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Evaluation of sympathetic control of digital blood flow

A noninvasive strain-gauge method of measuring blood flow in the digit was used to assess the influence of the sympathetic system in the digit. The sympathetic system was stimulated by the sudden application of ice to the neck, thus avoiding in the hand local reflexes and responses to cold. Seventeen normal subjects responded in similar fashion. Maximum flow reduction ranged from 26% to 92%, with a mean of 61%. This method should be useful diagnostically and for research when sympathetic reactivity, in contrast to basal sympathetic tone, needs to be determined. (J HAND SURG 1993;18A:634-8.)

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Received for publication Aug. 15, 1992; accepted in revised form Feb. 5, 1993.

No benefits in any form have been received or will be received from a commercial party related directly or indirectly to the subject of this article.

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The ability to test the status and integrity of the sympathetic innervation to the hand would be useful in certain clinical diagnostic and research situations. The involvement of the sympathetic system in vasospastic disorders, for instance, is usually assessed by means of a local nerve or perivascular blockade. Vasodilation and increased blood flow are considered indicative of the amount of sympathetic tone. If a previously vasospastic condition is alleviated, this suggests that a digital sympathectomy may have a successful