

## The Nursing of Children's Diseases.

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(Continued from page 163.)

### LECTURE X.

#### THE NERVOUS SYSTEM.

The nervous system is contained in the skull and the spinal column; it consists of the brain, the spinal cord and the peripheral nerves which come off from the brain to supply motion and various kinds of sensation to the face, mouth, nose, tongue, etc., and from the cord to supply motion and sensation to the body and limbs. The nervous substance consists of grey matter chiefly consisting of nerve cells, and white matter chiefly composed of nerve fibres, which conduct impressions to and from the grey matter, which is the place where these impressions are received and where fresh impressions may be originated and travel down motor nerves to muscles or other parts, and cause various movements, etc.

The grey matter is chiefly on the surface or cortex of the brain, and is thrown into various folds called convolutions; there are also collections of grey matter at the base of the brain called basal ganglia, and in the cord the grey matter is continued downwards in the central part of it, being surrounded by white matter.

The functions of the brain are all localized in the grey matter of the cerebral cortex, the part presiding over movement being in the middle part of its lateral aspect, other parts presiding over common or special sensibility.

The brain within the cranium is divided into the large brain or cerebrum, and the little brain or cerebellum, and these are joined to the cord by means of the pons and medulla, which contain likewise both grey and white matter. The brain is divided into two halves, each of which is connected with the opposite part of the body, so that if there be convulsions or paralysis of one side of the body the disease producing it will be in the opposite side of the brain, and again any movement is first originated in one side of the brain and travels down through the pons and medulla, then along the spinal cord and peripheral nerves to the opposite side of the body, upon which it acts, producing a muscular movement. Sensation travels in the opposite direction, starting from the skin or some organ of the body, it is conducted along

the nerves to the cord, medulla, and pons to the opposite side of the brain, which receives it, and it is then perceived by the individual. If there be any lesion destroying the conducting power of either of these paths, then there will be a paralysis of motion or sensation, according to which path is broken.

The brain in the adult exercises complete control over the entire nervous system, but this control is less marked in the infant and young child, while the cord has proportionally more influence, and is more excitable, hence spasms and convulsions are more easily provoked by comparatively slight causes.

*Infantile Convulsions* or fits.—The undeveloped state of the brain in infancy, and its consequent imperfect control of the rest of the nervous system, predisposes to the occurrence of fits in young children, and so they are more easily provoked by slight causes than in later years, and this predisposition is most evident in delicate children, especially in those which have a marked inherited neurotic tendency; it is also strongly predisposed to by rickets, in which disease the nerve centres are in an unstable condition, and easily excited to discharge, with the result that fits occur.

The exciting causes of convulsions are chiefly reflex; that is to say, owing to some irritation of a part of the body, unaccustomed nervous impulses travel up the sensory nerves to the central nervous system, producing a disturbance which is manifested by a convulsion; one of the commonest causes is undigested curd of milk in the stomach or bowels, which, first giving rise to acute pain locally, provokes, by its reflex disturbance of the nervous system, convulsions.

Another cause of infantile convulsions is dentition, but it must be thoroughly understood that a child otherwise healthy never has convulsions during teething, and some other cause of depression of health must always be looked for.

Bronchitis or inflammation of the lungs may also be an exciting cause, and at the commencement of a fever convulsions may occur, and are said to take the place of shivering, or a rigor, which would usher in the illness in an adult.

Certain brain or other nervous diseases may be attended by convulsions, for instance, they are common in meningitis or hæmorrhage into the brain, and occur occasionally at the onset of infantile paralysis.

(To be continued.)

[previous page](#)

[next page](#)