

strictly observed, since it checks the overexpenditure of nerve force by conducing to repose and sleep. The brain being sensitive, exhausted, and easily fatigued, absolute rest is as much needed for its recovery as it is for a broken limb or a dislocated joint. This simple precaution is seldom sufficiently insisted upon until it is too late. Strong light, noises in the room, and the presence of anxious friends tend to excite these young patients. Through the medium of the nervous system the circulation becomes disturbed. Physiological rest tranquillizes the circulation, allays excitement, and favors recovery.

If the head is hot (and this belongs to the *congestive* rather than to the irritative class) a cold lotion or ice-water rags may be applied to it. Cold continually applied to the head will often induce tranquillity and sleep, when bromide and chloral fail. Cold soothes the patient. If we dread the approach of meningitis, henbane, and even small doses of morphia in combination with hydrate of chloral, will prove of the utmost benefit in the early stages.

An aperient will generally be demanded. A grain of calomel, followed by a little syrup of senna, or by a few grains of sulphate of magnesia and nitrate of potash, will answer well if the strength is good and there is any heat of head. After this some bromide of potassium, with small doses of the iodide or hydrate of chloral, according to circumstances, should be given regularly. When the symptoms of cerebral congestion predominate the bowels can scarcely be kept too open, and if there be arterial tension aconite in combination with the bromide will tend to reduce it and calm the excited brain at the same time.

The feeding of these cases is important. It should be nourishing from the first, and in the absence of vomiting (which we have noticed in all the cases) milk and beef-tea are to be freely given. Food from the first, in a nourishing and readily assimilable form, should be given.

#### THE VALUE OF EXTERNAL APPLICATIONS IN THE TREATMENT OF CHILDREN—EFFECTS OF COLD WATER.

When one hand is immersed in cold water the temperature of the other hand also falls. Cold not only cools the surface of the body but affects markedly the condition of internal organs through the nervous system, especially in children.

Brown-Séquard has shown, by experiment, that cold applied to the lumbar region contracts the arterioles of the kidney, and consequently diminishes the blood supply to those organs. When cold water is applied to the surface of the body the *cutis anserina* immediately becomes manifest, the skin paler, the respiration is sobbing, and the pulse is becomes quickened. If the temperature be not too low the condition of reaction soon supervenes. The coldness is succeeded by a feeling of warmth, and

the depression by a feeling of exhilaration. The bath should not be continued too long for this *tonic* effect.

If the tonic effect is well shown the circulation is equalized and invigorated, tissue metamorphoses take place more rapidly; and with the increased tissue changes and activity of assimilation the appetite is increased and the body gains weight and strength.

The cold bath should have a temperature of from 40° to 70° F.

*Wet-Pack.* This is occasionally an efficient way of applying cold water. A large towel may be wrung out of cold water and wrapped about the little patient, and covered with a blanket. The sense of chilliness at first experienced is soon followed by an exhilarating glow.

When reaction is well established, the pack should be removed and the body vigorously rubbed with dry towels. Unless active diaphoresis be the object, the application of the wet pack should not continue more than fifteen minutes. If the little patient be enveloped with the wet sheet, standing and rubbed vigorously with the sheet, reaction will be more quickly induced.

When the pack is removed the patient should be vigorously rubbed with coarse towels.

*The douche* is where the water is poured from a height upon the patient. This means is rarely available in the treatment of children.

The external applications of cold water in the treatment of the diseases of children are many, and some of them very important,

In tonsillitis, diphtheria, and croup, the cold-pack applied to the neck will oftentimes give great relief. In laryngismus stridulus, the application of cold water in this way will sometimes quickly relieve the distress in breathing.

For spasm of the glottis, Morell Mackenzie recommends that while the child's body is placed in a warm bath, that cold water be dashed in the face.

In the first stage of laryngo-tracheal diphtheria, among other means, the same authority recommends that an ice-bag be applied to the throat.

One of the most important uses of cold water is in fevers, for its antipyretic effects.

Zeimssen's method, by placing the patient in a tepid bath, and gradually cooling the water, by the addition of ice, to the required temperature, which may be 60° F., or even 40° F., according to the height of the pyrexia and the rapidity of its descent, may be sometimes available in treating children. The bath may be used from one to six times a day, and continue each time until the temperature is brought down to the required limit.

In the treatment of children's diseases the wet-pack is, however, generally preferable, on account of the ease with which it is applied. The little patient may be put in the pack several times a day, and remain from five minutes to an hour. Hyperpyrexia often kills. The deplorable determination may sometimes be averted by the cold bath; and it