

invariably of no use because too late. What a change now in our procedure.

Perhaps in surgery the most marvellous modern discovery after anaesthesia, which has rendered the extraordinary modern operations possible, is the knowledge that sepsis is due to the distinct and definite action of certain well-known micro-organisms, and when this action is suspended or these germs are killed or prevented from entering the wound, healing takes place without any difficulty. In medicine, the proved relationship of micro-organisms to some of the most virulent forms of infectious or contagious disease, has been well established and many methods have been devised for destroying these without in any way injuring the person in whose body they are multiplying. Another remarkable discovery, which is so recent that most of you remember its inception, is the rendering of the individual immune by the injection of some antitoxin. Not so many years ago our only hope in diphtheria was tracheotomy when the worst came to the worst, and this was only palliative. In most severe epidemics of diphtheria, 40 to 50 per cent. died. Now, under antitoxin the records at the Civic Hospital last year gave a death rate of only 8 per cent., and it would have been less had the cases been brought earlier. It is hoped the scope of these antitoxins before many years will be much extended; it is used successfully now in tetanus and rabies.

Another remarkable recent discovery which seems almost a fairy tale, is the knowledge of the influence of internal secretions of certain ductless glands, as the thyroid and thymus, suprarenal capsules and pituitary gland, upon metabolic processes. Any one who has seen an idiotic Cretin or a patient with Myxædema restored to intelligence and health will have some idea of the scope of this method of treatment. The knowledge that a subject that has bled to death still has in his body enough blood to have supported life if it only could have circulated, has been known to us less than twenty years. What prevented the circulation of the blood was diminished blood pressure. Now, in consequence of this discovery, we do not inject blood, but fluid sufficient to raise the blood-pressure to its former height. Saline solution, a teaspoonful of salt in a pint of hot water, is the simple solution used, and the solution need not be injected even into the veins, but if it is injected in the subscapular or submammary cellular tissue, it does equally well. Wooldridge has shown that when a patient recovered after transfusion of blood it meant that the transfusion had failed, the blood having escaped into the cellular tissue outside the circulation, whilst when transfusion was mechanically successful, it was fatal. Injection of saline has saved many lives even when injected into the rectum or left to be absorbed in the peritoneum. This knowledge of the efficacy of saline solution has come to us from the experiments of the physiologists.