

temperature. Within the last two or three years, however, a marked tendency to return to the cold water treatment in some of its forms has been evinced. There are four or five principal methods of applying cold, viz., sponging, sprinkling, the application of packs wrung out of ice water, coils, the ice pack, and cold baths. Cold sponging has been perhaps more widely adopted in this country than any of the other forms, and has been found, in some instances, a very effectual method of reducing the temperature. In many cases, however, this method has but little effect. The temperature is either but slightly influenced, or if it falls a degree or so, it rises again rapidly. The application of the pack of cold ice cloths, or of ice itself, is a much more effectual measure. Both methods have been largely used in the Toronto General Hospital during the past four or five months. The rule has been, when the temperature rises above  $103^{\circ}$  to use first the ice water pack, and if that was not successful, the ice pack. They are applied to the lower part of the chest, extending over the whole abdomen. The ice packs are applied to the abdomen alone. In employing this method care should be taken to see that the pack does not remain on after the temperature had fallen below  $100^{\circ}$ . I have not in any case observed shock to the nervous system, or any other evil effect from the pack when used in this way. In using the ice, I have the nurse remove and reapply it every fifteen or twenty minutes, so as to allow the skin to react. There is one circumstance connected with the application of the ice pack which might be mentioned here, and which will explain the reason for its frequent removal. The integument immediately beneath the pack becomes very cold, the capillaries are contracted, and the blood does not circulate freely through the part, and, consequently, the cooled blood does not readily pass through the system. Of course, in the deeper parts of the abdomen the blood is more readily cooled. As will afterwards be shown, this disadvantage is done away with in the cold bath system by the vigorous rubbing of the surface of the body. We have also thought it necessary to avoid all wetting of the bed, which can only be done by the free use of the McIntosh cloth.

I have also seen good effects from the use of the ice water coil or pad when placed over the

chest and abdomen. The latter has the advantage of dryness and consequent comfort. The treatment by cold baths I assisted in carrying out under the direction of my senior physician when a member of the medical staff of the German army in the campaign of 1870-71. It was then introduced as a regular mode of treatment of typhoid in many divisions of the army. The statistics, by the way, of the Franco-German war are most strikingly in favor of the cold bath treatment. Among the cases treated by the ordinary methods then in vogue, there was a mortality of from 20 to 40 per cent., while among those treated by Brand's system, there was a mortality of from 4 to 12 per cent. Owing partly to the introduction of antipyretic drugs, and partly to the great difficulty of introducing such a heroic form of treatment, I have not since made use of it.

It is a plan which cannot easily be carried out in private practice, and even in hospitals the amount of work given to the attendants is often greater than can be accomplished. A bath of the ordinary size, which will allow the patient to be fully stretched out, and which can be purchased for eight or ten dollars, is all that is necessary. It should be placed at the side of the bed and filled with water at a temperature of from  $65$  to  $70^{\circ}$ . A sheet may be stretched over the top of the bath, and the patient placed upon it, and slowly allowed to sink down into the water. In the New York and Bellevue Hospitals, where, owing to the courtesy of Dr. Peabody, I have recently seen the method employed, the sheet was dispensed with, and the patient taken by attendants and at once put in the water. A half-ounce of whiskey is given to the patient before the bath, and hot milk is freely administered when he is taken out. The time for the bath varies from seven to fifteen minutes, according to the effect produced. While in the bath the patient is vigorously rubbed by two strong men, and ice water is occasionally poured on the head by a third attendant. The temperature generally falls for half an hour or so after removal from the bath, sometimes to a point below normal. It is better that the patient who takes a bath for the first time should not remain in longer than seven or ten minutes, as some are much more easily affected than others. After the bath the patient remains in