

and the fact that the prescription sheets virtually never leave the ward while they are in use. In arranging these improvements the pharmacist has maintained his supervision of the safety of drug usage. The system has evolved over a period of 18 months, through meetings between medical, nursing, and pharmacy staff, and it has been decided to extend the system to all the wards in the two major hospitals.

All change requires co-operative effort, and it is a pleasure to record our gratitude for help received from all quarters.

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NEW APPLIANCES

Punch for Biopsy Examination of Nerve Endings in Skin

Dr. ALAN RIDLEY, senior registrar, Neurological Unit, University College Hospital, London W.C.1, writes: Examination of cutaneous nerve endings obtained by skin biopsy offers a simple means of investigating peripheral nerve disorders. Punch biopsy of digital glabrous skin can be performed as an outpatient procedure with little distress to the patient and may yield useful information. Dickens, Winkelmann, and Mulder (1963) found the cholinesterase reaction of Meissner corpuscles to be of diagnostic value in peripheral neuropathy, and Ridley (1968) showed that silver staining of cutaneous endings could distinguish neuropathies due to the "dying-back" process (Cavanagh, 1964) from those caused by segmental demyelination. In both studies a 3-mm. skin biopsy specimen was taken from the lateral volar aspect of the terminal phalanx of the finger or toe. This site was chosen because Meissner corpuscles, which are the endings most easily counted, are numerous in this region.

The punch I used was manufactured by Southern Syringe Services Ltd.,* from specifications submitted by Mr. R. J. Horne, curator of instruments at the National Hospital for Nervous Diseases, Queen Square. It consisted of an 8-cm.-long stainless steel cylinder of 4 mm. external diameter and 3 mm. internal diameter, with a cutting edge at one end. The cutting edge was bevelled externally to prevent buckling against the hard outer layer of the skin. When not in use the cutting edge was protected by a brass stylet (Fig. 1). Biopsy specimens were taken in the following manner. After cleansing, the site was infiltrated with local anaesthetic, and the punch, held between the operator's thumb and index finger, was placed on the

skin with the cutting edge perpendicular to the surface. Firm pressure was applied and the punch was given a quick twist through

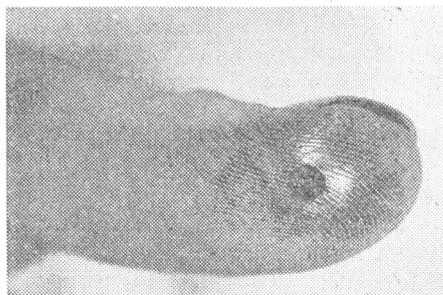


FIG. 2.—Wound immediately after taking biopsy specimen.

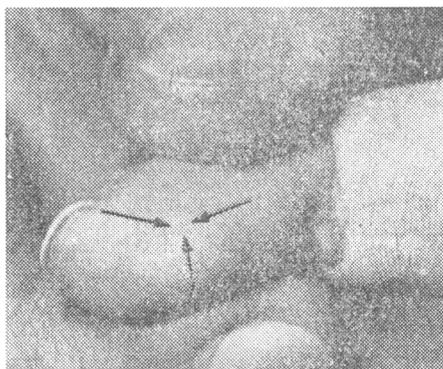


FIG. 3.—Healed scar three months after biopsy. The site is indicated by arrows.

360 degrees, thereby freeing a cone-shaped biopsy specimen the apex of which consisted of dermal tissue. The specimen was snipped free with fine scissors and a dry dressing applied. A suture was not needed and heal-

ing occurred in 7 to 10 days, leaving a barely perceptible scar (Figs. 2 and 3).

Biopsy specimens obtained in this way were usually satisfactory, but their small size and conical shape meant that very little dermis, which contains a rich plexus of somatic and autonomic nerves, was available for examination. It was subsequently found that by sharpening the other end of the needle with an internal bevel (Fig. 4), larger, less

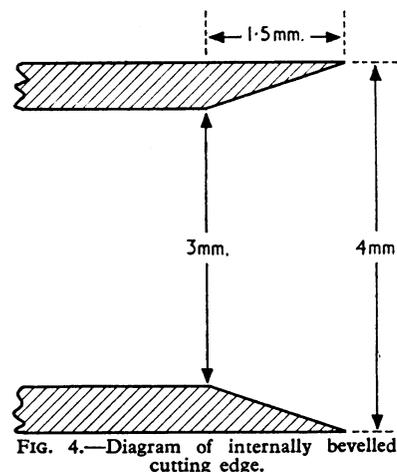


FIG. 4.—Diagram of internally bevelled cutting edge.

conical specimens containing more dermis could be obtained, and healing still occurred satisfactorily without suturing. The internally bevelled cutting edge is protected by the screw cap of the stylet. The modified punch can be used in two ways: when only Meissner corpuscles are required the cutting edge with the external bevel is used; if dermal nerves are also to be studied the other end of the punch is used.

It is hoped that the punch described will prove useful to workers interested in exploring the field of cutaneous nerve biopsy.

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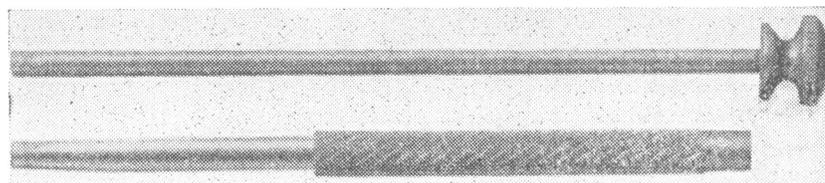


FIG. 1.—Bottom: Dermal punch with serrated barrel for gripping. Top: The stylet.