

# Why do dogs get so itchy *especially in the winter?*

Maria Ringo, B.GS, DHMHS



Your animals' skin is always sloughing off and renewing itself, just like our own. Have you noticed however, that as soon as we turn on the furnace in the fall our skin gets more dry, and both you and your pets start to scratch and itch more frequently? You can apply creams and lotions but relief does not last as these external measures don't cure dry flaky skin.

Don't despair! You can get to the root of this problem with some preventative measurements and proper nutrition which are noted at the end of this article. But first, let's get educated about that amazing organ protecting our insides: **SKIN**.

Skin becomes dry, flaky and itchy due to a number of factors, including: (1) old skin failing to slough properly (sometimes it just needs to be brushed); (2) underlying chronic illness including diabetes or hypothyroidism; (3) poor diet denying skin cells the nutrients required to replace themselves properly; or (4) environmental stress.

'Winter itch' is likely the result of a combination of factors, none of them dangerous, but all of them annoying.

The outermost layer, called the epidermis, makes the skin impermeable and protects the body from bacterial invasion and other environmental assaults. Also called the stratum corneum, the epidermis is composed of 3 major components that together create a physical wall enclosing the entire surface of the body, protecting it and preventing moisture loss.

*Details of the 3 major components of the epidermis are noted on the left*

#### **Corneocytes:**

Flattened, dead skin cells mainly composed of keratin plus other compounds called natural moisturizing factors (NMFs). Keratin is a humectant (which means it holds water) that gives skin its strength. NMFs are also humectants that not only hold water but also attract it. So because they are also water-soluble, the skin dries out if you shower or swim too long or wash your hands too much.

#### **Desmosomes:**

The proteins that hold the corneocytes together.

#### **Intercellular lipids:**

Fats comprised of ceramides, free fatty acids and cholesterol. In the stratum corneum, their role is to prevent the loss of NMFs from within the corneocytes. These lipids have another super important function: they combine with sweat to form the crucial thin layer of 'acid mantle'—the chemical barrier that kills bacteria and regulates moisture loss. Lipids also lubricate the skin and are a major factor in giving it a smooth texture.

## Winter is Tough on the Skin

For the stratum corneum to properly protect the body, it must be elastic and flexible, which is only possible when the skin is properly hydrated to between 20-35%. Each day, it loses approximately one pint of water through transepidermal water loss, the continuous process by which water leaves the body and enters the atmosphere via evaporation. However, when humidity drops, as it does in cold-weather months, there's a dramatic increase in transepidermal water loss as the dry air pulls moisture from the skin. When the skin's water content drops below 10%, it begins drying out, causing itchiness and flakiness. With less water in the skin, the production of NMFs becomes impaired and lipid levels fall, setting in motion a vicious cycle that is hard to remedy. With less water and fewer lipids to lubricate and protect it, the skin no longer exfoliates properly, resulting in a buildup of dead cells on the skin's surface, making it look flaky. Dry flaky skin can no longer properly heal itself, resulting in destruction of the protective acid mantle, which then leads to infections...and round and round it goes.

## Common Sense Measures

You can minimize discomfort in your animal by applying moisturizers that can bring temporary relief by covering fissures in the skin, which helps to restore the barrier function of the epidermis. However you'll be wise to follow some other simple practices for the prevention of the itch in the first place:

- ✓ Give your animal fewer baths, and reduce water temperatures during winter. This is an essential step for those with dry skin, but should be followed for pets with healthy skin, as well. As mentioned previously, water leaches NMFs from the skin and affects its lipid content.



- ✓ Make sure your animal drinks enough water and has a clean full bowl at all times.
- ✓ Avoid the use of harsh soaps and detergents. These ingredients remove the skin's acid mantle, thus increasing the rate of transepidermal water loss. Use alcohol-free glycerin soaps.

- ✓ Use a cool-mist humidifier in the home to maintain proper humidity levels. This will help skin maintain hydration by slowing the rate of transepidermal water loss.

## Prevention Begins with Nutrition for Beautiful Skin and Coat

To ensure the body has a ready supply of those all-important Intercellular lipids that give the skin smoothness, restores the acid mantle and promotes proper exfoliation, it is crucial to feed good quality FATS to your animal. This means foods naturally high in 'good fats' including the kind found in avocado, clean meats, eggs, fish and sprouted flax. The sprouted seeds mix in Flora4 Ground Sprouted Seeds is rich in Alpha-linolenic acid (ALA). ALA is a type of Omega 3 fat found in plant foods which cannot be manufactured by the body. Once consumed, ALAs can be converted into eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) – the kind of fat that creates those critical intercellular lipids. A scoop per day of Flora4 mixed into your animal's food, whether you are feeding Carna4, a Raw Foods diet, or anything else –will make a huge difference in relieving and preventing itchy dry skin all year round. Try some for yourself too –Flora4 is 100% organic human-grade food, so don't hesitate to put some in your own yogurt on those cold winter mornings when you're feeling a little itchy.



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## About Maria



*Maria Ringo is a Homeopathic Practitioner and co-founder of Carna4 Hand Crafted Dog Food, a small, ethical company producing synthetic-free whole foods for pets; and Sojourner Farms, one of the first commercially available raw food diets for dogs. She lives in Toronto, Ontario with her family and may be reached at maria@nthm.ca*