

OUR PRIZE COMPETITION.

DESCRIBE THE STRUCTURES AND FUNCTIONS OF THE NOSE, AND WHAT YOU KNOW OF EPISTAXIS.

We have pleasure in awarding the prize this week to Miss E. A. Noblett, London Homœopathic Hospital, W.C.1.

PRIZE PAPER.

Structure.—The nose consists of two parts: an outer, the external nose, which projects from the centre of the face; and an internal, the nasal cavity, which is divided by a septum into the right and left nasal chambers.

The external nose is pyramidal in form, and its upper angle or root is connected directly with the forehead; its free angle is termed the apex. Its base is perforated by two elliptical orifices—the nares—separated from each other by an antero-posterior septum—the columna. The lateral surfaces of the nose form by their union in the middle line the dorsum nasi; the upper part of the dorsum is supported by the nasal bones and is termed the bridge, the lateral surface ends below in a rounded eminence—the alæ nasi.

The framework of the external nose is composed of bones and cartilages; it is covered by the integument and lined by mucous membrane. The bony framework occupies the upper part of the organ; it consists of the nasal bones, the frontal processes of the maxillæ, and the nasal parts of the frontal bone. The cartilaginous framework consists of five large pieces, viz., the cartilage of the septum, the two lateral and the two greater alar cartilages, and several smaller pieces—the lesser alar cartilages. The various cartilages are connected to each other by a tough fibrous membrane.

The nasal cavities are situated one on either side of the median plane. They open in front through the nares, and communicate behind through the choanæ with the nasal part of the pharynx. The nares are somewhat pear-shaped apertures. The nasal cavities communicate with the frontal, ethmoidal, sphenoidal and maxillary sinuses. Each cavity has a roof, a floor, a medial and a lateral wall. Inside the aperture of the nostril is a slight dilatation, the vestibule, which is lined by skin, and in its lower part are hairs and sebaceous glands.

Functions.—The main function of the nose is to relieve other parts of the respiratory tract of the necessity of warming and moistening the inspired air before it reaches the pulmonary alveoli. A man who breathes through a healthy nose is entirely indifferent to the severest

extremes of heat and cold, dryness and humidity. Not only is inspired air which passes through the nose warm and moist, but it is clean as well, so the nose is a protective organ which relieves the lungs of all sources of danger. The hairs, situated in the lower part of the vestibule, curve downwards and forwards, and arrest the passage of foreign substances carried with the current of inspired air. The sebaceous glands secrete so rapidly that by the time the inspired air reaches the pharynx it is absolutely saturated with moisture and raised very nearly to the body temperature. The blood circulation is so active that in the interval between two respirations the loss of heat from evaporation is made good.

The olfactory region is situated above and behind the vestibule; this is the smelling area.

Epistaxis.—Bleeding from the nose occurs under many conditions, both local and general. It is especially prevalent between ten and twenty-five years of age, possibly owing to delicacy of the vessels, and also in elderly people whose vessels are degenerate. Among local causes are blows, picking of the nose, violent sneezing, fracture of the base of the skull, and catarrhal, strumous, and syphilitic lesions. The general causes include hæmorrhagic diseases, such as hæmophilia, puerpera and scurvy; the anæmias; cirrhosis of the liver; and certain infectious diseases such as enteric. Epistaxis is common at puberty. In elderly and plethoric persons it may be explained by the existence of high tension, and its occurrence may be followed by relief of headache, giddiness, and other premonitory symptoms of apoplexy.

HONOURABLE MENTION.

The following competitors receive honourable mention:—Miss P. Thomson, Miss James, Miss T. Roberts, Miss M. Sinclair.

Miss Thomson writes: "A well-known authority is of opinion that the erosion, or venous rupture, which causes epistaxis is almost invariably situated upon the anterior portion of the septum, and can be reached by a speculum and good light, when the galvano, or other cautery, may be brought to bear upon it with definite results, or a small anterior plug may be inserted. Every surgeon will agree that posterior plugging is never necessary except in rare cases of post-nasal hæmorrhage. When it is employed it is carried out by means of a Belloc's sound."

QUESTION FOR NEXT WEEK.

Describe the spinal column and the treatment of fractured spine.

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