PHYSIOLOGY

# Pins-And-Needles Feeling

➤ WHEN YOU FEEL "pins and needles" such as a foot or arm "going to sleep" after the blood supply to a nerve has been stopped and then restored, the number of pricks you feel and their intensity depend on the length of nerve recovering from the depressed blood supply.

Evidence for this view, which is contrary to those held by some other scientists, is reported by Dr. G. Gordon of Oxford University to the scientific journal, NATURE (Nov. 6).

The pins-and-needles sensation can be brought on by binding a cuff tightly around the arm, as a doctor does in taking blood pressure readings, and then releasing the cuff. Some scientists have thought the region of the nerve lying under the cuff was responsible for the sensation. Others held it was due to stimulation of a proportion of the outer nerve endings in the area in which the sensation is felt.

Dr. Gordon in his experiments produced the pins-and-needles sensation by putting a blood pressure cuff around the arm just above the elbow, thus cutting off the blood supply to the forearm and hand for 12 minutes, and then releasing the cuff. But when he blocked the nerve at the elbow, just below the cuff, by injecting the anesthetic procaine, the pins-and-needles sensation was not felt at all. This, he says, must mean that the four- or five-inch stretch of nerve lying under the cuff cannot be the place where all or even a majority of the pins and needles feelings start.

When the chemical block is applied to the ulnar nerve branches in the hand, so that the skin is numb to the feel of a real pin prick, the pins-and-needles pricks are fewer and less intense but still felt. This, Dr. Gordon points out, argues against the idea that the pins-and-needles feeling is due to stimulation of a proportion of the outer nerve endings, because the sensation is felt even when these nerves are blocked.

Blocking the nerve midway between the hand and the elbow causes the pins and needles to be far less intense than with a block in the hand.

From his experiments Dr. Gordon concludes that no part of a nerve is particularly concerned in generating the impulses that give rise to this form of pins and needles. The fact that the intensity and number of pricks are apparently due to the length of nerve recovering from lack of blood probably explains why the pricking of pins and needles is less intense when produced by a cuff at the wrist and very feeble indeed with a cuff around a finger.

Science News Letter, December 11, 1948

ENGINEERING-AERONAUTICS

## Fuel Can Flow Steadily to All Engines in Plane Now

➤ FUEL will flow continuously and automatically from all tanks to all engines in a new flow system developed at Wright-Patterson Air Force base in Dayton, Ohio. The same system permits the refueling of all tanks on a plane from a single tank-truck.

It is an important life-saving and time-saving development. Many planes have crashed because existing fuel systems require pilots to switch tanks manually when the one being used is emptied. In this new system, fuel flows from all tanks to all engines without any action on the part of the crew. The fuel flows automatically by a system of pumps and valves until all tanks are empty.

The re-fueling feature of the new system is also important. The famous B-29, for example, has 29 fuel tanks with 11 servicing points. Using conventional methods, it takes 13 men with four trucks 45 minutes to refuel this bomber. With the new system it can be refueled by one man and one truck in 30 minutes. The operation is safe because there is no chance of gasoline spillage, and the job can be done with the engines running if desired. Capt. David Samiran is responsible for its development.

Science News Letter, December 11, 1948

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## SCIENCE NEWS LETTER

Vol. 54 DECEMBER 11, 1948 No. 24

54,400 copies of this issue printed

**The Weekly Summary of Current Science, published every Saturday by SCIENCE SERVICE, Inc., 1719 N St., N. W., Washington 6, D. C., NOrth 2255. Edited by WATSON DAVIS.**

**Subscription rates:** 1 yr., $5.50; 2 yrs., $10.00; 3 yrs., $14.50; single copy, 15 cents, more than six months old, 25 cents. No charge for foreign postage.

**Change of address:** Three weeks notice is required. When ordering a change, please state exactly how magazine is now addressed. Your new address should include postal zone number if you have one.





Printed in U. S. A. Entered as second class matter at the post office at Washington, D. C. under the act of March 3, 1879. Established in mimeographed form March 18, 1922. Title registered as trademark, U. S. and Canadian Patent Offices. Indexed in Readers' Guide to periodical Literature, Abridged Guide, and the Engineering Index.

Member Audit Bureau of Circulation. Advertising Representatives: Howland and Howland, Inc., 393 7th Ave., N.Y.C., PEnnsylvania 6-5566 and 360 N. Michigan Ave., Chicago, STAte 4439.