamin A in the diet; more common in Cocker Spaniels	Seborrhea; odor; hair pulls out easily; pads of feet thickened; thick scales on chest and abdomen, especially around nipples	Clinical signs, breed, skin biopsy	Lifetime treatment with Vitamin A
<b>Zinc responsive dermatosis</b>	Three types: I in Huskies and Malamutes; II in rapidly growing puppies of large breeds; III in English Bull Terriers	Crusting and scaling, redness, hair loss, sometimes oily skin, secondary bacterial infections common	History, breed, physical exam, skin biopsy	Correct any dietary deficiency, medicated shampoos, treat secondary infections

\* off-label use: medication used to treat a condition for which it was not developed (or licensed). A large number of medications fall under this category. Research has almost always been performed to determine the effectiveness and safety of the product, but the manufacturer has not undertaken the lengthy process required for licensure.