THE DIRECTION OF THE INCISION IN EPISIOTOMY.

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The literature of episiotomy is extensive and various. But in one point nearly all the operators who believe in lateral incisions—comprising the great majority of modern writers on the subject—are in agreement. They advise an incision, beginning a short distance from the median line, which is to run in the direction of the ischial tuberosity. Two men, Palen and Kleinwächter, advocate the incision which I favor, and even in their case, the descriptions are so meagre that it is not quite certain how their incisions are made. Kleinwächter cuts "at right angles to the rima pudendi;" Palen advises an incision "midway between the fossa navicularis and the fourchette (an anatomical impossibility) which shall go above the ducts of Bartholin."

The results of a few years' experience with episiotomy, with incisions of various kinds, in several directions, of varying extent, subcutaneous and superficial, some of which have been studied by means of sketches and photographs taken before and after the incisions were sutured, have convinced me that the most generally applicable method is one which may be outlined as follows:

As the occiput begins to protrude through the vulva, a finger is slipped into the introitus and the tension of the two sharply defined rings that constitute the chief obstruction is carefully

noted. The inner ring is the lower orifice of the vagina, or hymen on the stretch; the outer ring is the vulvar orifice, made up mainly of tense skin. When the proper moment arrives the incision is begun inside the inner constricting ring and brought to or just beyond the outer ring, with a cut sufficiently deep to sever the skin, subcutaneous connective tissue, the fascia, and perhaps the bulbo-cavernosus muscle—from 1.5 to 3.5 centimetres long (½ to 1½ inches), and about 5 millimetres deep (¼ inch).

The direction of the incision should be horizontal, or in the long axis of the body (Figs. 1 to 4). The guide to this direction will be in the handle of the bistoury; it must be held nearly or quite level when the patient is in the dorsal position, the tip of the blade pointing half-way down the side of the pubic arch (Figs. 1 and 2); the external extremity of the incision falling nearly or quite 4 centimetres (1½ inches) away from the median line of the fourchette in the distended condition of the vulva.

Our anatomical temptation is to raise the handle of the knife or scissors in order to make the incision correspond in direction with the apparent axis of the opening (Figs. 1 and 2), but this will always result in a cut of which the innermost angle will be found after delivery on the posterior vaginal wall, too near the region of the transversus perinei muscles, the important junction of the fascia, or the thickest bundles of the horseshoe-sweep of the levator. Then if the expulsion of the head or shoulders extends such an incision further—an accident prone to occur with an incision directed toward the tuber ischii—damage will be inflicted on the very structures we operated to save. Our cut will have been the starting-point for one of the typical lateral lacerations at the junction of the lateral and posterior walls that Dr. Reynolds pictured in last year's *Transactions*, reaching up to the ischial spine. The explanation of the way in which this unexpected result comes about is probably as follows:

As the patient lies upon her back with her knees bent and her feet on the table, the axis of the undistended vagina runs downward and backward, parallel with the pelvic brim, and pointing toward the sacral hollow. It has been assumed that the incision should run in the same direction; but a little study will show that the incision is to be mainly vulvar rather than vaginal, since most of it lies outside of the hymen (Figs. 1 to 5); that the axis of the vulva, if I may use the term, is in line with the long axis of the body (Figs. 2 to 4); and that when the vaginal canal is distended by the advancing head, at the time when the occiput is protruding, the normal vaginal axis can no longer be taken as a guide for the incision (Fig. 3). Moreover, I do not believe that the lower end of the vaginal canal stretches evenly and equally. The anterior half near the symphysis does not distend as freely as the rear half. Consequently the innermost angle of the cut will not retract toward the pubes as much as one would expect, and after delivery it will be found nearer the perineal body than is at all desirable (Figs. 1, 2, and 5). And it is possible that this fact, with the occasional extension of this incision, by tearing, has brought undeserved disfavor on a valuable operation. It may be further said, in parenthesis, that the practice of leaving episiotomy wounds unsutured has done much to harm the standing of the procedure.

Two theoretical objections which have never been confirmed in practice, may be brought against the incision I advise, namely, that the duct of the vulvo-vaginal gland may be injured, and that the bulbs of the vestibule may be wounded. The cut probably passes anterior to the duct, and it is never deep enough to injure the vessels.

As to the Vienna methods of subcutaneous section, a few attempts have taught me that the required expansion is not secured, that the cut tissues are very liable to draw apart, and that consequently at the end of two weeks the vulva will be found gaping.

The illustrations, drawn chiefly from frozen sections of women who have died during or after labor, are the most vigorous arguments I can bring in favor of the longitudinal incision.

Partial Bibliography.

Credé und Colpe: Archiv f. Gyn., 1884, 150. (300 episiotomies, 1000 primiparæ.) The strongest and most complete argument for the operation.

Wilcox: N. Y. Med. Journ., 1885, xlii. 176. Full literature.

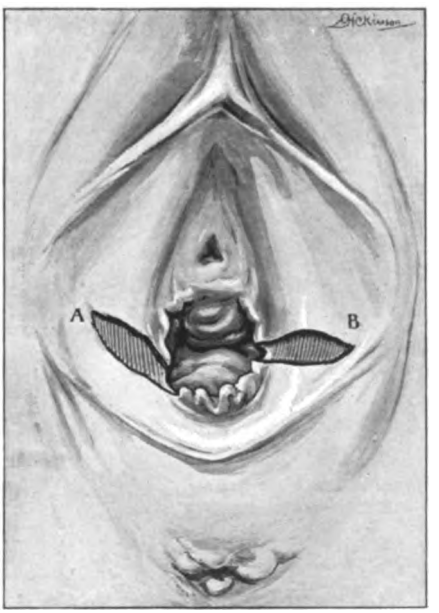
Jewett: Brooklyn Med. Journ., 1890, 709. This and the preceding are the best American pleas.

Broomall: Amer. Journ. Obstet., 1878, 517. Full history of the operation; 56 cases.

Kleinwächter: Geburtshülfe, 1887, 305.

Palen: N. Y. Med. Journ., May, 1876, 469.

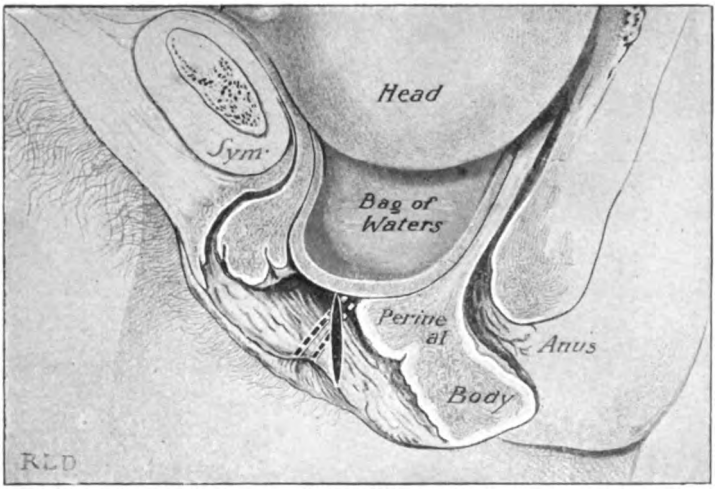
FIG. 1.



DOUBLE EPISIOTOMY.
(Sketch, just after Delivery, from Nature.)

Showing how an incision (A, on the patient's right) directed toward the tuberosity of the ischium will be found after delivery to point toward the posterior vaginal wall and tend to be prolonged into it and into the perineal body; whereas the incision (B, on the patient's left) offers more expansion, with far less danger. Its inner end points to the slit where the anterior and posterior vaginal walls fall together.

FIG. 2.



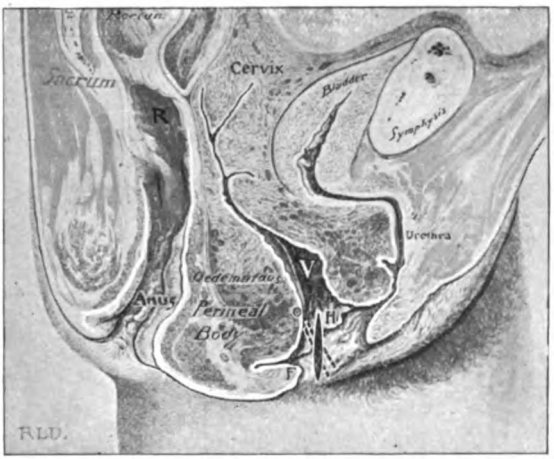
EPISIOTOMY: VARIOUS INCISIONS.
(Based on a Frozen Section by Braun.)

The dotted incisions run dangerously near to the perineal body.

The black incision is on safe ground.

The direction of the incision is shown here, but this is not the stage at which it is made.

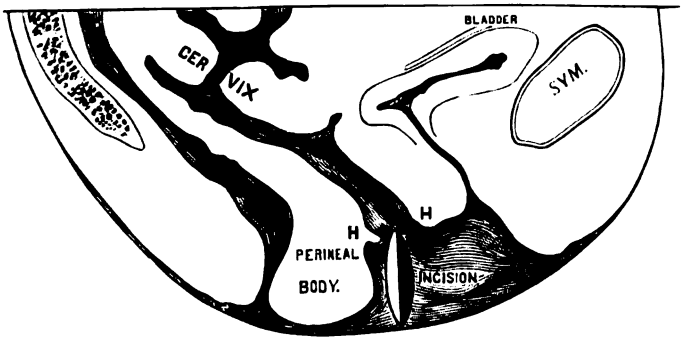
FIG. 3.



EPISIOTOMY: THE CHOICE OF INCISIONS.
(Drawn on Braun's Frozen Section of a Pregnant Woman who Hanged Herself.)

The swollen condition resembles that found immediately after delivery. It will be conceded, I think, that that incision which will be discovered, after delivery, to yield a cut in the direction of the black line will be preferable to incisions resulting in injuries directed as the dotted line runs —for they point toward the perineal body.

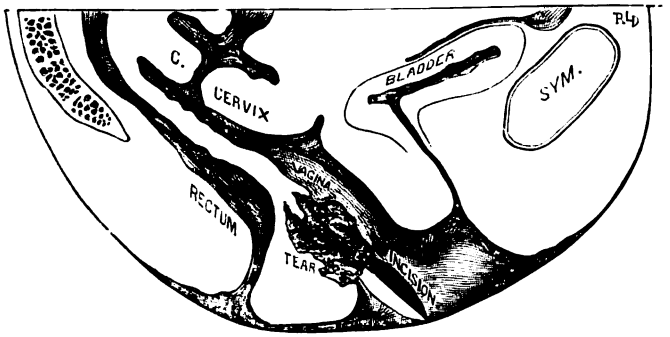
FIG. 4.



EPISIOTOMY.
(Based on a Frozen Section by Hart, of the end of the third stage.)

The incision which will give the widest expansion of the vulva with least danger of further injury. The hymen lies between H and H, and the levator crosses the lateral vaginal wall nearly half an inch within the hymen.

FIG. 5.



EPISIOTOMY.
(The same section.)

The incision directed toward the tuberosity often results in a tear running up the posterior or lateral vaginal wall.