

wound in the scrotum. Cysts of the epididymis are dealt with in the same way.

*The operation for excision of the testicle* is just as simple. In this case the injections are made along a looped line, forming a figure somewhat like a tennis-racket. It begins at the external abdominal ring, runs circularly round the part of the scrotum to be opened, and then back again to the external ring. As the skin of the scrotum is very mobile, it is of the greatest importance to follow the tract of the needle with the greatest care so as not to carry the knife outside the anæsthetic area. The testicle is carefully isolated until it hangs freely from the end of the cord. A syringe of one per cent. solution is injected into the latter at the point where it emerges from the inguinal canal. It is then tied at this level, or a little higher up, and divided. The presence of the large spermatic plexus of veins renders the injection of cocaine into the cord a rather delicate operation owing to the danger of injecting the alkaloid directly into the blood stream. To avoid this, I am in the habit of spreading the cord on my finger, and of introducing the needle at once as far as it will go; the fluid is then injected as the needle is being withdrawn. After removal of the gland the cut vessels are tied and the scrotal wound is closed.

*Dilatation of the anus* is a more complex operation for here we have to anæsthetize the mucous membrane and the sphincter. A plug of cotton-wool soaked in two per cent. cocaine solution is introduced into the rectum. Six injections are made round the anal orifice into the substance of the sphincter itself. The injections are made in different places; this operation is, therefore, more painful than those already described, in which the patient only feels the first puncture. As we are here dealing with a very vascular region, the whole of the needle is, in this case also, introduced at once, and the fluid injected as the needle is being withdrawn. A syringe of one per cent. solution should be used, in which case a total of six centigrammes (one grain) of cocaine is injected into the sphincter. This is important, for in this case the whole of the cocaine is absorbed, whereas in the operations I have already described part of it escapes with the blood. It is essential, therefore, to exercise the greatest care in the use of cocaine in such a case. For my part, I have

never exceeded the dose of six centigrammes, which is quite sufficient for our purpose, and after three or four minutes, I was enabled to introduce Trelat's speculum and to dilate the sphincter without causing any pain to the patient. I have now successfully performed this operation more than forty times under cocaine anæsthesia.

*When hæmorrhoids are present* the operation is not rendered more complicated by their removal. The mass is seized with forceps, and half a syringe of the one per cent. solution is injected at its base with the most infinite precautions owing to the great vascularity of the part. When anæsthesia has been produced, the pile is cut away with the scissors and the mucous membrane brought down and stitched to the skin at the margin of the anus. There is complete union in a few days. I feel justified in recommending this operation, which I have myself performed twenty-seven times with complete success, and I have never met with a relapse in these cases as I have after simple dilatation.

*Amputations of the fingers and toes*, of metacarpal and metatarsal bones, operations for hammer-toes, and for alterations in the first metatarso-phalangeal joint can very well be performed under cocaine. But after rendering the skin anæsthetic along the line of the future incision, some of the solution should be injected under the periosteum at the point where the bone is to be sawn through. The amputation is then perfectly painless. We have gone still further, for we have succeeded in amputating the fore-arm by this method without any pain to the patient, and the total dose of cocaine injected in the form of the one per cent. solution did not exceed fifteen centigrammes (two and a half grains). The fluid was injected into the skin along the lines of incision, into the muscles of the front and into those of the back of the fore-arm, and also into the three main nerves of the part, which had previously been exposed. Lastly, cocaine was injected under the periosteum of the radius and ulna. It was only under very special circumstances that we decided to make use of cocaine in such a serious operation, and one which, in my opinion, should not as a rule be performed except under chloroform. In this case the patient was exhausted by prolonged and extensive suppuration, and he was eighty-three years of age. I have long ago been able to convince myself of the