

Causes of Solid-Appearing Lumps & Bumps on the Skin of Dogs

Drs. Foster & Smith Educational Staff

Dogs and cats can develop small bumps (papules) or larger lumps (nodules) on their skin. The term 'tumor' means an abnormal growth or swelling, and is often used to designate cancer. Often, the word 'lump' also brings the word 'cancer' to mind. There are, however, many other causes of lumps and bumps. The following table includes most of the conditions which result in solid lumps and bumps. The list is rather extensive, so you can understand why a quick diagnosis may be difficult to make and various diagnostic tests, such as biopsies, may need to be performed. The most common causes of solid lumps and bumps are color-coded gray in the table (some may be more common in certain geographical areas).

Condition	Description	Symptoms	Diagnosis	Treatment
Abscesses	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, and depression; may open and drain	History, physical exam, needle aspirate	Surgically open, drain and flush; if infected, administer appropriate antibiotics
Acral lick dermatitis (neurodermatitis)	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
<u>Allergic and irritant contact dermatitis</u>	An allergic reaction following exposure to antibiotics applied to the skin; metals such as nickel; materials such as rubber, wool, and plastic; and chemicals such as dyes and	Red skin and small bumps or blisters on the areas of skin that are sparsely haired and directly exposed to the offending substance; itching; hair loss in chronic conditions	Patch test, exclusion trials	Restrict exposure to the allergen or contact irritant in the dog's environment; steroids, antihistamines

	carpet deodorizers; or inflammation caused by irritating substances such as poison ivy. Generally requires multiple exposures.			
Apocrine sweat gland cyst	Common	Single, round, smooth nodules with no hair; may appear bluish; usually filled with a watery liquid; most common on head, neck, and limbs	Physical exam; biopsy	Surgical removal is optional
Basal cell tumors	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, see swelling, redness, pain, possibly 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
Benign tumors	<i>See specific type, e.g., Fibromas, Lipomas, Histiocytomas, Basal cell tumor</i>			

Calcinosis cutis	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 Cushing's disease	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
Callus	Results from chronic pressure, especially in large breed dogs	Thickened, hairless raised areas over bony pressure points such as elbows; may become secondarily infected	History, clinical signs	Provide softer bedding and padding around affected area
Canine acne	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
Chiggers (harvest mites)	Seasonal disease caused by larvae of the chigger	Itching, bumps usually on feet, abdomen (belly), folds at base of ears	Visualization of mite larvae or microscopic examination of skin scraping	Pyrethrin , Permethrin (Do NOT use permethrin on cats.)
Coccidioidomycosis	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, itraconazole

Cryptococcosis	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	Itraconazole
Cutaneous horn	Benign growths of hard tissue, which look like small horns; cause unknown, though may be associated with some underlying disease such as cancers or follicular cysts	½ to 2 inch hard horn-like growths; may be single or multiple; in cats, may occur on foot pads	Clinical appearance; look for underlying cause	Surgical removal
Cuterebra	Caused by the 1-1½ inch larva of the <i>Cuterebra</i> fly; usually seen in late summer	Nodule forms around the larva; usually found on the head and neck; nodule has a small opening through which the larva breathes and will eventually escape	Clinical signs; opening the nodule and finding the larva	Surgically open the nodule and remove the larva; do NOT squeeze the nodule or break up the larva or a severe allergic reaction may occur
Dracunculiasis	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
Drug or injection reaction	Rare skin reaction to a drug which is inhaled, given orally, or applied topically; more common with penicillins, sulfonamides.	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

	and cephalosporins; usually occurs within 2 weeks of giving the drug			
Epidermal inclusion cysts (infundibular cysts)	Result from body's reaction to certain skin cells	Very small, up to 2 inch diameter nodules, which often contain thick sebaceous material	Needle aspirate, histopathology on removed nodule	Surgical removal may be performed, although new nodules will often form elsewhere; do NOT squeeze these cysts, since a more severe skin reaction will occur
Epitheliotropic lymphoma (mycosis fungoides)	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
Fibroma	Uncommon benign tumor	Single nodule with a pedicle, usually on legs, groin, or sides	Biopsy	Surgical removal is optional
Fibrosarcoma	Rapidly growing, invasive tumor; may occur at the site of a vaccination 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
Flea allergy dermatitis (flea bite hypersensitivity)	Severe reaction by the dog 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 intradermal testing	Flea control in the environment and on the dog; steroids and antihistamines for the itching
Follicular cyst	Most common cyst; may be called 'sebaceous cysts' by some veterinarians	Single round nodules on or underneath the skin; may appear bluish; may contain a thick, yellowish to gray material; usually found on the head, neck, and trunk	Biopsy	Surgical removal optional; do NOT squeeze these cysts, since a severe skin reaction will occur
Granulomas	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
Hemangiosarcoma	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

Hematoma	Localized collection of blood that has leaked out of blood vessels; often occurs in dogs with ear infections and pendulous ears	These may appear as firm or fluid-filled nodules of varying shapes and sizes	Needle aspirate	Depending on location and size, may resolve on their own, or need drainage (e.g., on ear flap)
Histiocytoma	Benign tumor of younger dogs	Solitary raised, red nodules with a strawberry-like appearance; usually on the legs, head, and ears	Needle aspirate, biopsy	Generally resolve on their own; can be surgically removed
Histiocytosis	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; 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
Histoplasmosis	Fungal infection, which can rarely cause skin lesions	Ulcerated and draining nodules; most commonly see respiratory and gastrointestinal symptoms	Needle aspirate or biopsy	Ketoconazole, itraconazole
Hookworms	Infection with the larvae (immature forms) of hookworms	Red bumps, usually on feet, rough foot pads, abnormal nail growth, itching	Physical exam, history of poor sanitation	Treat for intestinal infection; move dog to different environment

Infundibular keratinizing acanthoma	Rare benign nodules more common in young Norwegian Elkhounds	One or more small to 1½ inch nodules, with small opening through which thick material can be expressed	Biopsy	Surgical removal; retinoids, if multiple lesions
Kerion	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 itraconazole
Leishmaniasis	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
Lichenoid dermatosis	Often a response to other underlying disease such as fleas or bacterial infections	Small flat nodules with thick surfaces	Biopsy, look for underlying disease	Treat underlying cause; this reaction usually resolves on its own
Lipoma	Uncommon benign fatty tumor	Usually single, soft, domed nodule; can become very large	Fine needle biopsy	Surgical removal, if large or interferes with movement
Lymphoma	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

Mammary cancer	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
Mast cell tumor	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
Melanoma	Malignant tumor of older dogs	Usually single dark-colored nodule, which often ulcerates	Biopsy	Surgical removal, taking large area around tumor
Nevi	Usually benign lesions; some types may indicate the presence of an underlying disease	Well-delineated firm nodules, often multiple and on the head and neck	Biopsy	Surgical removal, although recurrence is common; depending upon the type, look for underlying disease
Nocardia	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
Panniculitis	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

Pelodera dermatitis	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
Phaeohyphomycosis	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
Pyoderma-deep (bacterial infections of skin and underlying tissue)	Often secondary to another skin disease such as self-inflicted trauma, wounds, acral lick granulomas, allergies, seborrhea	Ulcerated pustules or nodules, draining tracts, crusts, and thickened skin	Skin scrapings, biopsy, culture	Clip and cleanse area; antibiotics, prevent self-trauma (licking, scratching), NO Steroids
Pythiosis	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
<u>Ringworm</u>	Infection with several types of fungus	Hair loss, scaliness, crusty areas, pustules, and vesicles, some itching; can develop a draining nodule called a 'kerion'	Culture	Miconazole, lime sulfur dips; oral griseofulvin or itraconazole
<u>Sarcoptic mange</u>	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*)

Schnauzer comedo syndrome	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 cyst	Extremely rare	Firm nodules, usually less than ½ inch in diameter	Biopsy	Surgical removal
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
Skin cancer	<i>See specific type, e.g., Fibrosarcoma, Melanoma, Squamous cell carcinoma, Mast cell tumor, Lymphoma</i>			
Spider bites/eosinophilic folliculitis	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
Sporotrichosis	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, itraconazole

Squamous cell carcinoma	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
Superficial necrolytic dermatitis of Miniature Schnauzers	Skin reaction to shampoos (usually insecticidal or medicated)	Papules, pustules, and 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
Tail dock neuroma	Nerve regrowth after tail docking causes symptoms	Nodule at site of docking, itching with self-mutilation, hair loss, and hyperpigmentation	History and symptoms	Surgical removal
Tail gland hyperplasia	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
Tick bites	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

Urticaria (hives)	Reaction, often allergic, to insect bite, drug, vaccine, sunlight, etc.	Multiple swellings, with hair standing up over swellings; itching may occur	History, physical exam	Often resolves on its own; in the case of allergic reactions, antihistamines, epinephrine, or corticosteroids depending upon severity
Warts (cutaneous papilloma)	Benign growths caused by a virus; usually seen in puppies	Light-colored growths with a cauliflower appearance; usually on the lips, tongue, inside of the mouth, and eyelids	Clinical appearance, biopsy	Usually none - they resolve by themselves; if severe, removal by cryosurgery
Zygomycosis	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