

HEALx Soother® Products and Pain Relief

Most pain relievers distract from the pain with ingredients that produce hot or cold sensations. **Soother® Spray, Soother® Ointment** and **Soother Plus®** work differently. Soother® contains quaternary ammonium compounds, which have a neutralizing effect on pain signals and reduce inflammation and swelling—within minutes.



How They Work

Quaternary amines are made in the body as proteins. When these agents are synthesized and used topically, they are excellent pain relievers. According to Dr. Julian Whitaker, "Healthy cells maintain an electrical balance with a positive charge outside the cell and a negative charge inside the cell. When you are injured the cellular membranes are disrupted and their electrical balance is thrown askew. What these quaternary amines do (and interestingly, this is the same principle that narcotic and injectable pain medications work on) is reestablish the electrical balance in the cell membranes, thus dulling the pain perception."

Clinical Pharmacology

Mechanism of Action: The active ingredient develops ions with a positive potential which, due to the hydrophilic tendencies of the emulsion, are readily transmitted through the skin. This is believed to assist the body in neutralizing the bio-electrical imbalances in an area of pain, thereby reducing pain signals.

Duration of Action: Duration of pain relief will vary as a function of pathology, but relief starts in minutes and lasts up to hours for many indications.

Drug Interactions & Pharmacodynamic Effects: There are no known significant systemic interactions or adverse effects. Soother® products should not be used with other topical or occlusive lotions, which might block effects. Do not use Soother® products in or around the eyes.

The Difference Between the Quaternary Ammonium Compound in Soother® and Disinfectants

Quaternary ammonium is composed of a large group of substances that vary in their toxicity based on the bonds in the individual compound. Ammonium compounds found in Soother® are from the quad 18 and 28 groups, which are commonly found in human skin and hair products designed to touch the skin. Although ingestion of these compounds should be limited, ingestion at the concentrations found in the Soother® products would be similar to ingesting a small amount of soap. The response to inadvertent ingestion during topical application may vary among individual animals or species, but no adverse effects have been seen in clinical trials.

Disinfectants and cleaners are not in the 18/28 group and have higher levels of toxicity based on the individual compounds used. (Some disinfectants and cleaners are a third-generation quaternary ammonium that has been combined with bis-n-tributyltin oxide for strong bacterial-, fungal- and viral-killing power.) The Soother® products do not contain ammonium products in any of these groups. In addition, the above concentrations are much higher than the 18/28 compounds found in Soother®, which are less than 2.5% total.

REFERENCES AND ADDITIONAL READING

Hadley HW, Fischer LA, Whitaker J: A topically applied quaternary ammonium compound exhibits analgesic effects for orthopedic pain. *Altern Med Rev.* 1998 Oct;3(5):361-6.

Simsek R, Chang-Fong J, Lee M, et al: Quaternary ammonium 3-(aminoethoxy) pyridines as antinociceptive agents. *Bioorg Med Chem Lett.* 2003 Sep 1;13(17):2917-20.

Zhai H, Packman EW, Maibach HI: Effectiveness of ammonium solution in relieving type I mosquito bite symptoms: a double-blind, placebo-controlled study. *Acta Derm Venereol.* 1998 Jul;78(4):297-8.

Evangelista S: Quaternary ammonium derivatives as spasmolytics for irritable bowel syndrome. *Curr Pharm Des.* 2004;10(28):3561-8.

Whitaker J: Dr. Julian Whitaker's Guide to Reversing Arthritis, Chap 5 - Pain Relief.

For further information and veterinary pricing, contact your distributor or:

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