

sis develops . . . bronchoscopic aspiration of a mucous plug should be attempted." 4 References.

J. C. M. C.

KRAUS, HANS: *The Use of Surface Anesthesia in the Treatment of Painful Motion*. J. A. M. A. **116**: 2582-2583 (June 7) 1941.

"This paper describes a method of treatment for impaired function when pain is the factor responsible for the loss of motion or power. The treatment is the application of a surface anesthetic (ethyl chloride spray) combined with active motion. . . . At first only sprains were treated; later, acute muscular spasms due to conditions such as lumbago and acute bursitis of the shoulder as well as muscular spasm accompanying various chronic conditions, such as sciatica, low back pain and pain recurring after old injuries. The use of active motion is an essential part of the treatment. . . . The painful region must be determined through active motion. The direction in which the motion is impaired is first determined. Then ethyl chloride is sprayed on this area of skin. The patient then starts careful active motion of the part involved, in the direction in which the motion has been painful and limited. As the patient carefully increases the movement, new painful areas—which up to this point have been hidden through blocked motion—will develop. Those areas again have to be sprayed and active motion continued. These treatments last from ten to thirty minutes and should be performed carefully and well within the limits of pain. Immediately after the treatment, camphor liniment should be applied to the skin, to avoid frostbite. . . .

"While a single treatment will be sufficient in cases of minor involvement, patients with more severe involvement will have to be treated several times: the first week, daily—

later, every other day. An effective treatment, however, should not call for the anesthetic after the second week, whereas active motion will have to continue until normal muscular power is restored. Immobilization after treatment is contrary to the basic principle and should, therefore, never be combined with it. . . . Normal anatomy must be present if this treatment is to be used effectively. . . . I have no explanation to offer as to how this deep effect of surface anesthesia works. It seems to be a fact, but the underlying physiologic explanation presents an interesting field for exploration. It must be definitely understood that in no case will the ethyl chloride alone, without active motion, achieve good results." 5 References.

J. C. M. C.

LEMMON, W. T., AND PASCHAL, G. W., JR.: *Continuous Spinal Anesthesia with Observations on the First 500 Cases*. Pennsylvania M. J. **44**: 975-981 (May) 1941.

"We gave the first continuous spinal anesthesia to a patient on Apr. 10, 1939. Since that date we have administered more than 500 spinal anesthetics by this method. . . . In continuous spinal anesthesia we employ a short-acting agent, procaine hydrochloride (novocain), which is injected in fractional doses as needed during operation. The patient is placed on a specially designed mattress, and a very flexible, German silver, lumbar puncture needle remains in place in the subarachnoid space. This needle is connected into a syringe by means of a 30-inch piece of rubber tubing which is provided with Luer-lok connections at either end. . . .

"Three grains of nembatal is given the evening before operation, thus insuring the patient a good night's sleep. Three hours before operation, 3 grains of nembatal is administered by mouth.