

Using Linkskin Spray to Treat Pyoderma in Companion Animals

THE PRODUCT

Canine and feline skin is dominated by organisms including *Proteobacteria*, *Firmicutes*, *Fusobacteria*, *Bacteroides*, *Actinobacteria*, *Alternaria* and *Cladosporium*. Studies have demonstrated that cutaneous dysbiosis is associated with significant skin abnormalities. For example, the skin microbiota of clinically healthy dogs with a strong odor had increased numbers of *Malassezia* and staphylococci.

In addition, allergic dogs have increased *Staphylococcus* and

Corynebacterium numbers compared with healthy controls, and the increases correlate with disease severity. Research studies conducted in 2010 demonstrated that oral probiotic therapy can prevent and improve canine atopic dermatitis clinical signs. A 2021 study published in *Veterinary Dermatology* concluded that Nextmune's Linkskin Spray produced a significant and rapid decrease in canine atopic dermatitis clinical signs.

Linkskin Spray is a solution that supports the skin barrier in dogs and cats by restoring the skin

microbiome balance and improving skin homeostasis. Active ingredients include tyndallised lactobacilli (i.e., *Lactobacillus rhamnosus* and *Lactobacillus reuteri*), algal extracts, tamarind extract and vegetable polyphenols.

■ Tyndallised lactobacilli —

Tyndallization is primarily used to sterilize food from heat-resistant endospores and bacteria. The process involves heating the solution to boiling point for 15 minutes for three consecutive days, which allows minimal bacterial wall degradation and minimal alterations in the bacterial immunological properties, and ensures stability and efficacy in an aqueous solution.

■ **Algal extracts** — Algal extracts provide nutrients to support diversity and balance in the skin microbiota.

■ **Tamarind extract and vegetable polyphenols** — These substances provide antioxidant properties to normalize the skin microenvironment and prevent skin irritation and pruritus.

The following case example illustrates application of Linkskin Spray in a canine patient.

PRESENTATION

Ade, a 9-year-old Boston terrier, had a history of severe allergies,



FIGURE 1. A 3-month old mixed-breed dog presented with multifocal erythematous and itchy areas of probable allergic origin (**BEFORE**), with improvement shown after Linkskin spray and tablets were provided for eight days (**AFTER**).

including a cutaneous food allergy and nonseasonal atopy.

He was previously treated with immunotherapy and cytopoint injections, which improved his clinical signs by about 70%. However, he experienced recurrent skin fold infections, especially in the neck and armpit areas, and flares about every month. Disinfectants caused topical reactions.

TREATMENT

The author, a board-certified dermatologist, elected to use Linkskin spray based on positive results with similar cases.

The spray was applied aggressively on Ade twice daily. On the haired areas, the client helped by lifting the hair, gently moistening the area and leaving the skin to dry naturally. Treatment progressed as follows:

- **Three weeks** — After three weeks of treatment, Ade's owner reported dramatic improvement, with much less pruritus. At his dermatological recheck, he had minimal cocci bacteria or staph, which was in stark contrast to his usual cytology results that had typically revealed a bacterial overgrowth, despite no active pyoderma. He exhibited some lichenification and hyperpigmentation from chronic inflammation, but his hair was regrowing and his skin was no longer actinic. His skin was mostly normal and no longer dry and scaly.
- **Six weeks** — Ade continued to do well on the Linkskin spray, and after six weeks, his dermatologist discontinued the full-body therapy. She



FIGURE 2. Linkskin spray for topical use in dogs and cats

recommended twice-weekly applications to the problematic skin folds on Ade's neck and armpit areas.

- **14 months** — Ade has had no infection recurrence in 14 months, and his owner continues to treat his skin folds twice weekly with Linkskin spray.

DISCUSSION

Linkskin spray can be used to treat dermatologic conditions in dogs and cats, and is especially helpful to treat recurrent pyoderma and skin fold infections. Linkskin spray can be applied to a cotton ball and gently administered in the patient's

skin folds with the goal of reestablishing normal flora. The product is also useful in elderly pets that are less mobile and prone to skin infections. In the author's experience, cytology performed on dogs and cats after treatment with Linkskin spray demonstrates less harmful bacteria and yeast, which helps to maintain normal skin flora. Linkskin is most effective in pyoderma cases when used all over the patient's body, rather than treating only active lesions. Treatment typically starts twice a day for four to six weeks, and then reduces in frequency to maintenance therapy two to three times a week.

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Dr. Trimmer graduated with honors from the Purdue University College of Veterinary Medicine and went on to open Animal Allergy & Dermatology Specialists of Las Vegas in 2006. Her special interests include feline allergies and asthma, autoimmune diseases and the management of chronic skin disease.