

Peer Reviewed

# Psychogenic Alopecia in Cats

How do I know whether overgrooming is caused by psychogenic alopecia, and what are my treatment options?



The behavioral diagnosis of overgrooming in cats can involve two separate but sometimes overlapping disease states. The first disorder, psychogenic alopecia, involves excessive grooming that is psychological or emotional in origin. This alopecia generally occurs on the medial forelimbs, caudal abdomen, inguinal region, tail, and/or dorsal lumbar areas and may or may not be symmetric. Rarely will secondary skin changes be evident.

The second disorder, hyperesthesia, involves patients that manifest unusually high skin sensitivity by displaying a variety of behaviors, including twitching; rippling of the skin over the back, rump, and tail; sudden jumping and running; and occasional self-mutilation that can involve barbering of the hair.

This article focuses on the presentation and treatment of psychogenic alopecia only.

Diagnosis of psychogenic alopecia is by exclusion, as all dermatologic and physiologic causes of hair loss need to be eliminated.

## CLINICAL PRESENTATION

### Environmental Factors

Psychogenic alopecia is likely overdiagnosed in veterinary medicine because many patients are actually affected by various hypersensitivity reactions, including those to flea, food, and environmental antigens (eg, pollen), or affected by ringworm (ie, dermatophytosis) or ectoparasites such as *Demodex* (demodicosis), *Notoedres* (mange), and *Cheyletiella* (cheyletiellosis).<sup>1</sup>

### Medical versus Psychogenic Causes

A prospective study examining cats with a presumptive diagnosis of psychogenic alopecia found that medical causes of pruritus were identified in 76% of the cats, while only 10% of cases were found to be purely behavioral (psychogenic alopecia). The remaining 14% involved a combination of psychogenic alopecia and medical causes of pruritus.<sup>2</sup>

CONTINUES

Characterizing the pattern of hair loss can help determine whether the disorder is psychogenic alopecia.

## DIAGNOSIS

### History

Because owners rarely witness excessive grooming by their cat, this part of the history may be inconclusive. However, certain psychological stressors and triggers should be considered and questioned, including a traumatic event such as a recent move, new pet or baby, loss of a family member or companion pet, and construction or remodeling. In addition, determining whether the cat is indoor or outdoor can support the likelihood of parasitic causes. Likewise, other factors need to be evaluated, such as the diet (current and past), preexisting medical conditions, and medications.

### Examination

Characterizing the pattern of hair loss can help determine whether the disorder is psychogenic alopecia. If the hair loss is self-induced, then *it should only be evident in areas that can be reached by the cat's tongue*. If other areas are affected, close examination of the skin can confirm or rule out the involvement of ectoparasites or other diseases.

### Diagnostic Findings

After completing the clinical examination, any hairs remaining in areas of hair loss should be examined microscopically for evidence of broken

shafts, which supports excessive grooming, but not the underlying cause of that grooming. Dermatophyte culture results can rule out fungal infection, whereas skin scrapings can help rule out fungal and bacterial causes as well as certain parasites. Intradermal skin testing assists in diagnosing inhalant allergies. Response to a steroid trial makes a strict behavioral diagnosis less likely. With skin biopsies, the clinician also can evaluate possible allergic reactions or endocrine disorders.

Other diagnostic measures include a hypoallergenic food trial, which involves feeding an approved home-cooked diet, novel antigen diet, or hydrolyzed protein diet for a minimum of 8 weeks (note: all treats need to be excluded from the diet). To conduct a parasiticide trial, clinicians should recommend a long-acting agent that covers ectoparasites prevalent in the geographic area, such as fleas, *Cheyletiella* spp, lice, and *Notoedres* spp.

## TREATMENT OPTIONS

### Environmental Modification

Because psychogenic overgrooming is generally based on emotional states of stress, anxiety, and frustration, modifications are made in attempts at minimizing stressors for that particular cat. Placement of perches and climbing posts in key areas, such as in front of a window, may encourage the cat to express its natural tendency to rest on high surfaces and view its environment from above. Other simple measures to enrich a cat's environment or offer privacy include cardboard boxes and paper bags. Providing interactive toys that stimulate prey hunt and capture (eg, toy attached to a string, fishing pole, feather wands) is recommended, and rotating them retains their novelty for the cat. Placing food and food puzzle toys in key areas can stimulate normal hunting instincts. Nontoxic cat grasses or catnip can also be offered.

In multicat environments, setting up several feeding and litter box stations can help alleviate competition and related stress among cats.

## Underlying Pathology

True psychogenic alopecia in cats is believed to arise from underlying conflict, frustration, and anxiety. Grooming is a common displacement behavior—an “out of context” behavior that an animal performs when it is in a state of conflict/anxiety or frustration. This is usually a normal type of behavior that is displayed at an inappropriate time.

Displacement grooming is considered to be rooted in anxiety and may serve to lower the animal's stress levels, help calm the animal, and deflect aggression from other individuals. It is common to see a cat that is in a stressful situation suddenly begin to groom (often in the veterinary exam room). Over time, this displacement behavior can become independent of the initial stressor and eventually become compulsive in nature.<sup>3</sup>

**Surolan®**

otic suspension  
(miconazole nitrate, polymyxin B sulfate, prednisolone acetate)  
Antifungal, antibacterial and anti-inflammatory  
For otic use in dogs only

**CAUTION:** Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian.

**DESCRIPTION:** SUROLAN contains 23 mg/mL miconazole nitrate, 0.5293 mg/mL polymyxin B sulfate and 5 mg/mL prednisolone acetate. Inactive ingredients are colloidal silicon dioxide and liquid paraffin.

**INDICATIONS:** SUROLAN is indicated for the treatment of canine otitis externa associated with susceptible strains of yeast (*Malassezia pachydermatis*) and bacteria (*Staphylococcus pseudintermedius*).

**DOSE AND ADMINISTRATION:** Shake well before use. The external ear should be thoroughly cleaned and dried before the initiation of treatment. Verify that the eardrum is intact. Instill 5 drops of SUROLAN in the ear canal twice daily and massage the ear. Therapy should continue for 7 consecutive days.

**CONTRAINDICATIONS:** SUROLAN is contraindicated in dogs with suspected or known hypersensitivity to miconazole nitrate, polymyxin B sulfate, or prednisolone acetate. Do not use in dogs with known perforated tympanum. Do not use with drugs known to induce ototoxicity.

**WARNINGS:** Not for use in humans. Keep this and all drugs out of reach of children. **ANIMAL WARNINGS:** Do not administer orally. For otic use only.

**PRECAUTIONS:** Before instilling any medication into the ear, examine the external ear canal thoroughly to be certain the tympanic membranes are not ruptured. If overgrowth of non-susceptible bacteria or fungi occurs, treatment should be discontinued and appropriate therapy instituted. Long-term use of topical otic corticosteroids has been associated with adrenocortical suppression and iatrogenic hypoadrenalism in dogs. The safe use of SUROLAN in dogs used for breeding purposes, during pregnancy, or in lactating bitches, has not been evaluated.

**ADVERSE REACTIONS:** In the field study, 161 dogs treated with SUROLAN were included in the safety database. Two dogs experienced reduced hearing at the end of treatment; on follow-up one dog had normal hearing capacity while the other case was lost for follow-up. The owner of another dog reported that on day 4 of treatment, build-up of the medication decreased the dog's hearing. At the end of treatment, this dog had normal hearing as assessed by the investigator. Residue build-up was reported in 1 dog and pain upon drug application in another dog. A total of 161 dogs treated with the active control was included in the safety database and adverse reactions were reported in 8 dogs treated with the active control. One dog experienced reduced hearing at the end of treatment. Residue build-up was noted in 1 dog. Four dogs vomited during treatment. 1 dog showed red pustules on the pinna and head shaking was observed in another dog. Foreign market experience: the following adverse events were reported voluntarily during post-approval use of the product in foreign markets: deafness, reduced hearing, topical hypersensitivity reactions and red blisters on pinna. For a copy of the Material Safety Data Sheet (MSDS), for technical assistance or to report adverse reactions call Vetoquinol USA Inc. at 1-800-835-9496.

**PHARMACOLOGY:** By virtue of its 3 active ingredients, SUROLAN has antibacterial, antifungal, and anti-inflammatory activity. Polymyxin B sulfate is a broad-spectrum polypeptide antibiotic with activity against both Gram-positive and Gram-negative species. Miconazole nitrate is a synthetic imidazole derivative with antifungal activity and antibacterial activity against Gram-positive bacteria. Moreover, synergistic effects between miconazole nitrate and polymyxin B sulfate have been demonstrated in an in vitro study(1). Prednisolone acetate is a glucocorticoid with anti-inflammatory activity. A study performed using an experimentally-induced model of ear inflammation in mice demonstrated the effectiveness of prednisolone acetate in treating ear inflammation either alone or in combination with the other active ingredients of SUROLAN(2).

**MICROBIOLOGY:** The compatibility and additive effect of each of the components in SUROLAN was demonstrated in a component effectiveness and non-interference study. An in vitro study of organisms collected from clinical cases of otitis externa at a veterinary teaching hospital and from dogs enrolled in the clinical effectiveness study for SUROLAN determined that polymyxin B sulfate and miconazole nitrate inhibit the growth of bacteria and yeast commonly associated with canine otitis externa. Furthermore, a synergistic effect of the two antimicrobials was demonstrated. The addition of prednisolone acetate to the combination did not impair antimicrobial activity to any clinically-significant extent.

**ANIMAL SAFETY:** The following adverse reactions were reported in a study when SUROLAN was administered at 1X, 3X and 5X for 42 consecutive days (6 times the recommended treatment duration) in laboratory Beagles: hypersensitivity reactions which included mild erythema and hyperemia, painful and sensitive ear canals on examination, changes in hematology, clinical chemistry and urinalysis values consistent with the systemic absorption of topical corticosteroids, and veterinary observations of pale ear canals.

**EFFECTIVENESS:** Of 337 dogs enrolled in the field study, 176 dogs were included in the effectiveness database; 91 were treated with SUROLAN and 85 were treated with an FDA-approved active control. Clinical evaluations of otitis externa included pain/discomfort, swelling, redness, and exudate. A non-inferiority evaluation was used to compare SUROLAN with the active control with respect to each clinical sign of otitis externa and overall clinical improvement. SUROLAN was determined to be non-inferior to treatment with the active control for otitis externa. *Malassezia pachydermatis* and *Staphylococcus pseudintermedius* were identified pre-treatment in at least 10 cases that were clinically responsive to SUROLAN.

Table 1. Mean Percentage of Improvement in Clinical Signs of Otitis Externa

Clinical Sign	SUROLAN N=91	Active control N=85
Pain/discomfort	94.4%	91.7%
Swelling	89.1%	90.5%
Redness	91.2%	86.1%
Exudate	83.1%	82.1%
Overall	96.7%	95.2%

**HOW SUPPLIED:** SUROLAN is available in 15 mL and 30 mL plastic dispensing bottles with applicator tip for otic use.

**STORAGE AND HANDLING:** Store at or below 25°C (77°F).

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Turnhoutseweg 30  
B-2340 Beerse  
Belgium  
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Date of most recent labeling revision: 09/2009

**REFERENCES**

1. Pletschmann S. et al. (2009) Synergistic effects of miconazole and polymyxin B on microbial pathogens. *Veterinary Research Communications* 33(6):489-505
2. Bolinder A. et al. (2006) In vivo efficacy study of the anti-inflammatory properties of Surolan The Canadian Journal of Veterinary Research 70, 234-236

## Possible Environmental Stressors

- Inadequate mental and/or physical stimulation (psychogenic alopecia is seen more in indoor cats<sup>4</sup>)
- Limited access to essential resources (eg, food, water, litter boxes, perches)
- Overcrowding
- Isolation
- Status-related or territorial conflicts with other cats
- Changes in household routines or new family members
- New home or environment

In addition to being encouraged to participate in physical and play behaviors, cats need access to a private safe haven away from other pets and children or during busy household activities. Providing a separate room that can be accessed through a cat door via sensor collar can ensure comfort and privacy in a quiet area of the home.

### Behavior Modification

*Predictable owner interaction* and routines are recommended, including predictable feeding, play sessions, and attention. Training a cat to follow certain commands, such as sit and come, can be engaging and stimulating.

*Discipline/punishment* is an obvious source of conflict that may exacerbate stress and lead to overgrooming and subsequent psychogenic alopecia. Owners also need to avoid reinforcement of unwanted behavior by not rewarding the cat with attention when it engages in excessive grooming. Instead, the cat should be distracted and encouraged to pursue an alternative activity.

### Pharmacologic Intervention

Off-label use of fluoxetine, a selective serotonin reuptake inhibitor, or

clomipramine, a tricyclic antidepressant, has been successful in the treatment of psychogenic alopecia in conjunction with concurrent environmental and behavioral modifications.

The following off-label dose schedule can be discussed with owners:

- Fluoxetine at 0.5–1 mg/kg PO q24h
- Clomipramine at 0.5 mg/kg PO q24h

For both drugs, allow 4 to 6 weeks to evaluate effectiveness.

See *Aids & Resources*, back page, for references & suggested reading.

## TX AT A GLANCE

- Attempt to identify stressor and resolve or minimize
- Treat any concurrent medical cause of pruritus
- Encourage environmental stimulation, modifications, and predictable interactions with the owner
- Consider psychotropic drug therapy that targets anxiety and compulsive behavior