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## FROSTBITTEN EARS

J. PETER JOHNSTON, M.D.

*To the editor:* On the evening of January 23, 1963, the temperature in Detroit dropped to  $-11^{\circ}\text{F}$ . and wind velocity averaged 17 mph with gusts to 30 mph. During the next 24 hours, 31 patients with frostbitten ears were seen in the Emergency Division. Three had involvement of the fingers. All presented themselves 6-12 hours after injury. In most cases the person was frostbitten while walking to his car about 11:00 p.m. following the afternoon work shift. Swollen and painful ears had first been noted on arising the following morning. About one-half of the patients were exposed for 30 minutes or less and three for only 15 minutes. Type and duration of exposure are known to be significant factors in determining the severity of frostbite. Washburn (*New Eng. J. Med.* 266:974, 1962) noted that the chilling effect of  $20^{\circ}\text{F}$ . with wind velocity of 45 mph is equal to  $-40^{\circ}\text{F}$ . with wind velocity of 2 mph.

The frost bitten areas were treated as a burn and gently washed with pHisoHex. The dressing consisted of a single layer of rayon dipped in glycerine and covered with a bulky occlusive dressing. The use of antibiotics and tetanus prophylaxis was encouraged; however, the physician, depending upon the severity of tissue damage, used his own judgement. Twenty patients received tetanus immunization. Oral penicillin was given to 11 patients in a dosage of 250 mg. t.i.d. or q.i.d. for 3 to 5 days.

Twenty-five patients returned for follow-up. No infections occurred. The second degree frostbite injuries healed in 7-13 days, with an average of 9 days. An observation regarding the use of prophylactic antibiotics in such cases can be made from this series. An analysis of the patients revealed a relatively even distribution in severity of the injury. Eleven patients had a course of penicillin as described above and 14 did not. No infection was noted in either group and all patients were followed until healing occurred.

I wish to acknowledge the assistance of the Emergency Division and the Department of Plastic Surgery in the care and follow-up of these patients.

