A NEW PRECISION ESTHESIOMETER *

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I have frequently observed that the usual test for sensations in organic or functional nervous diseases is not very reliable. Sometimes the results obtained by one man are diametrically opposite to those obtained by another man, and not infrequently it happens that the results obtained at one examination are different from those obtained at another. The reason appeared to me to lie in the degree of pressure exercised by each examiner while applying the end of a needle or esthesiometer to the patient's skin. For example, in examining two symmetrical limbs for touch and pain, it is difficult to retain in memory the exact amount of pressure produced on the skin of one limb while the needle is carried to the other limb. A slight or marked difference may happen, and inferences are drawn as to a loss or diminished sensation, and consequently errors of diagnosis are easily made.

Particularly when a necessity arises in a very delicate discrimination of pain sense, the needle or the sharp

Perspective and sectional views of the esthesiometer.

end of the ordinary esthesiometer can not serve its purpose.

It occurred to me that when the sharp end of the needle could be applied to the skin always with the same degree of pressure the results would be uniform. With this end in view I devised the instrument here described.

One leg of an ordinary esthesiometer is represented by a cylinder in which is placed a spring reaching about half-way of the cylinder. The spring is continued by a solid body (plunger), to the lower end of which a needle is attached. A micrometer screw surrounds the lower part of the plunger with the needle. By pressure on the plunger head the needle is lowered and protrudes from the cylinder. When the latter is done, the micrometer screw is placed by rotatory movements at the desired distance so that only a certain length of the needle projects. The exact position of the micrometer is then indicated by division lines immediately above. In this manner, no matter how much pressure is brought

on the plunger head, the same amount of needle will protrude and the same amount of pressure will be produced with the latter on the skin.

The instrument is light in weight, small and convenient for carrying in the vest pocket.

A STRANGE CASE OF NASAL OBSTRUCTION

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On June 22, 1908, a patient was referred to me for diagnosis and treatment.

History.—Girl, aged 9, of American birth and Italian parentage. Her general mental and physical development and family history were good. She had had the usual diseases of childhood, including diphtheria at the age of 4, for which antitoxin was successfully used. A year later she was examined by a specialist on diseases of the nose and throat in New York City, and was successfully operated on for adenoids. The parents were then informed that there were other troubles, the nature of which they did not understand, which might be corrected when the child was older. From early infancy she had had a mucous discharge from the nose, which after the adenoidectomy, continued from the right side only.

Examination.—External examination revealed the right nostril blocked with thick, ropy mucous over the discharge of which she had no control, but there was no evidence of pus or other inflammatory waste products. On irrigation of the nasal cavity no fluids passed into the pharynx on the right side and air inflation was equally unsuccessful in forcing an opening to the pharynx. The left side was normal. By digital post-nasal examination a smooth, well-developed, bony wall of the consistency of and continuous with the nasal septum attached to the posterior border of the inner margin of the palate bone was found. This extended across and was united to the descending wing of the sphenoid on a plane with it and the posterior margin of the vomer, thus forming a firm wall perfectly closing that side of the nose. The secretion from all the accessory sinuses developed at her age, including maxillary, ethmoid and sphenoid, had their openings in front of this anomalous partition. The nostril was otherwise normally developed and as the condition was considered congenital rather than acquired, we advised operation to restore the organ to normal function and to relieve the distressing nasal discharges.

Operation.—This was accomplished, through the nose, by the aid of a long handled nasal drill, a small, straight stiff-bladed nasal saw, and a Freer, angular bone-cutting nasal forceps. Using the left forefinger in the posterior nares as a guide, and with the assistance of the anesthetist and my regular office assistant, the operation was accomplished in twenty minutes. Ether was the anesthetic used. The greatest care was exercised to leave no rough bony projections or ragged surfaces about the margins of the opening made and that every particle of the false partition wall was removed. Two sections of soft rubber catheter, one above the other, were introduced into the nose, freely perforated for drainage along their entire length and extending well into the pharynx. To these were attached two heavy braided silk ligatures connecting each end of the tubes through the mouth. Over the bridge of the nose and well onto the cheeks was applied a 5/8-inch strip of adhesive plaster to a buttonhole slit in which the projecting ends of the drainage tubes were anchored by ligature for further security.

After-Treatment.—Alkaline nasal irrigations, principally weak normal salt and Dobell's solutions were used daily for three weeks when the tubes were loose and the wound in the nose healed.

Result.—The result is all that could be desired, as no difference in the caliber of the two sides can now be detected and all the former unpleasant symptoms are abated.

The case seemed sufficiently rare in the literature at my command to justify this report.

* Instrument exhibited before the Philadelphia Neurological Society, January, 1909.