Lice and Mites in Pet Rodents

**Basics**

**OVERVIEW**
- The presence of large numbers of mites in the hair follicles can cause irritation of hair follicles, hair loss, and secondary bacterial infections.
- Mites can cause skin irritation and secrete irritating byproducts, which can result in intense itching.
- The bite of some lice and mites can cause an allergic reaction.
- Most affected pets have patchy to generalized hair loss, scaly and/or red skin, itching and self-trauma, or poor thrift.
- Hamsters with demodex usually have underlying disease or are aged, causing a decline in the immune system and overpopulation of the mite. These animals often do not respond to treatment.

**SIGNALMENT**
Lice and mites most commonly diagnosed in pet rodents include the following:

**Hamsters**
- *Demodex criceti, D. aurati, Notoedres notoedres, N. cati, Liponyssus bacoti*

**Gerbils**
- *Demodex meroni, D. merion*

**Mice**
- *Myobia musculi, Myocoptes musculinus, Radfordia affinis, Liponyssus bacoti, Polyplax senata*

**Rats**
- *Radfordia ensifera (Myobia ratti), Notoedres muris, Demodex, Polyplax spinuosa, Liponyssus bacoti, fleas*

**SIGNS**

**Hamsters**
- *Demodex*—usually asymptomatic unless the animal is aged, stressed, or debilitated; non-itchy, dry, scaly patches of hair loss over the hindquarters, back, neck and abdomen
- *Notoedres*—itchy, crusty lesions on the muzzle, limbs, and genital areas

**Gerbils**
- *Demodex*—hair loss, scabs, and ulceration

**Mice**
- *Myobia musculi*—ruffled, thinning fur, hair loss on the head, back, neck, and shoulders, hypersensitivity and itching
• *Myocoptes musculinus*—patchy hair loss and itching
• *Radfordia affinis*—itching, small scabs to extensive ulceration
• *Polyplax senata*—poor thrift, restlessness, itching, anemia

**Rats**
• *Radfordia ensifera*—surface-dwelling fur mite causing hair loss, scaly skin, itching, poor thrift
• *Liponyssus bacoti*—feeds on blood of rats, lives in environment. Leads to poor thrift, anemia, and can spread other diseases
• *Notoedres muris*—burrowing mite typically found in the ear tips and other hairless areas

**RISK FACTORS**
• Poor husbandry—Inappropriately rough or irritating bedding material, overcrowding, poor sanitation, or other environmental stressors, as well as underlying disease states, may predispose the patient to lice or mite infestation and prolong the course of the infection.
• Exposure to infested animals—common sources of initial infestation—pet stores, animal shelters, breeders

**TREATMENT**

**APPROPRIATE HEALTH CARE**
• Treat all pet rodents in the household.
• Thorough cleaning of the environment is extremely important for eliminating infestation; adult mites can live in the environment and cause reinfestation. Remove and discard all organic material from cage (wood or paper products, bedding); replace bedding with shredded paper bedding that can be discarded and the cage thoroughly cleaned every day during the treatment period.

**MEDICATIONS**
Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered all-inclusive.
• Common treatments include injections, oral or topical application of ivermectin, or topical spot-on products such as selamectin (Revolution) or fipronil (Frontline). Several treatments are usually needed to eliminate infestation. Cleaning of the environment and treating all in-contact pet rodents are critical for treatment success.
• Some pets have secondary bacterial skin infections and may require treatment with antibiotics.

**FOLLOW-UP**

**PATIENT MONITORING**
• A decrease in flaking and itchiness indicates the infestation is being controlled.
• Reinfestation may indicate contact with a carrier rodent, or the presence of an unidentified source of mites (e.g., untreated bedding).

**PREVENTION/AVOIDANCE**
Avoid contact with infected pets and bedding.

**POSSIBLE COMPLICATIONS**
• Recurrent infestation
• Demodex in hamsters—death due to underlying disease; poor or no response to treatment
• A rash may develop on humans in areas of contact with the pet. This rash is self-limiting with removal of the mite from pets and the environment.

**EXPECTED COURSE AND PROGNOSIS**
• Most lice and mite infections will improve or resolve within 2 weeks if the environment and all in-contact pets are treated.
• For demodex mites—prognosis is usually poor in hamsters. Affected animals usually have underlying disease that cannot be treated and is causing the mite population to increase.

**KEY POINTS**
• Lice and mites are common on pet rodents.
• Symptoms in animals with demodex usually occur because there is an underlying disease that cannot be treated.
Most do not respond well to treatment.

- Eliminating mites can be challenging and requires treating the animal, the environment, and all in-contact rodents. Treatment failures are common if just the animal is treated.
- With some mites, a rash may develop on humans in areas of contact with the pet. This rash is self-limiting with removal of the mite from pets and the environment.