

# Itching Horses and Skin Disorders

## By The Nude Horse (Equine Epidemiologist)

Finding the cause to an itch is paramount to finding the right solution, whether it be eradication of the cause or a long-term successful management of the diagnosed condition.

Horses confined to paddocks or stables, are often in close proximity to other horses creating a breeding ground for diseases and parasites that affect the skin.

**Sarcoptes/Psoroptes** are perhaps the best known cause of itch and hair loss in the mane and tail of horses. The microscopic female mite when impregnated tunnels into the skin and deposits eggs in the burrow. The larvae hatch in 3 to 10 days, move about on the skin as they mature into adult mites. Adult mites live three to four weeks in the host's skin.



The action of the mites moving within the skin and on the surface itself produces an intense itch that may resemble symptoms of QLD Itch. Their excreted faeces resemble dandruff or scurf and are often mistaken as just that. Thinning of the hair occurs as they damage the hair follicles causing reduced hair growth and hair fallout.

Some skin disorders do not cause itching, but secondary infections such as bacterial or yeast infections cause the horse to itch and subsequently hair loss. It is possible the time the itch occurs the initial skin disorder is long gone. Your vet will perform a skin scraping to identify the cause of the itch, likely parasites are considered as the first cause of an itch.

Treating mites successfully requires application of a mite killing insecticide to be applied externally every 4<sup>th</sup> day for at least three weeks to ensure the breeding cycle is broken. As the insecticides work only at the skin surface, each lot of hatchlings needs to be treated, hence the ongoing treatment method to ensure a completely successful eradication. Treating rugs and companion horses is also best practise. Seek veterinary assistance to select a suitable insecticide.



**Rain scald** can be attributed to *Dermatophilus Congolensis*. This organism likes to infect traumatized skin, particularly in the presence of high moisture. Young horses with poorly developed immune systems are at a higher risk of getting rain scald. Skin trauma can be initiated by abrasions, insect bites or frequent rain exposure that softens the skin, particularly along the horse's topline.

Once *dermatophilus congolensis* takes hold most likely secondary bacterial infections occur such as staphylococcus (staph) and or streptococcus (strep). Hence it is of paramount importance to treat the rain scald immediately before any secondary infections break out. <sup>A</sup>

The best treatment is to wash the horse with antimicrobial and antibacterial shampoos once a day for a week. Allow the shampoo 10 minutes to sit before rinsing thoroughly. Condition and dry off. In severe cases prescription antibiotics will need to be prescribed by a qualified vet.



**QLD Itch** is an allergic reaction to the saliva of biting midge (biting insects that colonized near a water source and feast at dusk and dawn on nearby stock). Getting an accurate diagnosis from skin scraping or veterinary assessment is the first step to managing this condition correctly.

Often times psoroptes mites are the culprit behind the itch, not the midge or biting flies. Noticeable symptoms that extend through the cooler months and exhibit dandruff symptoms are an indication the itch is mite related. Sometimes the horse is dealing with both mites and QLD Itch in warmer climates.

Prevention is the likely successful approach. Warding off the biting insects by rugging from dusk to dawn and applying a water resistant insect repellent to the exposed areas will greatly reduce the rate of biting flies.



Secondly try to minimise the infections that occur to the broken skin from rubbing such as bacterial and yeast infections. At this stage people start to recognise their horse has QLD Itch.

Washing the horse with a medicated shampoo each week, keeping rugs clean and the horse dry will minimise the skin related infections. Humidity also increases skin related infections, so do not allow the horse to sweat underneath constant rugging in warm weather.



## Science behind the itching reaction

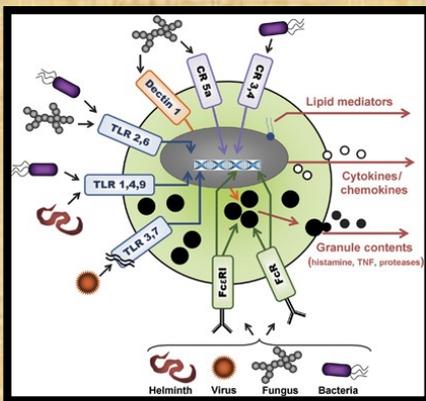
A mast cell is part of the immune system and contains many granules rich in histamine and heparin. Although best known for their role in allergy and anaphylaxis, mast cells play important protective roles as well being intimately involved in wound healing including angiogenesis and defence against pathogens.

Histamine as part of the immune response to foreign pathogens, produced by both basophils and mast cells. Histamine increases the permeability of the capillaries to white blood cells and some proteins, to allow them to engage pathogens in the infected tissue.

Heparin has been proposed to defend at such sites against invading bacteria.

To signal the correct response cytokines (small proteins) are released by cells to affect the behaviours of other cells.

The problem with allergic reaction occurs when incorrect signalling occurs at this cytokine level. Loosely put they can signal a Type 1 or Type 2 response to favour either a cellular immune response or an antibody response.<sup>B</sup> Type2 (T<sub>h</sub>2) over activation against auto antigen will cause Type1 IgE-mediated allergy and hypersensitivity.



As a result of a faulty allergic response the horse begins to rub from an 'over reactive itch response', next pathogenesis occurs – the skin enters a diseased state and becomes microbial infected, inflamed or has tissue breakdown.

The gastrointestinal system plays a central role in the immune system.<sup>C</sup> New scientific approaches to managing an itchy horse include feeding supplements that may work from the gut to down regulate the over reactive immune response. Ask at your local feed store for a supplement that works from the inside to benefit holistically.

Veterinarian approaches to managing the symptoms of classic QLD Itch include regular bacterial skin washes, applying effective insect repellents and injections with cortisone are administered in extreme cases.

External solutions that can be applied to skin are popular methods to manage the new infections occurring on the skin surface. Caution should be exercised using any Iodine based preparations as these may lead to hypothyroidism, result in hair loss and unwellness with long term use.

Soothing oil preparations with insect repelling properties are popular; however caution should be exercised not to apply in the heat of the day. It is well known that healing skin must breathe to heal successfully, so resting skin for a few days between applications is best practise.

### Pin Worms

The adult worm lives in the rectum and lays its eggs on the surrounding skin externally. Pin worms cause severe irritation and sometimes horses rub so badly so as to rub the tail head raw leading to secondary infections and hair loss.

To treat successfully some helpful tips include, using a pyrantel based wormer repeating every 6-8 weeks. Clean the horse's rectum first thing in the morning to remove eggs. Apply Vaseline to surrounding skin to help reduce the number of eggs that stick to the skin. Keep up treatment with wormer for minimum of 12 months as the immature stages



of the worm are less sensitive to wormers so may survive post worming.

### Neck Threadworms

Referred to as neck worms the adult *Onchocerca Cervicalis* worms live in the large nuchal ligament that runs from the poll to the withers. The reproduction process lands the highly irritating microfilaria (larval) around the face, shoulders, chest and abdomen on the horse where biting flies come to feed. The culicoides fly serves as the carrier, reinfesting and spreading the larvae. The adult *Onchocerca Cervicalis* worms do not usually cause discomfort to the horse and will reside within the neck for around 10 years meanwhile laying thousands of eggs each year.

Often inflammation occurs on the underbelly, ending in self trauma to the skin and chest as the horse rubs intensely to relieve the itch. Another tell-tale sign includes a bullseye of hair loss and inflammation on the horse's forehead. Most horses exhibit dermatitis, crustiness, hair loss, itching, swelling and self trauma, often mistaken for QLD Itch.

Usually younger horses even though infected may not have symptoms until the age of 5 or more, hence the sudden onset of itch to a horse previously not itchy.

Treatment of the microfilaria can be achieved with regular doses of ivermectin or moxidectin (some recommend weekly or fortnightly) until symptoms subside. A horse that has neck worms will demonstrate increased itching for 48-72 hours post worming. The total onchocerca life cycle lasts from 4 to 5 months, so consistent treatment is a priority.

Excellent additional reading can be found at <http://thehorsesback.com/neck-threadworms/>.



- <http://www.equusite.com/articles/health/healthRainRot.shtml>
- <http://cid.oxfordjournals.org/content/32/1/76.short>
- <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2515351/>