to eight inches from the skin. The spray is stopped when a white film appears on the skin.”

In my experience, the use of a coarse spray allows too much spray to contact the skin too rapidly. This does not allow the person to relax and often can set off spasm in the surrounding muscle tissue. The fine ethyl chloride spray is a little more gentle but is not the treatment of choice. A product called Fluormethane® is a nonflammable vapo-coolant that is non-toxic to the skin and comes with a calibrated nozzle. Fluromethane® is slightly less cooling than ethyl chloride spray and is produced by the same manufacturers of ethyl chloride. Cooling of muscles tends to aggravate myofascial trigger points and can result in deleterious changes. Dr. Travell advocates the use of a light application of Fluormethane® over the skin without cooling the muscles, combined with simultaneous muscle stretching. This noninvasive method influences trigger points by neurogenic reflex effects from the skin. Her technique of spray and stretch specifically avoids frosting the skin and cooling the muscles, as espoused by Dr. Kraus; instead she only cools the skin. Therefore, there are two different viewpoints in treating myofascial problems that need our consideration.

Even Fluormethane® spray can cause frosting of the skin if continued over the skin long enough. To only cover the skin once or twice while stretching does not present any problem. If more cooling of the muscles is desired to stop pain, I would suggest using ice massage which is safer. Frosting the skin is dangerous and can cause frostbite and ulcers.

Therapists should proceed with caution if they persist in using ethyl chloride; my plea is to discontinue the use of ethyl chloride spray and to use Fluormethane® spray, following the equally or more effective technique espoused by Dr. Janet Travell.

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REFERENCES

The Author Responds:

In his letter, Mr. Nielsen espouses the virtues of Fluormethane® over ethyl chloride. He also prefers the explanation offered by Dr. Travell on the effects of vapor coolants upon muscle relaxation.

The use of ethyl chloride is only one aspect in the treatment program described in the article. The purpose of the article was not to dwell on the rival merits of the various approaches to muscle relaxation offered by Drs. Travell and Kraus. You will notice that ice massage and ice packs were also used as an alternative to ethyl chloride spray.

The treatment program described in the article has been used successfully for years in the Department of Rehabilitation Medicine of the New York Hospital–Cornell Medical Center, without incident of frostbite or ulceration. The use of the coarse spray nozzle enables the therapist to achieve a white frosty layer within a short time, compared to a fine spray nozzle which would require a longer spray time to achieve the same results. Of course, the patient’s mouth and nose should be protected from inhaling the ethyl chloride spray. The therapist and patient are also well informed of the flammability of ethyl chloride spray and of the necessary precautions. Furthermore, the precautions are listed in the package insert.

As with so many pharmacological products, the selection of a therapeutic agent is determined by personal preference, familiarity, and the technique used. Fluormethane® can be used with the same efficiency as ethyl chloride within the outlined treatment program for “Tennis Elbow.”

Thank you for your interest in the article.

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Erratum

The authors of “Procedures for EMG Biofeedback Training in Involved Upper Extremities of Hemiplegic Patients” (Phys Ther 59: 1500–1507, 1979) report that reference #15 should cite Physiotherapy (London) instead of Physiotherapy Canada.