



ATOPIC ECZEMA/DERMATITIS

## PREBIOTIC AND PROBIOTIC EFFECTS OF THERMAL SPRING WATER IN ATOPIC DERMATITIS

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**Introduction:** Thermal spring water from La Roche-Posay, France (LRP-TSW) has been used for centuries in treating inflammatory skin disorders like atopic dermatitis (AD). The water drawn directly from the spring is comprised of specific minerals and non-pathogenic microbes. Selenium (Se) and strontium (Sr) in the water are thought to provide prebiotic benefits. Probiotic benefits come from a very low bacterial concentration, with high bacterial diversity, a majority of which are Gram-negative bacteria. The LRP-TSW Thermal Center in the center of France is staffed by 8 dermatologists, treating >8,000 patients per year with TSW therapeutic local or general baths, filiform shower, local or general sprays, drinking cure, known as balneotherapy. The same water is filtered to remove the probiotics microbes, leaving behind the prebiotic minerals, and is used to formulate therapeutic skin care products.

**Results:** LRP-TSW balneotherapy in atopic dermatitis induced a reduction of Firmicutes organisms (mainly Staphylococci) and an increase in Xanthomonas bacteria associated with a significant decrease in mean SCORAD, EASI and DLQI. LRP-TSW skincare in healthy skin induced a significant increase in Xanthomonas correlated with increased skin hydration.

**Conclusion:** Topical application of LRP-TSW used as balneotherapy and in skincare can help restore healthy diversity of the skin microbiome and improve clinical signs and quality of life in patients with AD.

