

Bathing for Results

By Patrick S. Rayburn, BS, CAIA

The skin is the largest organ of the mammalian body. Its primary function is “protection”. Bathing, or washing of the skin with anything other than water is abnormal for most domestic and wild animals. In the wild, dogs (and other species) will naturally bathe in water, mud or dust – depending on what opportunities present and how they are feeling. Dust, mud and water baths are common animal behaviors presumed to serve as a means of thermoregulation, removal parasites from fur, feathers or skin, drying after becoming wet, scent marking or as a natural sunscreen.

So why do we feel the need to wash our pets? The domestication of dogs, cats and horses has altered the environments for in which we keep our “pets”. This environmental change has altered their growth patterns, diet, immune response, and restricted their freedom of choice when it comes to grooming and maintenance. Concomitantly, the rise of allergies in dogs is closely related.

Many of us keep our dogs and cats indoors. As “roommates”, we often share our living spaces, including beds, sofas and chairs and the same air! To make these a mutually beneficial (and enjoyable) experience, we prefer that our pets are free of parasites, odor, debris (dirt and feces) dander and bacteria. This is the primary reason why we bathe our pets- because it makes living with them more enjoyable for US! Many dogs would just as easily roll in cow poop, rather than receiving a bath, if given the choice (some readers will know exactly what I am talking about!).

So why else should we bathe our pets? Much of this answer deals with atopy, or a predisposition to being “allergic”. Just as we humans experience seasonal or chronic allergic conditions, many animals also suffer from the affects. It is reported that up to 15% of the canine population experiences allergic response. Veterinary hospitals in Florida, Arizona and South Texas are replete with stories about the “snow birds” who, shortly after arriving to their winter homes, soon find themselves at the veterinarian’s office in hopes of finding some relief for their pet who is suddenly tearing himself apart. The environmental change has “triggered” an allergic pruritic flare in their pet. If left unmanaged, this itch can exacerbate into a full-blown case of superficial bacterial pyoderma. The claws of dogs and especially cats, are loaded with bacteria. As the itchiness persists, these bacteria will get deposited via scratching (also called self-induced excoriation) below the skin’s top layer and embedded into parts of the epidermis that will harbor, nourish and allow these unwanted organisms to colonize and grow! What’s worse is that today’s staphylococcal bacterial species are not as susceptible to antibiotic therapies as they once were, and not every pet will respond to treatment in the same ways.

Veterinary professionals have a myriad of treatment options for dealing with atopic dermatitis (atopy) including: antibiotics, steroids, antihistamines, non-steroidal anti-inflammatory drugs, janus-kinase inhibitors, immunomodulators, supplements and dietary modification to name a few. Included in nearly every approach to treating allergic dermatitis in pets is a **multi-modal treatment plan** that includes topical therapy (BATHS!).

Yes, routine bathing can reduce the abnormal flora on skin while mechanically removing contact allergens and bacteria, thus potentially saving your pet from an allergic meltdown. So

which shampoo is best, you might ask. After 20 years of experience in the animal health industry, I have seen just about everything that you can put IN or ON a dog, cat or horse. The industry standard for many years has been a shampoo combining the antifungal properties of ketoconazole with the antiseptic properties of chlorhexidine. This combo has served many pets well...well, until recently. In February 2017, the FDA issued a cautionary statement warning about “rare but serious allergic reactions to the skin antiseptic chlorhexidine gluconate” resulting in 2 deaths of people [<https://www.fda.gov/drugs/drug-safety-and-availability/fda-drug-safety-communication-fda-warns-about-rare-serious-allergic-reactions-skin-antiseptic>]. Additionally, researchers have observed bacterial resistance to the active ingredient chlorhexidine gluconate [<https://atlasofscience.org/not-all-chlorhexidine-containing-antiseptics-kill-multidrug-resistant-klebsiella-pneumoniae/>]. It is evident that chlorhexidine remains a potent antiseptic, however, the minimum inhibitory concentrations (MIC) for some strains isolated since the widespread use of chlorhexidine (since the 1950's) has increased. While it is unknown why some people are acutely sensitive to exposure to chlorhexidine, it is important to note that in order to keep up with the evolution of bacteria, this ingredient has been *pushed* from active % levels once .02% - to 2% - to now 4% concentrations.

There is an effective alternative. For decades, veterinary dermatologists have relied on the antiseptic properties of bleach (sodium hypochlorite). Sodium hypochlorite is known to be antibacterial, antifungal, and antiviral. For you “*sciencers*”, here is the mechanism of action of sodium hypochlorite against bacteria:



To put this into simpler terms, “biofilm” is the slimy substance that protects and nourishes bacteria on the skin. Bleach in this case, works to break down this slimy substance and degrade the bacterial cell wall and cell membrane thus crippling and killing the bacteria. Command™ Shampoo for Animals (VetriMax™ Veterinary Products – College Station, TX) is the first-ever sodium hypochlorite shampoo for animals. This unique formulation has been expertly studied and validated against multi-drug resistant organisms (MDROs).

So why can't I just use household bleach? Good question! Bleach by itself requires precise mixing to get the correct concentration appropriate for topical use. Moreover, bleach can be unnecessarily drying to the skin and can be unpleasant to work with. Lastly, even if you mixed it just right, the solution is unstable (only for a few days) and then must be discarded. Command™ Shampoo includes moisturizers to avoid drying of the skin and has been stabilized, making the product last for 3 years and beyond! Combined with *AtopiCream™ Leave-On Lotion Conditioner* (VetriMax™ Veterinary Products - College Station, TX), this combo is widely used by veterinary professionals to address allergic dermatitis in animals as mono-therapy or as part of a multi-modal approach to treatment.

Wait, it gets better! Command™ Shampoo for Animals is mild enough to be used as a general cleanser, deodorizer and brightening shampoo. It contains no artificial dyes or synthetic fragrances or perfumes. The result is a clean, healthy, skin and coat – just the way mother nature intended. Whether you prefer sofa cuddles, bedtime snuggles, jogging in the park or beach play days, this shampoo is the perfect shampoo choice for bathing your pets.