

when we infuse, or give solutions by rectum, the fluid is taken up by the lymphatics and has to pass through the lymphatic channels, becoming truly a part of the body fluids, while in transfusion the fluid is thrown directly into the blood and undergoes no physiologic change. Transfusion should be done in preference to infusion only when the pulse is very weak and we want immediate results. Then a vein should be opened and the saline solution allowed to flow in slowly. It is usual to open the median basilic, but on several occasions I have opened the brachial vein, which is larger, and, on that account, more convenient.

I have twice seen ill effects following an infusion. In one a nurse infused a strong salt solution under a child's breast, which resulted in a large slough. In the second instance a small vessel was punctured and a large clot of blood formed in the right sub-clavicular space, requiring evacuation by an incision.

Following is the history of a case of typhoid fever, in which I found saline solution very useful:

The young man, aged about twenty, had a very severe attack of typhoid. I saw him on the fourth day of his disease. His temperature at that time was 104 deg., pulse 102. He was in a semi-conscious condition and a very unpromising case. During the first nineteen days his temperature remained most of the time above 104 deg., going frequently above 105 deg., and on one occasion reaching 106 deg. His temperature after this gradually subsided, and reached normal on the twenty-seventh day, but then rose, and did not reach normal again until the fifty-fourth day. Tubbing had little or no effect upon the temperature. Ice-water enemas, one pint every two hours, seemed to have little or no effect. His toxic condition was very grave. This patient got 700 cubic centimeters of normal salt solution subcutaneously twice a day. He got thirty infusions in all—two every day for two weeks, and on two of the days when he was most ill an extra one, making thirty infusions in fourteen days.

These infusions were given under the pectoral muscles, except four, which were given in the flanks. There was no bad local effect, except a little stiffness or soreness, which lasted for a few days after the infusions were stopped. Before I began the infusions his mouth and tongue were parched and dry. Shortly after the infusions began these conditions were greatly improved. He secreted large quantities of urine, and had to be catheterized frequently. I feel confident that the salt solution