On the operation for rupture of the female perineum / by Charles J. Cullingworth.

CULLINGWORTH ON THE OPERATION FOR RUPTURE OF THE FEMALE PERINEUM.

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ON THE OPERATION FOR RUPTURE OF THE FEMALE PERINEUM.*

BY CHARLES J. CULLINGWORTH, M.D., M.R.C.P.,

Clinical Lecturer on the Diseases of Women at the Owens College, Manchester.

The following observations are based upon an experience of eleven years at St. Mary's Hospital, Manchester. During that time I have operated nineteen times for laceration of the perineum (besides having, on eighteen occasions, assisted at the performance of the operation by my colleagues), and, as the last nine of my operations have been performed by a different method from those adopted in the earlier ones and with an incomparably superior result, I have naturally formed a very definite opinion as to the comparative merits of the various methods of operation.

Let me, however, at the outset, repudiate any claim to originality in the method which I have learnt to prefer. I was led to adopt it from witnessing the excellent results obtained by my late colleague, Mr. J. H. Ewart, who, if not the actual originator of the operation, was certainly the first at St. Mary's Hospital to put it in practice.

I propose in this paper to confine my remarks to what is known as the remote operation, that, namely, where the laceration is at least of some weeks' standing.

In the operation as performed by the earlier operators, the denuded surface was so narrow that, even in the successful cases, the restored perineum was necessarily thin and fragile, a mere bridge, indeed, above which the vagina formed a pouch. To obviate this, later operators have enlarged the area of the denuded surface by removing the tissues more freely from the sides of the laceration and dissecting up a more considerable portion of the mucous membrane from the posterior vaginal wall. The operation I am about to describe still further increases the area of the denuded surface by leaving the flaps attached at their upper margin, reflecting them upwards into the vagina, and stitching them together with their raw surfaces in apposition. The principal advantage gained by this procedure is the extension of the freshened surfaces, whereby the healing process is facilitated, it being a recognised principle that the larger the wounded surface the easier it is to obtain union.

* Read before the Manchester Medical Society, October 1, 1884.

A subsidiary, though by no means unimportant, advantage is the obstacle which the reflected flaps offer to the soiling of the perineal wound by the vaginal discharges.

The idea of saving the flaps is not a new one. In 1853, Langenbeck, in order to shelter the newly united surfaces from the vaginal discharges, devised an operation, which he termed "perineo-synthesis." His suggestion was, after freshening the two sides of the rent with scissors, to dissect a semilunar flap of mucous membrane, twelve or thirteen mm. in height, from the anterior surface of the recto-vaginal septum, and to lift it up, so as to rest, in the form of an inclined plane, upon the vaginal aspect of the perineal wound, to which he fixed it by its convex border. This operation was abandoned as being too complicated, and as not affording sufficient security against the formation of recto-vaginal fistulæ.

Eleven years later, Mr. Jonathan Hutchinson, with the same object in view, proposed, in his article on the surgical diseases of women in Holmes' *System of Surgery*, that, instead of a special flap being made for the purpose, as was done by Langenbeck, the flap removed during the necessary freshening of the surfaces should itself be turned upwards into the vagina, trimmed at its sides, and made to slope forwards over the newly united parts.

A third proposal was that of Mr. Pridgin Teale, who, at the meeting of the British Medical Association, held in London in August, 1873, described a mode of operation which consisted in making the raw lateral surfaces broad towards the rectum, and in dissecting up the vaginal membrane, which rests on the rectum, in the form of a triangular flap with its blunt apex in front and its attached base behind. This flap is made to serve as a roof to the new perineum, and is kept in apposition with the vaginal edges of the apposed lateral raw surfaces by means of the stitches of the quilled suture.

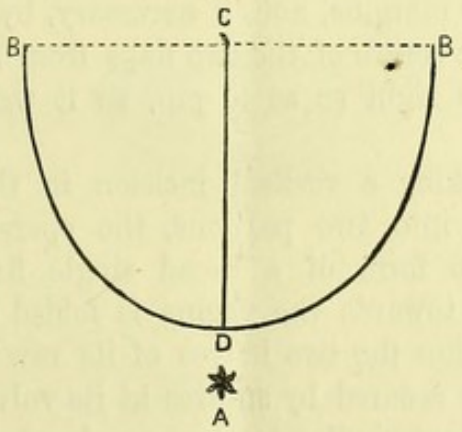
But it is in a paper by Mr. M'Hardy, in the St. George's Hospital Reports (Vol. VIII., 1874-6), descriptive of a method of procedure devised by the late Dr. Willard Parker, of New York, that I find the first mention of the lateral flaps being turned up into the vagina, and united by their raw surfaces so as to form a distinct valve. It is evident that by such an arrangement greater security is afforded against the entrance of vaginal discharges into the wound than where the wound is simply covered by a sloping roof. In other respects the operation of Dr. Parker is as unlike the one I am here describing as it is possible to be.

About the same time, Prof. Delore, of Lyons, published in the *Annales de gynécologie* (April, 1876) a new method of perineorrhaphy, in which the real advantage of saving the flaps seems for the first

time to have been appreciated. Delore's method is described as having for its object the multiplication of points of contact without increasing the actual wound. He dissects up two triangular flaps, turns them with their raw surfaces towards each other, and retains them in position by deep and superficial sutures. In the month of December, 1876, this operation had been practised three times, with complete success, and it has quite recently found a warm advocate in Dr. Leriche, who contributes an interesting paper on the subject to the August number of the *Annales de gynécologie* for the current year.

It might be thought that the union of the flaps would leave an inconvenient projection in the vagina. This, however, is not my experience. The flaps by uniting at their bases with the new perineum contribute to its thickness, while their edges gradually contract, leaving ultimately a mere ridge in the vagina, too insignificant in size to occasion the slightest practical inconvenience. Even if the flaps fail to unite—an event of very rare occurrence—in a few weeks they contract to such an extent as to be almost unnoticeable.

FIG. 1.



A. Anus.
BD, BD. Curved lateral incisions, marking extent of surface to be denuded.
CD. Vertical incision through mucous membrane covering recto-vaginal septum.
BCB. Upper margin of flaps, marking the line of their attachment and subsequent reflection.

Cases of ruptured perineum are divisible into two classes, one in which the injury has extended through the sphincter ani, involving more or less loss of control over the contents of the bowel, the other in which the laceration has stopped short of the sphincter, and in which there is consequently no interference with the function of the rectum. The operation I am about to advocate is equally applicable to both classes of cases. For the sake of simplicity, however, I shall, in the first place, describe the details of the operation where the case is one of incomplete laceration, and shall then proceed to mention the slight modifications that become necessary where the rectum is involved.

The lateral boundaries of the surface to be denuded are first marked

out by a curved incision, commencing anteriorly on each side of the vulva at a point level with the inferior termination of the nymphæ, and including at first from a third to half an inch of the skin covering the vulva, but following for the most part the line of junction between the skin and the mucous membrane, until it meets its fellow of the opposite side in the middle line of the anterior border of the remains of the perineum. One or two fingers of the left hand are now passed into the rectum, and the recto-vaginal septum being put on the stretch, the mucous membrane of the septum is divided in the middle line by a straight incision extending from a point on a level with the anterior extremity of the two lateral incisions downwards to the point where these two incisions meet, a little in front of the anus.

The extent of surface to be denuded having thus been marked out, each flap is dissected upwards and left attached along its upper margin, care being taken to make the flaps of sufficient thickness to retain their vitality. The two flaps are now reflected upwards towards the vagina, and, their raw surfaces being brought into apposition, are fastened together by means of three or four carbolised silk sutures at their vaginal and vulvar margins, and, if necessary, by an additional suture passed through the centre of the two flaps from right to left and back again from left to right so as to pin, as it were, the two surfaces together.

Instead of making a vertical incision in the median line and dividing the flap into two portions, the operator may dissect up the tissues in the form of a broad single flap, which on being reflected upwards towards the vagina is folded upon itself so as to bring into apposition the two halves of its raw under surface. The flap thus folded is secured by sutures at its vulvar margin, and by a lateral vaginal suture similar to the one already described, the object of which is to retain the raw under surfaces in apposition and secure their union. The objection to this plan is that it renders the dissection a little more difficult; on the other hand, it has the following advantages: it excludes the possibility of the establishment of a recto-vaginal fistula (which, though I have never yet seen it, is a conceivable occurrence where the rectum has been extensively lacerated and the flap is raised in two portions), it forms a more effectual barrier against the entrance of vaginal discharges into the perineal wound, and, lastly, it makes the accidental giving way of the flap-sutures a matter of less importance. I have always hitherto adopted the method of dividing the flaps, and with uniform success, but I quite recognise that in certain cases the single flap would be preferable.

Although the mode in which the flaps are ultimately secured by suture has already been described, it will be found more convenient in

practice to postpone this part of the operation until the perineal sutures have been passed and are ready for being twisted. In the meantime it is well, after the flaps have been reflected, to secure them provisionally

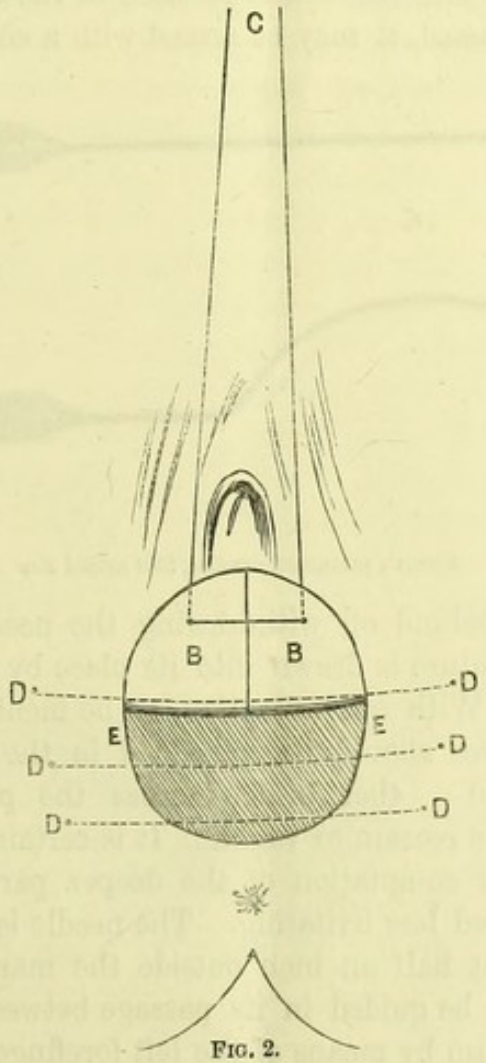


FIG. 2.

B B. Flaps reflected.
C. Provisional loop for holding up the flaps.
D D D. Points of entrance and exit of deep perineal sutures.
E E. Lateral boundaries of denuded surface.

by a long carbolised silk ligature passed through their entire thickness, and to hand over the ends of the ligature to an assistant, whose duty it is, by their means, to hold up the flaps out of the way of the operator while he is passing the perineal sutures. For these I use strong silver wire secured by simple twisting; the quilled suture I, in common with most operators, have long discarded, partly because of its liability to cause sloughing of the underlying skin, and partly because I find I can do equally well without it.

The needles which Mr. Ewart used are much longer and more curved than those in general use; they are mounted on handles, and are very strongly made. Of the two here figured, sometimes one is

found suitable, sometimes the other, according to the width between the patient's ischia.* Whichever needle is selected, it may either be passed unarmed, the wire being looped through the eye as it protrudes on the further side and drawn into position as the needle is withdrawn, or, before being passed, it may be armed with a silk ligature, the loop

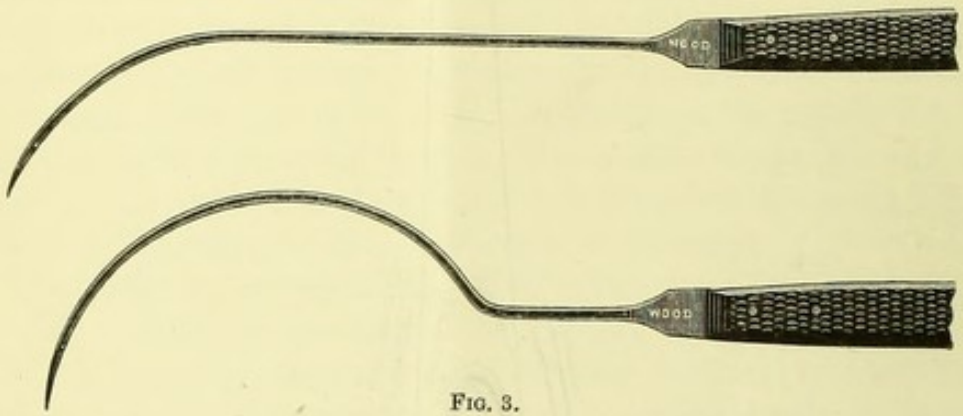


FIG. 3.

Ewart's perineum needles, half actual size

of which is left behind on withdrawing the needle. In this latter method the wire suture is drawn into its place by hooking it through the loop of silk. With one exception, to be mentioned presently, all the perineal sutures should be imbedded in the tissues along their whole course, and ther bridge across the perineal wound nor penetrate either the rectum or vagina. It is certain that by this means not only is better co-aptation of the deeper parts secured, but the sutures are rendered less irritating. The needle is to be introduced at a distance of about half an inch outside the margin of the denuded surface, and is to be guided in its passage between the layers of the recto-vaginal septum by means of the left forefinger in the rectum and the left thumb in the wound, or in the vagina, as the case may be. When the point of the needle has passed fairly across behind the vaginal wall, the simple manœuvre of depressing the handle will, with a little care, cause it to emerge from the skin on the opposite side at a point corresponding with the point of entrance. At least one of the sutures, the one farthest from the anus, should pass beneath the mucous membrane of the posterior vaginal wall above the line of reflection of the flap. The remainder pass between the denuded surface and the mucous membrane of the rectum. No fixed rule can be laid down as to the number of these deep perineal sutures; generally from three to five are required, according to the extent of the laceration and the width of the original perineum.

* For the immediate operation a mounted nævus-needle of the ordinary curve is preferable, and such a needle should always form part of the obstetrician's *armamentarium*, and find a place in the obstetric bag.

Some slight modifications are necessary where the rupture extends into the bowel. The lateral boundaries of the flaps are the same in front, but they extend considerably further backwards in order to embrace in the surface to be denuded the divided and widely-separated ends of the *sphincter ani*. Having been thus carried sufficiently far posteriorly, the incision curves around the cicatricial surface and is continued along the margin of the wound in the rectum, close to the

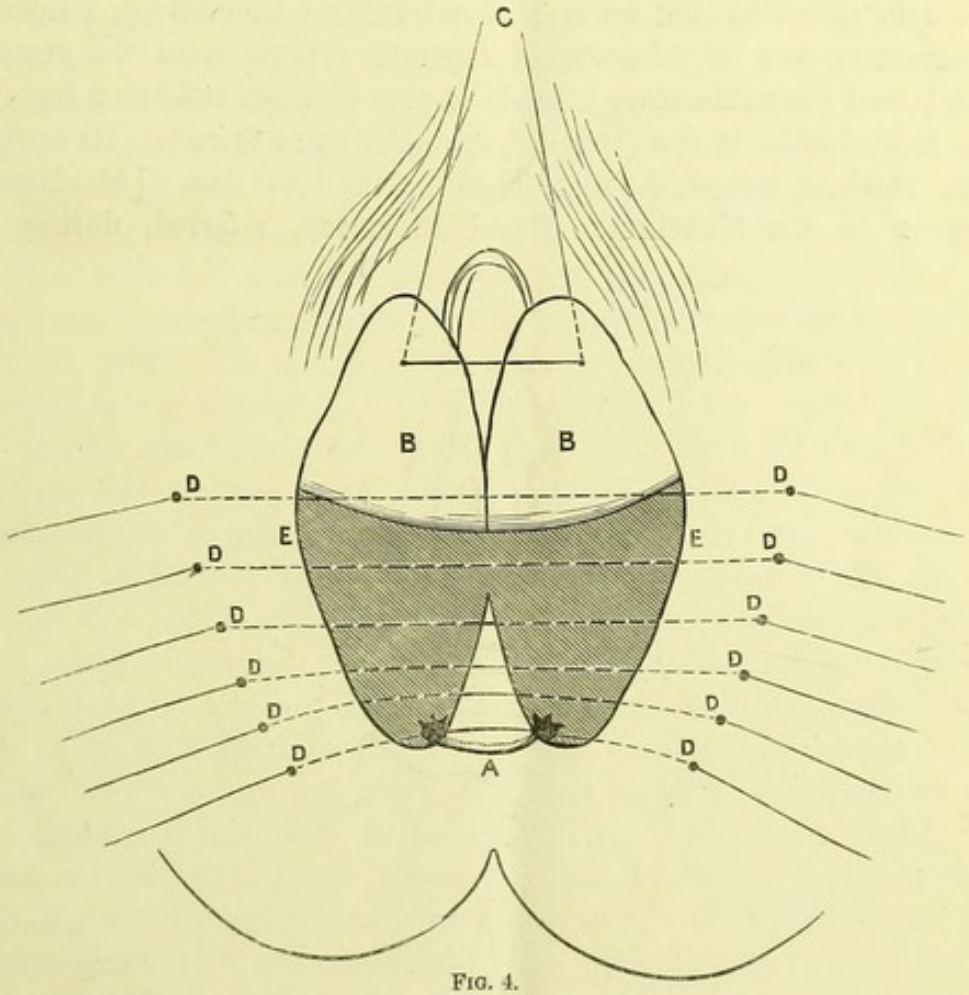


FIG. 4.

A. Anus, with the ends of the divided sphincter widely separated.
B B. Flaps reflected.
C. Provisional loop for holding up the flaps.
D D D. Points of entrance and final exit of deep perineal sutures.
E E. Lateral boundaries of denuded surface.

edge of the mucous membrane, to the apex of the rent. A similar boundary line having been marked on the other side, a vertical incision is now made through the mucous membrane covering the posterior vaginal wall, extending upwards from the apex of the recto-vaginal rent to a point on a level with the anterior extremity of the lateral incisions. The flaps are dissected up, reflected into the vagina, and otherwise dealt with exactly as in the operation already described,

except that being somewhat longer they occasionally require a little trimming.

The upper perineal sutures are passed deeply through the tissues as in the operation already described. The lower ones are buried in the tissues up to the edge of the rent in the bowel, where, emerging from the margin of the mucous membrane on one side, they are made to re-enter at a corresponding point on the opposite side and finish their circuit through the tissues. By this means the rent in the bowel is closed by the lower perineal sutures themselves, rendering unnecessary the introduction of separate sutures from the rectum. The lowest perineal suture is made to pass through and bring together the divided ends of the expanded sphincter so as to ensure its restoration, which is, indeed, the main object of the operation. [Mr. Hardie, surgeon to the Manchester Royal Infirmary, referred, during the

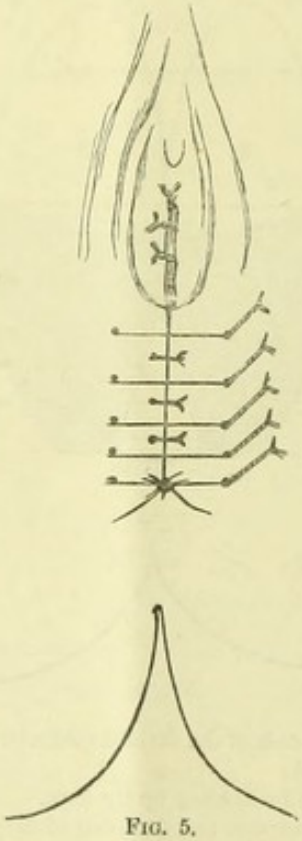


FIG. 5.

discussion which followed the reading of this paper, to the importance of carefully dissecting the ruptured ends of the sphincter, so as to render the muscular fibres actually apparent to the eye. He considered that in this way alone could *muscular* union be ensured. Attention was, I remember, called to the same point by Dr. Wiltshire, in some remarks he made on a paper of Mr. Lawson Tait's, before the Obstetrical Society of London, November, 1879. The suggestion is undoubtedly one of great value.]

When the wire sutures are all in position, and before they are tightened, the flap sutures should be introduced and tied in the manner already described. An assistant then, placing his flat hands one on each side of the wound and at a little distance from it, presses together the denuded surfaces so as to approximate their deeper portions and take off tension, while the operator tightens the deep perineal sutures and twists the ends of the wires, which should be done not in the middle line just over the wound, but a little to one side. The margins of the skin may be secured in accurate apposition, if necessary, by superficial sutures of carbolised silk. Should the parts not come closely together at the angle of reflection of the flaps, an additional wire suture should be passed at that point, which need not, however, be carried so deeply as the others, but simply bridge across the wound at a convenient depth.

With regard to after-treatment, several points require mention. It is generally necessary to draw off the urine every six hours during the first two or three days. But the use of the catheter is by no means essential to the success of the operation, and, if the patient be able, she may be allowed to pass her urine naturally from the first without the least fear of doing harm. For the relief of pain, I am in the habit of administering morphia subcutaneously, but I do not give opium as a matter of routine, with a view to restrain the action of the bowels, neither do I, on the other hand, prescribe, as some have recommended, daily doses of castor oil. In cases of partial laceration, where the rectum is in no way implicated, it involves no risk and undoubtedly adds to the comfort of the patient to administer a simple enema on the second or third day, and from that time forward to ensure, by the same means if necessary, a daily emptying of the lower bowel. In cases, on the other hand, where the recto-vaginal septum has been split, my usual practice is to leave the bowels undisturbed until the stitches have been removed, unless the patient complains of feeling uncomfortable, or unless the condition of the tongue points to the need of an aperient. In other words, I adopt no artificial means either of inducing constipation or of interfering with the constipation that in most instances naturally follows the operation. As soon as nature gives me a hint that the bowels need relief, I act upon it by administering a full dose of castor oil by the mouth, and if this does not produce the desired effect in four hours, I administer an enema of half a pint of warm olive oil. In the table of cases appended, it will be seen that in one case the bowels acted naturally the day after the operation, in another they acted naturally on the ninth, and in a third case on the thirteenth day, while in the last three cases I gave an aperient in one instance on the sixth, and in the other two on the

seventh day. Whilst speaking of the management of the bowels, I should like to draw attention to the marvellous relief capable of being afforded in many of these cases by the occasional passing into the rectum of the six-inch vaginal tube, ordinarily sold with Higginson's syringe, and thus giving exit to the flatus which is apt to accumulate just within the anus. The distress occasioned by the presence of flatus under these circumstances is often very considerable, not only rendering the patient restless and irritable, but depriving her of sleep. The simple expedient I have mentioned at once affords relief.

With regard to the removal of the sutures, I am again guided by circumstances. I make a daily examination of the wound, and as long as the sutures appear to be answering any good purpose, and are not doing any harm, I prefer to leave them undisturbed. In the accompanying table the day on which the sutures were removed is noted for each case; it varies from the sixth to the fifteenth. Occasionally I leave one suture in longer than the rest, in order to keep the deeper parts in apposition as long as possible.

The durability of the new perineum during parturition has only been tested in one of the tabulated cases; in that instance the patient passed through the ordeal without receiving the least damage. In operating upon women within the child-bearing age it is a matter of considerable importance to avoid prolonging the new perineum anteriorly; the object in these cases should be to *restore* the perineum, not to improve upon it. Hence the denudation of the tissues should by no means extend beyond the lacerated surface. The liability to rupture during subsequent child-bearing is, by this means, materially lessened.

The case is different, of course, where the operation is undertaken for the relief of prolapse of the womb in women who are past the child-bearing age. Here the perineum may sometimes be elongated with advantage.

In cases of complete laceration, where the patient has, to a greater or less extent, lost control over the bowel, the success of the operation is to be estimated by the extent to which that control is regained. Judged by this criterion, all the cases in which I have adopted the method of operating here described have been successful. In severe lacerations of old standing, the mucous membrane of the rectum occasionally has become so altered that it fails to recover its tone after the operation, and becomes more or less prolapsed, producing constant moisture and discomfort. The only satisfactory method of dealing with this condition is to remove some of the relaxed and superfluous tissue, treating the prolapsed portions as if they were hæmorrhoids.

This seems the proper place to indicate what amount of benefit may be expected from restoration of the partially-ruptured perineum in cases

of prolapse. There can be no doubt that loss of the perineum is never sufficient of itself to cause prolapse. There must be some antecedent relaxation or over-straining of the uterine ligaments. It is from not bearing this in mind that operators have so often been disappointed at finding that restoration of the perineum does not cure prolapse of the womb. What, then, is the use of the operation in these cases? Mainly this, that it very often enables a pessary to be worn when, before the operation, it was not possible for the patient to retain it. This may seem a small gain, but, from a patient's point of view, it is one of extreme importance—it makes all the difference between misery and comfort.

I should have liked to include in this paper a brief notice of some other methods of operating which have been recently introduced, especially by Emmet, Thomas, Hegar, Hildebrandt, Bantock, and Lawson Tait, every one of whom has obtained excellent results, either without saving the flaps at all, or, as in the case of Lawson Tait, by partly reflecting them into the rectum. Let me just say, however, in conclusion, that I do not in the least wish to be understood as maintaining either that the saving of the flaps is essential to success, or that the operation I have here attempted to describe is superior to every other. Certain advantages, however, I do unhesitatingly claim for it. It is extremely simple, it is conservative, it is adaptable to all kinds of cases, and I can honestly say it is more uniformly successful in its results than any other method with which I am personally acquainted. Moreover, in the event of the newly-made perineum giving way during any subsequent parturition, the fact of not having sacrificed the flaps places the patient in a better position for undergoing another operation.

(*For table of cases, see next page.*)

TABLE OF CASES.

No.	Date.	Name.	Age.	Extent of Laceration.	No. of Perineal Sutures.	Date of Removal of Sutures.	First Action of Bowels.	RESULTS, &c.
1	1880, Dec. 1	H. W.	42	Into rectum, with loss of control over sphincter.	5	Four on 7th and one on 15th day.	13th day.	Strong and firm perineum; full power over sphincter.
2	1880, Dec. 8	A. G.	26	Do.	5	Four on 7th and last on 14th day.	Day after operation, relaxed.	Sphincter perfect and strong; healing complete. July 23, 1884: No children since operation; perineum firm; *sphincter ani* perfect; uterus retroflexed; complains of occasional bearing down (owing, no doubt, to the retroflexion), and some loss of control when bowels relaxed (owing to hæmorrhoids).
3	1881, July 1	E. S.	51	Do.	3	15th day.	Not recorded.	Healing complete, but on 22nd day the patient, an old hemiplegic, became suddenly ill, and she died on the 28th.
4	1881, July 13	M. O'D.	39	Partial.	5	Four on 10th and last on 13th day.	Do.	Complete and firm union.
5	1882, Aug. 23	J. C.	24	Do.	4	6th day.	Do.	Complete and firm union, though, for first few days, a portion in front did not unite well, and there was a fistulous communication between vagina and perineum. Patient was delivered of a well-formed living child July 2, 1883, without injury to the perineum. July 23, 1884: Health exceedingly good; no local discomfort.
6	1884, Jan. 18	M. D.	43	Do.	4	9th day.	9th day, unaided.	Complete and firm union.
7	1884, May 7	M. L.	44	Into rectum, with partial loss of control over sphincter.	6	7th day.	7th day, ol. ricini, followed in four hours by olive oil enema.	Complete and firm.
8	1884, June 27	A. S.	22	Into rectum, complete loss of control.	5	6th day.	6th day, ol. ricini and olive oil enema.	Fistulous track, remaining along line of one of the sutures, treated as an ordinary *fistula in ano*. Oct. 1, fistula cured, perineum complete and firm; perfect control over sphincter.
9	1884, Aug. 6	A. C.	38	Into rectum, for 1½in. complete loss of control.	5	8th day.	7th day, castor oil and enema of olive oil.	Patient very ill-nourished; tissues exceedingly fragile; rectum torn during operation; wound united by three silkworm gut sutures. On 7th day, flatus and fæces passed by perineal wound. On 8th day, perineal sutures removed. On 9th day, one deep perineal suture passed, retained seven days. No further passage of fæces or flatus since the 7th day. Sept. 10th: Complete and firm union; perfect control over sphincter; wound in rectum quite healed. Flaps did not unite, but have become shrivelled, and cause no inconvenience.