

# HAIR LOSS (ALOPECIA) IN DOGS

## BASICS

### OVERVIEW

- “Alopecia” is the medical term for hair loss
- Hair loss is a common disorder in dogs
- Characterized by a complete or partial lack of hair in areas where it is present normally
- Pattern of hair loss—varied or symmetrical
- May be the primary problem or a secondary phenomenon

### SIGNALMENT/DESCRIPTION of ANIMAL

#### Species

- Dogs

### SIGNS/OBSERVED CHANGES in the ANIMAL

- May be sudden (acute) in onset or slowly progressive
- Multiple patches of circular hair loss (alopecia)—most frequently associated with inflammation of the hair follicles (known as “folliculitis”) from bacterial infection and/or demodectic mange (known as “demodicosis”)
- Large, more widespread areas of hair loss (alopecia)—may indicate abnormal development of the hair follicles or hair (known as “follicular dysplasia”) or a more generalized disease
- The pattern and degree of hair loss are important for establishing a diagnosis

### CAUSES

#### Multiple Areas (Multifocal) of Hair Loss

- Localized demodectic mange (demodicosis)—partial to complete hair loss (alopecia) with reddening of the skin (known as “erythema”) and mild scaling; lesions may become inflamed and may have dried discharge on the surface (dried discharge known as “crusts”)
- Ringworm (known as “dermatophytosis”)—“ringworm” is a fungal infection on the surface of the skin characterized by partial to complete hair loss (alopecia) with scaling; with or without reddening of the skin (erythema); not always “ring-like” in appearance
- Inflammation of the hair follicles due to *Staphylococcus* bacterial infection (known as “staphylococcal folliculitis”)—circular patterns of hair loss (alopecia) bordered by scales (accumulations of surface skin cells, such as seen in dandruff) or surface peeling of the skin (the pattern is known as an “epidermal collarette”), reddening of the skin (erythema), dried discharge on the surface of the skin lesion (crust), and darkened areas of skin (known as “hyperpigmented macules”)
- Injection reactions—inflammation with hair loss (alopecia) and/or thinning of the skin (known as “cutaneous atrophy”) from scarring
- Rabies-vaccine inflammation of the blood vessels (known as “vasculitis”)—patch of hair loss (alopecia) at the location where the rabies vaccine was administered is observed 2 to 3 months following vaccination
- Localized scleroderma (condition in which normal skin is replaced by scar tissue for some unknown cause)—well-demarcated, shiny, smooth skin with hair loss (alopecia); lesion is a thickened, raised, flat-topped area that is slightly higher than the normal skin (known as a “plaque”)
- Specific condition characterized by multiple patches of hair loss (known as “alopecia areata”)—noninflammatory areas of complete hair loss (alopecia)
- Condition characterized by multiple areas of hair loss with reddened skin, scales, and signs of itchiness (known as “pruritus”) with inflammation of the sebaceous glands, the glands that produce oils in the hair coat (condition known as “sebaceous adenitis”) seen in short-coated breeds—ring-like areas of hair loss (alopecia) and scaling

#### Symmetrical Hair Loss

- Excessive levels of steroids produced by the adrenal glands (known as “hyperadrenocorticism” or “Cushing’s disease”)—hair loss along the sides of the body (known as “truncal alopecia”) associated with thin skin, plugs of keratin and oil in the follicles of the skin (known as “comedones”), and skin infection characterized by the presence of pus (known as “pyoderma”)
- Inadequate levels of thyroid hormone (known as “hypothyroidism”)—hair loss (alopecia) is an uncommon presentation
- Growth hormone-responsive skin disorder (known as “growth hormone-responsive dermatosis”)—symmetrical hair loss along the sides of the body (truncal alopecia) associated with darkened skin (known as “hyperpigmentation”); hair loss often starts along the collar area of the neck
- Excessive levels of estrogen (known as “hyperestrogenism”) in females—symmetrical hair loss (alopecia) of the flanks and skin between the external genitalia and the anus (perineal skin) and between the rear legs (inguinal skin) with enlarged external genitalia (vulva) and mammary glands
- Inadequate secretion of female hormones (known as “hypogonadism”) in intact females—hair loss of the skin between the external genitalia and the anus (perineal skin), flank, and hair loss along the sides of the body (truncal alopecia)
- Testosterone-responsive skin disorder (known as “testosterone-responsive dermatosis”) in castrated males—slowly progressive hair loss along the sides of the body (truncal alopecia)

- Male feminization from Sertoli cell tumor (a type of tumor in the testicles)—hair loss (alopecia) of the skin between the external genitalia and the anus (perineal skin) and genital region with excessive development of the male mammary glands (known as “gynecomastia”)
- Castration-responsive skin disorder (known as “castration-responsive dermatosis”)—hair loss (alopecia) in the collar area, rump, skin between the external genitalia and the anus (perineal skin), and flanks
- Estrogen-responsive skin disorder (known as “estrogen-responsive dermatosis”) in spayed female dogs—hair loss (alopecia) of the skin between the external genitalia and the anus (perineal skin) and genital regions
- Seasonal flank hair loss (alopecia)—creeping hair loss involving the flanks with darkened skin (hyperpigmentation)

### **Patchy to Generalized (Diffuse) Hair Loss**

- Demodectic mange (demodicosis)—often associated with reddening of the skin (erythema), inflammation of the hair follicles (folliculitis), and darkened skin (hyperpigmentation)
- Bacterial infection/inflammation of the hair follicles (folliculitis)—multiple areas of circular hair loss (alopecia) that may join to form large areas of hair loss; circular patterns of hair loss bordered by scales (accumulations of surface skin cells, such as seen in dandruff) or surface peeling of the skin (epidermal collarette)
- Ringworm (dermatophytosis)—often accompanied by scales (accumulations of surface skin cells, such as seen in dandruff)
- Sebaceous adenitis (condition characterized by multiple areas of hair loss with reddened skin, scales, and signs of itchiness [known as “pruritus”] with inflammation of the sebaceous glands, the glands that produce oils in the hair coat)—hair loss (alopecia) with thick, adherent scales; predominantly along the back line of the body, including the head
- Color-mutant hair loss (alopecia)—thinning of the hair coat with secondary inflammation of the hair follicles (folliculitis) in some blue or fawn dogs
- Abnormal development of the hair follicles or hair (known as “follicular dysplasia”)—slowly progressive hair loss (alopecia)
- Hair loss during stages of the hair growth cycle—sudden (acute) onset of hair loss (alopecia)
- Inadequate levels of thyroid hormone (hypothyroidism)—generalized (diffuse) thinning of the hair coat
- Excessive levels of steroids produced by the adrenal glands (hyperadrenocorticism or Cushing’s disease)—hair loss along the sides of the body (truncal alopecia) with thin skin and formation of plugs of keratin and oil in the follicles of the skin (comedones)
- Epidermotropic lymphoma (type of cancer in the skin characterized by the presence of abnormal lymphocytes; a lymphocyte is a type of white-blood cell, formed in lymphatic tissue throughout the body)—widespread, generalized hair loss along the sides of the body (truncal alopecia) with scales (accumulations of surface skin cells, such as seen in dandruff) and reddening of the skin (erythema); later small, solid masses (known as “nodules”) and thickened, raised, flat-topped areas that are slightly higher than the normal skin (known as “plaques”) may form
- Pemphigus foliaceus (a disease in which the body’s immune system attacks its own skin)—hair loss (alopecia) associated with the formation of scales (accumulations of surface skin cells, such as seen in dandruff) and dried discharge on the skin lesions (crusts)
- Keratinization disorders (disorders in which the surface of the skin is abnormal)—hair loss (alopecia) associated with excessive scales (accumulations of surface skin cells, such as seen in dandruff) and greasy surface texture

### **Specific Locations of Hair Loss**

- Hair loss involving the ears (known as “pinnal alopecia”)—miniaturization of hairs and progressive hair loss (alopecia)
- Traction hair loss (alopecia)—hair loss on the top and sides of the head secondary to having barrettes or rubber bands applied to the hair
- Postclipping hair loss (alopecia)—failure to regrow hair after clipping
- Melanoderma (hair loss [alopecia] of Yorkshire terriers)—symmetrical hair loss with darkened skin of the ears, bridge of the nose, tail, and feet
- Seasonal flank hair loss (alopecia)—creeping hair loss of the flanks, that may connect over the back
- Abnormal development of the hair follicles or hair involving black hairs only (known as “black hair follicular dysplasia”)—hair loss (alopecia) involving only the black-haired areas of the body
- Inherited inflammatory disorder that affects the skin and muscles of unknown cause (condition known as “idiopathic familial canine dermatomyositis”) in collies and Shetland sheepdogs—hair loss (alopecia) of the face, tip of ears, tail, and digits; associated with scales (accumulations of surface skin cells, such as seen in dandruff) and dried discharge on the skin lesions (crusts), and scarring

## **TREATMENT**

### **HEALTH CARE**

- Demodectic mange (demodicosis)—amitraz, ivermectin, Interceptor®
- Ringworm (dermatophytosis)—griseofulvin, ketoconazole, itraconazole, lime sulfur dips, lufenuron
- Inflammation of hair follicles due to *Staphylococcus* bacterial infection (staphylococcal folliculitis)—shampoo and antibiotic therapy
- Sebaceous adenitis (condition with hair loss, reddened skin, scales and inflammation of the oil-secreting sebaceous glands)—keratolytic shampoo, essential fatty acid supplementation, retinoids
- Keratinization disorders (disorders in which the surface of the skin is abnormal)—shampoos, retinoids, vitamin D

## **SURGERY**

- Biopsy of a tumor or the skin may be indicated in the diagnostic work-up for some causes of hair loss (alopecia)
- Hormonal disorders causing hair loss (treatment determined by specific hormonal disorder)—surgery may include removal of ovaries and uterus (known as “ovariohysterectomy” or “spay”), removal of testicles (known as “castration”), or removal of adrenal glands (known as “adrenalectomy”)
- Surgical removal of skin cancer or tumors

## **MEDICATIONS**

- Vary with specific cause
- Excessive levels of steroids produced by the adrenal glands (hyperadrenocorticism or Cushing’s disease)—Lysodren®

## **FOLLOW-UP CARE**

### **PATIENT MONITORING**

- Varies with specific cause

### **PREVENTIONS AND AVOIDANCE**

- Vary with specific cause

### **POSSIBLE COMPLICATIONS**

- Vary with specific cause

### **EXPECTED COURSE AND PROGNOSIS**

- Vary with specific cause

## **KEY POINTS**

- “Alopecia” is the medical term for hair loss
- Hair loss is a common problem in dogs
- Pattern of hair loss varies—may be localized or widespread
- Skin itself may appear normal or may be abnormal

