It is, therefore, clear that this operation introduces additional predisposing causes of relapses.

From the trend of the foregoing remarks on, and objections to, the operations mentioned, the character of the combination operation advocated by myself may have already been anticipated by you. I shall now endeavor to describe it.

OPERATION.

The incision, three or four inches in length, extends parallel to Poupart's ligament over the inguinal canal to the pubic spine. All the structures in front of the inguinal canal, from the internal to the external abdominal rings, are rapidly divided and the blood-vessels secured without staining the tissues. The sac is dissected out, almost invariably opened for inspection, and its neck loosened from its deep attachments with the finger (Macewen). It is then several times transfixed in a proximal direction with a stitch that has been firmly secured to the distal end, so that, when the proximal end is pulled upon, the sac is thrown into folds like a curtain. Finally the needle carrying this thread is pierced through the abdominal wall from within outward along the inserted finger between the peritoneum and the transversalis fascia, and made to emerge subcutaneously at the upper angle of the wound, about an inch above the internal abdominal ring (Macewen), Plate 1. Let it be borne in mind that the needle does not penetrate into the peritoneal cavity. Before fastening the sac in situ, it is best to raise the spermatic cord, and, if necessary, remove the supernumerary veins (Halsted); and even when this is not necessary, it is well to make a circular incision through the fascia propria of the cord, and invert it at the new internal ring. The suture which folds the sac is now pulled tightly, fastened to the external oblique muscle, and the sac adjusted in its proper position. It will be noticed when the cord is raised that the tampon occupies a position at its origin where the vas deferens and vessels meet, and, if of good size, more than fills the infundibuliform process; but when the sac is ligatured or sewed across and cut off, this process is left empty. The next step is the suturing of the transversalis facia from close to the pubic bone (when necessary) to the root of the cord (Marcy), with three or four of my inversion sutures. When the deep ring is not much enlarged, and the transversalis fascia but slightly relaxed, a couple of stitches may be all that is required. The last one completing the formation of the new internal abdominal ring, is the most important, just leaving space enough for the cord, and no more. The inversion suture is inserted by piercing the deep fascia parallel to Poupart's ligament in two places from without inward, and from within outward, with the first bite of the needle. The needle is drawn it through, and the thread is carried across to the border of the conjoined tendon, where a similar bite is taken directly opposite (Plate 1).

When all are passed and tied, they restore the tensity of the transversalis fascia, at the same time invert the tissues, and cause a convexity on the internal surface. In passing these stitches, great care is exercised not to include the peritoneum. In some cases, the fascia and peritoneum may be adhered together; then it is wise to place the patient in the extreme Trendelenburg position, and always use a fully curved needle without a cutting edge. It is only necessary to suture that portion of the transversalis fascia that has become relaxed. The approximation of the muscular aponeuroses of the abdominal wall is done with three or four mattress sutures from below upward, in such a manner as to bring the external and lower structures, Poupart's ligament, fibres of external oblique, internal oblique and transversalis muscles over and in front of the internal and upper structures—conjoined tendon (Macewen), and external oblique and all beneath the cord (Halsted). (Plate 11).

The first mattress sutute is made to penetrate the conjoined tendon and internal pillar in two places with one turn of the needle, from without inward near their lower border, and again from within outward. The two ends of the thread are now passed through Poupart's ligament and the internal pillar from within outward, about half an inch apart. In passing the rest of the sutures exactly in a similar manner, the practical part to remember is, that all the structures from the transversalis fascia to the subcutaneous fat are included; and that they are all tied beneath the cord. When the conjoined tendon is thin and delicate, the border of the sheath of the rectus muscle must be grasped by those sutures. Should the overlapping be considerable, it may be and often is necessary to put a few retention sutures