

## Causes of Skin Ulcers & Draining, Oozing or Crusty Lesions on Dogs

*Drs. Foster & Smith Educational Staff*



The first sign of a skin problem may be a crusty area on the skin, nose, or foot. In other cases, skin problems which may start out small can progress and develop into more extensive lesions. They may open, drain, and then develop a crusty surface. In some instances there may be hair loss, and the surface of the skin can become red and oozing, and ulcers may develop. Most of the conditions which can cause these lesions are included in the table below. This extensive listing helps you understand why a quick diagnosis may be difficult to make and various diagnostic tests may need to be performed. The most common conditions causing these lesions are color-coded gray in the table (some may be more common in certain geographical areas).



Condition	Description	Symptoms	Diagnosis	Treatment
<b>Abscesses</b>	Accumulation of pus; may or may not be caused by an infection; in cats often due to bite wounds	These may appear as firm or fluid-filled nodules of varying shapes and sizes; if due to infection, the animal may have fever, loss of appetite, depression; may open and drain	History, physical exam, needle aspirate	Surgically open, drain and flush; if infected, administer appropriate antibiotics
<b>Acral lick dermatitis (neurodermatitis)</b>	Self-licking in dogs results in self-trauma; possible causes include anxiety, boredom, stress (e.g., new member in household); licking can develop into an obsessive behavior	Red, hairless, well-circumscribed, sometimes raised lesion usually on leg; if chronic, will drain	Exclude other causes; history important	Relieve underlying cause e.g., anxiety; restrict licking, e.g., elizabethan collar; behavior modifying medication may be necessary
<a href="#"><u>Aspergillosis</u></a>	Fungal infection which usually enters through the nose	Ulcerated, draining lesion on nose; also see drainage from nostrils and pain	Microscopic examination of drainage; biopsy; blood tests	Antifungal medications
<b>Bacterial infection (pyoderma)</b> <i>See Impetigo, Folliculitis, Staph hypersensitivity, Pyoderma-deep</i>	Often occurs as a result of another condition such as a parasite, allergic, or hormonal condition			

<b>Basal cell tumors</b>	Cancerous, slow-growing tumor which rarely metastasizes; seen in older dogs	Single, sometimes fluid-filled nodules which may ulcerate; usually on the head, neck, and chest; may be hyperpigmented	Biopsy	Surgical removal
Bee, wasp, hornet stings	Skin reactions can vary dramatically in severity	Immediately after the bite, swelling, redness, pain, possible itching; subsequently may develop extensive ulcers with draining; may develop hives or anaphylaxis	History, physical exam	Antihistamines, steroids; wet dressings, if ulcerated; protect the area from self-inflicted trauma
<b>Bite wounds</b> <i>See Abscesses</i>				
<a href="#">Blastomycosis</a>	Fungal disease, more common in the Midwest; transmitted by inhaling fungal spores from soil	Ulcerated draining lesions; fever, loss of appetite, weight loss; often see respiratory signs; may cause blindness or affect bones and cause lameness	Microscopic examination of drainage or respiratory secretions; blood tests	<a href="#">Itraconazole</a> , ketoconazole, amphotericin B; must provide supportive care and adequate nutrition
<b>Bowen's disease</b>	A rare type of squamous cell carcinoma in which multiple lesions develop	Lesions start out as thickened, dark, raised, and well-delineated; progress to ulcers and crusts and bleed easily; lesions found on the head, neck, shoulders, forelegs, mouth, and genital areas	Biopsy	Lesions may come and go and are not always treated; some anti-cancer drugs and radiation have been tried with mixed results
<b>Burns</b>	Appearance and treatment depend upon severity of burn	Lesions may not appear until 24-48 hours after the exposure; skin hard and dry; blisters rarely seen; if severe, (full thickness of the skin is affected) see necrosis and sloughing of skin 7-14 days after the	History, physical examination	Immediately cool affected area, if burn occurred in the last 2 hours; further treatment depends on severity; keep area clean; prevent secondary infections, topical silver sulfadiazine is useful; treat other svmptoms which

		burn occurs		may occur: dehydration, shock, etc.; pain management; no steroids
<b>Calcinosis cutis</b>	Mineralization of the skin usually due to an excess of corticosteroids; also rarely occurs in kidney failure, or in granulomas and tumors	Hard nodules and papules usually on the back, groin, or axilla ulcerate, drain, and develop crusts; severe itching; may become infected; often see other signs of <a href="#">Cushing's disease</a>	Skin scrapings, biopsy, history, and other clinical signs, adrenal gland function tests	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
<b>Canine acne</b>	Deep inflammation of hair follicles; exact cause unknown; usually in young dogs; may see secondary bacterial infection	Papules, and sometimes draining lesions on chin and lips	Skin biopsy	Mild: benzoyl peroxide; Severe: also treat with antibiotics
<a href="#">Coccidioidomycosis</a>	Caused by the fungus <i>Coccidioides immitis</i> found in the soil in the Southwestern U.S.	Draining nodules over infected bones; usually see respiratory signs, fever, weight loss	Microscopic examination of drainage; blood tests	Ketoconazole, <a href="#">itraconazole</a>
Cold agglutinin disease	Rare disease in which proteins in the blood coagulate in cold temperature and block small blood vessels causing skin damage; may be a result of lead poisoning or autoimmune disease	Redness, ulcers, possibly necrosis; lesions usually on ears, tail, and extremities	History of exposure to cold; special blood tests including the Coomb's test; biopsy	Treat any underlying cause; avoid cold; steroids and immunosuppressants
<a href="#">Cryptococcosis</a>	Fungal infection often transmitted through bird droppings; more common in dogs with suppressed immune systems	Nodules often over the nose, which may ulcerate; many other signs depending on what other body systems are infected	Microscopic exam of discharge, blood tests, culture, biopsy; look for underlying cause of immunosuppression	<a href="#">Itraconazole</a>

<b><u>Demodectic mange</u></b> <b>(red mange, puppy mange)</b>	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>Dermoid sinus</b>	Congenital condition in which there is an opening from the skin toward the area of the spinal cord; may be a blind sac or actually connect to the spinal canal; more common in Rhodesian Ridgebacks	Tuft of hair protrudes from small opening over the spine, often have accumulations of thick oily substance	Breed and physical exam; radiographs to determine the depth of the tract that leads from the opening; may see meningitis or nervous system symptoms	Blind sac: no treatment; if connects with the spinal canal, surgery
<b>Dracunculiasis</b>	Nodule formed around the parasitic worm <i>Dracunculus insignis</i> (Guinea worm)	Single or multiple nodules on limbs, head, and belly; nodules may drain	Clinical signs; opening nodule and finding the female worm (1-4 feet in length!)	Surgical removal
<b>Drug or injection reaction</b>	Rare skin reaction to a drug which is inhaled, given orally, or applied topically; more common with penicillins, sulfonamides, and cephalosporins; usually occurs within 2 weeks of giving the drug	Can vary widely and may include itching, hair loss, redness, swelling, papules, crusts, ulcers, and draining wounds	History of being treated with a drug, symptoms, biopsy	Discontinue offending drug; treat symptomatically

<b>Ear margin dermatosis</b>	More common in Dachshunds and dogs with pendulous ears; may be secondary to other disease such as hypothyroidism or chronic ear infections	Seborrhea and crusts on the edges of the ear flap	Clinical signs, breed, skin biopsy, look for underlying cause	Antiseborrheic shampoos
<b>Epidermal metabolic necrosis (necrolytic migratory erythema, hepatocutaneous disease)</b>	Uncommon skin disease in older dogs; skin lesions develop in dogs with certain diseases including liver disease, diabetes mellitus, and some pancreatic tumors	Reddened, often ulcerated areas with hair loss and crusts; foot pads may be thickened	Biopsy; look for underlying disease	Treat underlying disease; supportive therapy; poor prognosis
<b>Epitheliotropic lymphoma (mycosis fungoides)</b>	Rare cancer of T lymphocytes seen in older dogs	Can take multiple forms: redness with itching and scales; 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
<b>Erythema multiforme</b>	Hypersensitivity reaction to infections or drugs; may also be caused by cancer or other diseases	Hair loss, 'bull's-eye' lesions, and vesicles often around mouth, ears, groin, and axilla; in some instances, ulcers develop; depression, fever	History, clinical signs, rule out other diseases causing similar signs; skin biopsy	Treat or remove underlying cause
<b>Fibrosarcoma</b>	Rapidly growing, invasive tumor; may occur at the <a href="#">site of a vaccination</a> or injection	Irregular-shaped, firm nodule; may ulcerate	Biopsy	Surgical removal, however, since tumor is invasive need to remove large area around tumor, sometimes including large masses of muscle and bone; if tumor is on a leg, amputation of the leg is commonly recommended; surgery may be combined with chemotherapy and radiation

<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="#">intradermal testing</a>	<a href="#">Flea control</a> in the environment and on the dog; steroids and antihistamines for the itching
Folliculitis	Infection of the hair follicles, often with staph bacteria; symptoms usually appear on skin with less hair, such as the abdomen	Pustules form in follicles and break open to form 'bull's-eye,' 'annular,' and 'target lesions,' which have crusty centers and red or darkening on the periphery, and 'epidermal collarettes,' which appear as rings of scaly skin; may itch; short-coated breeds may develop small tufts of hair which are lost; breeds with long coats may have seborrhea	Skin scraping; culture; biopsy	Antibiotics for at least 4 weeks - continue antibiotics 10 days beyond the apparent cure; if recurs, look for underlying problem such as allergy or hormonal imbalance
<b>Foreign body sinus (see Granuloma)</b>				
<a href="#">Frostbite</a>	Appearance and treatment depend upon severity of exposure	Ears, tail tips, feet, and scrotum most often affected; when frozen skin is pale and cold; upon thawing, areas are red and painful; if severe, the skin may be sloughed (1-2 weeks later)	History, clinical signs	Rapidly thaw affected areas with warm water; surgical intervention if severe. Avoid thawing and refreezing, since this results in extensive skin damage.
<b>Granulomas</b>	May be due to infections; the body's reaction to foreign material such as plant material (e.g., foxtail) and suture material; other constant irritation; or unknown causes	Solid firm nodules of varying sizes; those due to foreign bodies often have draining tracts; may develop hair loss, ulcers and secondary infections	History, clinical signs, biopsy, surgical exploratory	Surgical removal of the foreign body (in the case of plant material, tracts may be extensive and require major surgery); antibiotics, if infected; treat any other underlying cause

<a href="#">Hemangiosarcoma</a>	Malignant, invasive tumor more common on sun-damaged skin	Blue to reddish black nodule; usually on chest or abdomen; often ulcerate	Biopsy	Surgical removal; need to remove large area around the tumor; if tumor is on a leg, amputation of the leg is commonly recommended
<b>Histiocytosis</b>	There are several kinds of histiocytosis: malignant, which is a cancer that affects the skin and internal organs; systemic, which is a rare disease which affects skin and internal organs; and cutaneous, which is a benign disease affecting the skin	All cause nodules with hair loss; malignant and systemic also have ulcers	Biopsy, fine needle aspirate;	Malignant: None effective, may need to consider euthanasia; Systemic: Poor response to chemotherapy; Cutaneous: Corticosteroids, relapse is common, especially in Shar-Peis
<a href="#">Histoplasmosis</a>	Fungal infection which can rarely cause skin lesions	Ulcerated and draining nodules; most commonly see respiratory and gastrointestinal symptoms	Needle aspirate or biopsy	Ketoconazole, <a href="#">itraconazole</a>
<a href="#">Hot spots (acute moist dermatitis)</a>	Result from allergies, flea bites, mange, anal gland disease, poor grooming, ear infections, plant awns or burrs, arthritis	Hair loss; red, moist, oozing skin; constant licking or scratching	Physical exam and history	Treat underlying condition; clean area; apply Domeboro solution; topical and/or oral antibiotics and steroids
<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 scrapings	Topical hydrogen peroxide; chlorhexidine or benzoyl peroxide shampoos; antibiotics, if serious; puppies usually outgrow it
<b>Kerion</b>	Complication of ringworm infection	Nodule with hair loss and multiple draining tracts; may not see other signs of ringworm	Culture, biopsy	Clip area and apply topical treatment and shampoos; may require systemic treatment with ketoconazole or

				<a href="#">itraconazole</a>
<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
<a href="#">Lice</a>	Infection with several species of lice	Variable; itching, hair loss, crusts, rough hair coat	Finding lice or nits on skin or hair	<a href="#">Pyrethrin</a> , ivermectin (off-label use*), <a href="#">Permethrin</a> (Do NOT use permethrin on cats.)
<b>Lupus erythematosus</b>	Autoimmune disease affecting many body systems including joints, kidneys, muscles, nervous system	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
<a href="#">Lymphoma</a>	Common cancer in dogs; can involve the skin	Itching, ulcers, nodules, redness	Biopsy	Surgery, chemotherapy, radiation; lymphoma of the skin does not usually respond to treatment as well as other lymphomas
<a href="#">Mammary cancer</a>	Most common in unspayed females; in dogs, 50% are malignant	Single or multiple nodules under the skin, of varying sizes, often irregular in shape; may ulcerate and drain	Biopsy	Surgical removal
<a href="#">Mast cell tumor</a>	Common cancer which is graded from 1-4: Grade 1 is slow-growing tumors, and Grade 4 is rapidly growing malignant tumors with metastases	Tumors may be of various sizes, appearances, and numbers	Biopsy to grade the tumors which determines treatment and prognosis	Depends upon grade; surgical removal, taking large area around tumor; chemotherapy; prednisone; radiation
<b>Melanoma</b>	Malignant tumor of older dogs	Usually single dark-colored nodule which often ulcerates	Biopsy	Surgical removal, taking large area around tumor



<b>Nasal pyoderma (furunculosis)</b>	Deep infection of the bridge of the nose	Papules, pustules, deep ulcers, draining tracts; often results in scarring	Skin scraping; bacterial and fungal culture; biopsy; look for underlying cause, e.g., 'rooting around' with nose	Clip and clean area; long-term antibiotics; prevent further trauma (e.g., Elizabethan collar); no steroids
<b>Nasal solar dermatitis</b> <i>See Solar Dermatitis</i>				
<b>Nocardia</b>	Bacterial infection usually acquired from a puncture wound	Usually see respiratory signs; skin lesions include draining nodules	Bacterial culture, microscopic examination of drainage	Poor prognosis; antibiotics
<b>Panniculitis</b>	May be caused by trauma, foreign bodies, infections, autoimmune diseases, or unknown causes	Deep-seated nodules, often ulcerated and draining; usually on the body vs. the head or limbs; may see loss of appetite, depression	Microscopic exam of drainage; biopsy; tests to rule out other causes	Surgical removal; if multiple lesions, prednisone and Vitamin E; may need long-term treatment
<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, scales	Skin scraping and microscopic examination	Remove bedding; mild antibacterial shampoo; steroids if necessary to control itching
<b>Pemphigus erythematosis</b>	Less severe form of pemphigus foliaceus, an autoimmune disease; exposure to sunlight may play a role in its development	Pustules, drainage and crusts; usually on face and ears	History, physical exam, skin scrapings and biopsy	Topical and oral steroids; other immunosuppressives
<b>Pemphigus foliaceus</b>	The most common form of pemphigus in the dog; an autoimmune disease; some breeds are at increased risk	Often affects feet and head; starts with pustules and progresses to severe crusting; depigmentation of the nose is common; itching may occur; if footpads and nails affected often see lameness;	History, physical exam, skin scrapings and biopsy	Corticosteroids, other immunosuppressive therapy, gold injections

		wane; severely affected animals may have fever and loss of appetite		
Pemphigus vulgaris	A rare form of pemphigus, an autoimmune disease; pemphigus vegetans is a milder form of this disease seen in dogs	Large vesicles which break open, ulcerate, and develop thick crusts; lesions often found in the mouth	Biopsy	Poor prognosis; prednisolone and other immunosuppressants
<b>Perianal fistulas</b>	Chronic disease, more common in larger breed dogs, especially German Shepherds	Draining tracts around the anus; odor; may see weight loss and diarrhea	History and clinical signs	In mild cases, clip, cleanse, hydrotherapy, antibiotics, steroids and cyclosporine; in more severe cases, surgery
Perianal gland tumor	More common in older unneutered males; may be influenced by sex hormones	One or more nodules around anus, on tail, or in groin; if malignant, may ulcerate; may develop seborrhea	Biopsy	Surgical removal; castration
<b>Phaeohyphomycosis</b>	Caused by wound contamination with a fungus	A single nodule on the legs or multiple ulcerated and draining nodules over the body	Microscopic examination of drainage, culture, biopsy	Surgical removal, though often recurs; possible antifungal medications
<b>Pressure ulcers (decubital ulcers)</b>	Lesions occur over bony prominences like elbows; common in larger recumbent dogs	Start as red, hairless areas and progress to draining ulcers; may become infected	Clinical signs, biopsy	Keep area clean and prevent contact with urine; antibiotics; apply donut bandages, which provide padding around but not over the ulcer; surgical treatment is sometimes necessary; prevent ulcers by turning the dog every 2 hours
<b>Pyoderma-deep (bacterial infections of skin and underlying tissue)</b>	Often secondary to another skin disease such as self-inflicted trauma, wounds, acral lick granulomas, allergies.	Ulcerated pustules or nodules, draining tracts, crusts, thickened skin	Skin scrapings, biopsy, culture	Clip and cleanse area; antibiotics, prevent self-trauma (licking, scratching), NO steroids

	seborrhea			
<b>Pyoderma-superficial</b> <i>See Impetigo, Folliculitis, Staph hypersensitivity</i>				
<b>Pythiosis</b>	Caused by an aquatic mold	Ulcerated draining nodules on the legs, head, and base of tail, which may itch; often see other signs of illness due to infection of the gastrointestinal tract	Microscopic examination of drainage; biopsy	Often fatal; surgical removal
<a href="#">Ringworm</a>	Infection with several types of fungus	Hair loss, scaliness, crusty areas, pustules, vesicles, some itching; can develop a draining nodule called a 'kerion'	Culture	Miconazole, lime sulfur dips; oral <a href="#">griseofulvin</a> or <a href="#">itraconazole</a>
<a href="#">Rocky Mountain Spotted Fever</a>	Caused by an organism spread by ticks; skin lesions are not always present	Fever, loss of appetite, depression, pain in joints, edema, hemorrhages under the skin (appear as bruises), ulceration of mucous membranes, and extremities	Special blood tests to detect the organism or antibodies to it; biopsy	Antibiotics and supportive care
<a href="#">Schnauzer comedo syndrome</a>	Uncommon; only seen in Miniature Schnauzers	Comedones (black heads) on back, mild itching; may see secondary infection, thinning of hair; small crusts may develop	Clinical signs, breed, skin biopsy	Long-term antiseborrheic shampoos; sometimes antibiotics and retinoids
Sebaceous gland tumors	Common; rarely spread or recur; several types	Nodules which may ulcerate; usually on the head and legs	Biopsy	Surgical removal, if invasive; if a benign lesion, removal is optional
<b>Skin cancer</b>	<i>See specific type, e.g., Fibrosarcoma, Melanoma, Squamous cell carcinoma, Mast cell tumor, Lymphoma</i>			

<b>Skin fold pyoderma (intertrigo)</b>	Inflammation of skin that contacts other skin, e.g., lips, facial folds (on Bulldogs, for instance), vulva, tail, toes, and bodies of obese dogs	Red, oozing area; crusts; often becomes infected and may develop odor	Clinical signs; skin scrapings and tape impression smears	Clip and cleanse area; keep area clean; medicated shampoos; topical antibiotics; treat underlying condition, e.g., increased tears from eye disease, obesity, allergy
<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
<b>Spider bites/eosinophilic folliculitis</b>	Bites from some spiders and caterpillars contain strong toxins; usually appear on the nose of dogs and paws of cats	Immediately after the bite, swelling, redness, pain; subsequently may develop extensive ulcers with draining	History, biopsy	Corticosteroids, wet dressings, protect the area from self-inflicted trauma; may develop permanent loss of hair and scarring
<a href="#">Sporotrichosis</a>	Caused by the fungus <i>Sporothrix schenckii</i> , which generally enters through a puncture wound	Raised nodules with multiple draining tracts; cats may develop fever, depression, and loss of appetite	Microscopic exam of drainage; culture; fluorescent antibody test	Potassium iodide, ketoconazole, <a href="#">itraconazole</a>
<b>Squamous cell carcinoma</b>	Common malignant tumor; may occur more commonly in sun-damaged or chronically irritated skin	Two forms: Cauliflower-like lesions, often ulcerated more common on lips and nose; Crusted ulcers on limbs or body	Biopsy	Surgical removal, radiation, hyperthermia
<b>Staph hypersensitivity</b>	Rare disease in dogs caused by an allergic reaction to the bacteria <i>Staphylococcus</i> ; often occurs in the presence of other skin diseases	Red skin, pustules, vesicles, severe itching, and sometimes crusts	Culture, biopsy, intradermal allergy test	Treat any underlying disease; antibiotics

<b>Superficial necrolytic dermatitis of Miniature Schnauzers</b>	Skin reaction to shampoos (usually insecticidal or medicated)	Papules, pustules, ulcers with drainage; develop 2-3 days after exposure to the shampoo; may also see fever and depression	Breed, history of exposure, clinical signs	Treat symptomatically
<b>Tail gland hyperplasia</b>	Dogs have a sebaceous gland on the top of the tail near its base; in this disorder, the gland enlarges; seen in unneutered dogs and secondary to other diseases such as hypothyroidism	Oily area, hair loss, crusts, and hyperpigmentation on area over gland	Clinical signs; look for underlying cause	Castration may help; treat underlying cause; surgical removal
<b>Tick bites</b>	Ticks cause a local inflammation in the skin, even when the entire tick is removed	Nodule and redness at site of the bite; may itch and develop crusts; may last several months	History	Remove the tick; use a tick preventive; allow nodule to resolve on its own
<b>Toxic epidermal necrolysis</b>	Severe immune reaction to infections or drugs; may also be caused by cancer or other diseases	Vesicles, erosions, ulcers, and crusts over large areas of the body, especially mouth and feet; may look like a severe burn	History, clinical signs, skin biopsy	Prognosis is poor; treat underlying condition; give supportive care, corticosteroids may be helpful
<b>Ulcerative dermatosis of Collies and Shetland Sheepdogs</b>	May be a type of dermatomyositis; cause unknown; seen in middle-age or older dogs	Large vesicles and ulcers on groin, axilla, eyelids, ears, genitals, anus, and foot pads; painful	Breed, physical exam, biopsy	Avoid trauma; antibiotics, if secondary infection; Vitamin E, fatty acids, short-term use of prednisone, oxpentoxifylline
<b>Urine scald</b>	Occurs when skin is in prolonged contact with urine, e.g., recumbent animals	Red, oozing lesions in areas exposed to urine	History, clinical signs	Clip and cleanse area; keep it clean; place dog on wire or plastic rack or grate; change bedding often; medicated shampoos; topical antibiotics

<b>Uveodermatologic syndrome</b>	Hypersensitivity to melanin (the dark pigment) in the skin and eye	Pigment loss on nose, lips, and eyelids; occasionally footpads, scrotum, and anus can be affected; rarely see ulcers or drainage; uveitis (inflammation of the eye) may occur	History, clinical signs, biopsy	Long-term prednisone, azathioprine; appropriate eye medications
<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
<a href="#">Zygomycosis</a>	Uncommon fungal disease	Draining nodules; may also see pneumonia, vomiting, or jaundice depending upon the body organs involved	Microscopic examination of the drainage; biopsy	Often fatal; surgical removal of nodules followed by amphotericin B, benzimidazoles, or potassium iodide

\* 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.