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VERSION*

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IN ADDRESSING you upon the subject of version this evening, I assume that I am speaking to men who have been specially trained and are experienced obstetricians, and, therefore, if I am bold enough to criticise present day teaching, it is because I have found nothing that would assuage and alleviate the pains and the agonies of the second stage of labor which, to my mind, is the desired aim of modern midwifery. The abdominal surgeon taught us that it was safe and practically without mortality to invade the peritoneal cavity and uterus from above, and thus he led the way for our modern Cesarean section which has resulted in the saving of many lives. I propose to demonstrate to you that it is equally possible and infinitely less hazardous to invade the uterine cavity from below and bring about the safe delivery of the baby without pain and suffering, or undue injury to mother and child.

I shall not attempt to give you the indications for a version, but rather confine my remarks to my method of performing version and the results to mother and child by reason of the operation. Of course, it is self-evident to you all that my range of usefulness and my field for its indications have become so broad, by reason of experience and much practice, that I use it, in normal conditions, simply to relieve women of the pain and suffering of ordinary childbirth by shortening the time of labor and that fact is demonstrated when I say that I personally delivered last year 1113 women, of which 920 were delivered by version 400 being primiparæ and 520 multiparæ.

I have thought it best to describe as briefly and as fully as I can, my method of podalic version. The patient is prepared as for any major operation, shaved, scrubbed and made as clean as possible. The operator is similarly treated and then gowned, with short sleeves and long gloves reaching to the elbow.

The woman is placed upon the table and anesthetized to the stage of surgical anesthesia, then there is no resistance to the various procedures to be carried out. She is then placed in a modified Walcher position, one leg held by an assistant standing on each side, or if no assistants are available, the legs are supported on two chairs while the operator stands between them.

The bladder is emptied of all its urine, and this is very impor-

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Fig. 1.—Beginning to "iron out" the birth canal with one finger.

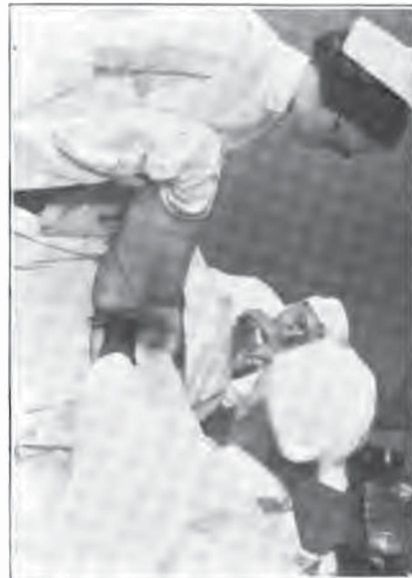

Fig. 2.—"Ironing out" process continued with two and three fingers.

Fig. 3.—Showing finally, the whole hand introduced into the vagina.

Fig. 4.—Hand and arm introduced into vagina with towel around operator's arm to protect him from escaping fluid.

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tant, as many patients void and still retain a half pint and more of urine in the bladder.

The vagina and soft parts are now dilated by first putting in one finger of the gloved hand, well lubricated with green soap, and passing it up as high as the cervix and then withdrawing it with a steady, continuous and firm pressure. Then two fingers are inserted and then three fingers, and finally the closed fist until all the rugæ and folds of the vagina are thoroughly ironed out. It matters not whether the case be a primipara or a multipara, the procedure can be just as satisfactorily and completely done.

Now the cervix, which must always be obliterated or soft and easily dilatable before version is ever attempted, is gently stretched with the fingers. Then the outstretched hand and the arm is pushed high up between the uterine wall and the membranes, and the latter are gently separated all over by sweeping the fingers of the hand up and down and around, being careful not to work too near the placenta.

Next a towel is rolled around the wrist to catch any of the amniotic fluid which might gush out when the membranes are ruptured high up. The hand is now free in the uterine cavity, the position of the child is made out and its probable size estimated, the position of the cord ascertained and the diameters of the pelvis approximated.

Both feet are now grasped between the first and middle fingers of the left hand—the left hand is always used for the version no matter what position the child is in. According to the position of the child, the toes of the feet will either look to the palm of the hand of the operator or away from it.

Now the extraction begins and both feet are brought down to the vulva and delivered together, the child's body having rotated with this onward movement.

Slight pressure is sometimes necessary at this stage to lift the head out of either iliac fossa with the right hand. Continued gentle traction is made until the knees are exposed, at which time the version is complete. Now rest for a few moments and then gently pull upon the anterior foot and lower leg until the pelvis of the child comes into view, when it will be seen that the pelvis rotates in the opposite direction and is eventually delivered in that direction. This rotation is brought about by the traction on the lower leg and the baby comes into the world with its back transverse to the pelvic outlet. No attention is paid to the cord at this time if it is free and loose, which it usually is, but if it is tight and short a clamp is placed at the umbilicus and the cord is cut, if it can't be otherwise loosened.

We now proceed with the delivery of the scapulæ which must be always thoroughly exposed and well out in view before any attempt is made to deliver the shoulder. Then the fingers and the hand of the operator are pushed well above the shoulder between the lips of the

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Fig. 5.—Both feet brought outside of vagina. Note method of grasping feet by operator.

Fig. 6.—Version completed. Knees exposed.

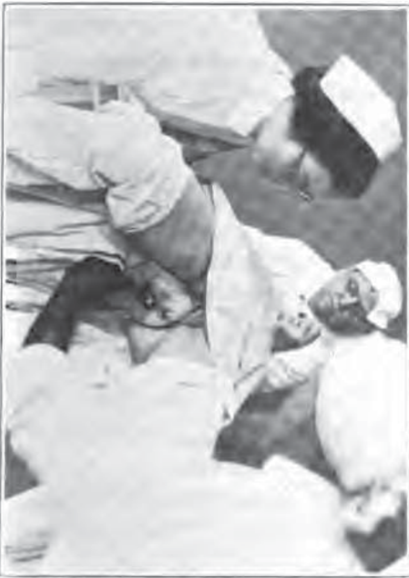

Fig. 7.—Buttocks of child being delivered by expulsive efforts of mother.

Fig. 8.—Back of child rotated squarely across outlet.

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vulva and the anterior shoulder is delivered with the upper arm. The operator now grasps the baby with his hand over the exposed shoulder and chest and rotates the child's body so that the posterior arm comes anterior and is delivered as such. Both shoulders being now delivered, the lower arms usually fall out of themselves. If, however, they remain undelivered they can be gently lifted up across the chest of the child and drawn away from the perineum under the pubic arch. (You will observe that the baby in this rotation movement is not twisted from the legs as I have seen it done.) The older method of version brought the arm down as a posterior arm across the distended perineum, which was often the cause of the extensive tears consequent upon that method of podalic extraction.

The operator now determines whether there is any loop of the cord around the neck and finding none he proceeds with the delivery, but if the cord be twisted once or twice or even three times around the neck this condition of the cord must, if possible, be relieved, by loosening it, and if absolutely necessary, it must be cut and clamped. However, usually the cord is free and no haste is called for.

The fingers of the left hand are now inserted into the baby's mouth and with the right hand gentle pressure is made upon the occiput over the pubes to aid in the flexion of the baby's head and also to direct its passage through the pelvic canal. The jaw is not pulled upon, as a fracture might result.

Up to this point no pressure from the outside has been made in the delivery, because such pressure over the head before delivery of the arms, has a tendency to push the head down, which allows the arms to go up as well as extend the chin, complications, which at all times must be avoided, and I am sure it is this pressure that makes the difficulties and dangers of other methods of version.

By this time the baby's mouth is exposed and the mucus is milked out of the throat by the fingers gently stripping the front of the neck, when the baby will begin to breathe and often cry aloud.

The head can be left in this position long enough to thoroughly dilate the perineum and vaginal structures, as no haste is indicated and finally the nose is delivered, followed by the brow in an extremely flexed condition which is further assisted by lifting the body well forward and up from the perineum.

The baby is now placed upon its right side on its mother's abdomen and allowed to remain there until the cord ceases to pulsate. The ligature is now placed around the cord and the cord is cut and a hypodermic of pituitrin 1 c.c. is given deep into the muscles of the mother. The third stage of labor can now be completed immediately if any indication exists, or the placenta can be left from 15 to 20 minutes and often it is expelled spontaneously. If not, the gloved hand can be introduced

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and it can be extracted manually. The patient is now put to bed and usually with a binder.

During the past three years a number of physicians have visited me in order to witness my technic in performing a version, and it is their questions and remarks that have suggested this paper. The impressions gained from talking with them leads me still further to the belief that very few men understand the technic or the advantages of a properly performed version. This ignorance is due largely (1) to an almost complete lack of teaching of this subject in our medical schools today and (2) to an amazing amount of inactivity or want of initiative on the part of the practitioner and especially the teachers and professors of obstetrics.

The following are some of the questions put to me by visitors and others:

What are the indications for version and why do you do it? What is the condition of the cervix when you attempt version? What position does the head occupy? How far down is the head before version is attempted? Why do you bring down both feet instead of one foot? Why is the anterior arm delivered first? Why don't you hasten delivery after the umbilicus can be seen? How do you overcome extension of the head and of the arms over the head? How do you save the mother's soft parts, especially the perineum, from lacerations? Why your apparent indifference as to the child's breathing immediately after birth?

Let me answer these questions and at the same time epitomize and dwell on their importance. I also wish to point out that I do a version to eliminate the second stage of labor and thus relieve a woman of the pains and agonies of childbirth.

1. The cervix must be obliterated and the os dilated or dilatable, before version is attempted. This condition is easily determined by careful examination. The cervix need not always be entirely obliterated if it is soft and easily yields to the advancing hand.

2. The position of the presenting head is of no particular importance. A version can always be successfully performed if the presenting head can be lifted above the brim of the pelvis. Sometimes the head is so wedged in the pelvis, when the waters have drained away, that version is impossible. When this condition obtains, delivery by forceps or other means is necessary.

3. Both feet are brought down because the delivery is easiest when this is done; and, if necessary, in the interest of both mother and child, the labor can be terminated more quickly. By pulling on both feet the obstetrician distributes traction more evenly and thus secures a better dilating wedge.

Both feet, instead of one foot, should be brought down at the same time.

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No attempt to deliver the arms should be made until the scapulæ are outside the vulva. The anterior arm should always be delivered first.

4. The anterior arm is delivered first because by so doing we relieve the stretching and tension of the soft parts of the mother, and permit

Fig. 9.—Anterior shoulder delivered under pubic arch.

Fig. 10.—Rotating posterior shoulder to position of anterior shoulder.

rotation of the child's body so that the posterior arm now becomes anterior.

5. I never hasten delivery after the umbilicus comes into view because experience has taught me that haste is unnecessary; that severe complications such as extension of the arms and of the head are very

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Fig. 11.—Rotation of posterior shoulder completed.

Fig. 12.—Delivery of the well-flexed head.

Fig. 13.—Child placed upon abdomen of mother.

Fig. 14.—Prolapsed cord.

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apt to take place when we interfere with the natural forcing powers at this particular stage of delivery.

6. Extension of the head is overcome by aiding flexion of the head with the fingers of one hand in the child's mouth, and with the other hand making gentle pressure upon the head over the pubes.

7. The perineum and soft parts of the mother are saved, first of all, by deep anesthesia; secondly, by having the patient in the partial Walcher position, which gives one good control and admits of slow and safe delivery of the head after the vagina and perineum have been previously ironed out and properly dilated.

8. I am apparently indifferent to the child's breathing immediately after birth. Experience has taught me that nearly all of the babies begin to breathe spontaneously when let alone, provided the heart is beating. Occasionally when respiration is unusually delayed a catheter is passed into the trachea. Rough handling of the baby after it is born is never tolerated.

9. During the delivery, as soon as the mouth is exposed over the perineum the baby's body is raised up to let the mucus run out of the mouth. Blue babies give me no anxiety but white babies do.

10. The operator must remember that in the delivery of the head extreme flexion is necessary and that this flexion can be best produced by placing the fingers of one hand in the child's mouth and by making gentle pressure upon the head over the pubes with the other. If extension of the head takes place notwithstanding every care, complications at once arise but in the hands of an experienced operator extension of the head does not occur or at all events is very infrequent.

11. When the chin and mouth have been delivered the mucus will run from the child's mouth and nostrils or it may be milked out by gently stroking the neck and thus many children will breathe before delivery of the head is complete. Therefore haste is unnecessary.

12. Too great pressure upon the mother's abdomen during delivery of the head should be avoided for fear of injuring the bladder or lower anterior uterine wall.

13. The after-coming head may be delivered by forceps if necessary.

14. The operator should at all times have a perfect knowledge of the position of the child *in utero* before version is attempted and an exact knowledge of this can be obtained only by introducing the hand to the fundus and exploring the uterus and the fetal parts carefully.

Men have criticized me for saying that I find posterior occipital positions in from 60 per cent to 70 per cent of my cases. It is because I examine these women many hours earlier and before rotation has taken place.

15. If the membranes have not been ruptured, it is well to separate them all around and as high up as possible from the uterine wall before rupturing them. The rupture should be made high up for the purpose of retaining as much of the amniotic fluid as possible.

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16. When the knees of the child appear at the vulva, the version is complete.

17. The operator should be master of the situation at all times and with the child's chest resting in his hand he can watch the fetal heart as he can feel its pulsation in his hand. I have never broken an extremity in a living baby during version. On three occasions the humerus was broken in delivering dead babies and when haste was necessary in the interest of the mother.

18. The extreme lithotomy is not the best position for the patient when a version is performed. The modified Walcher position admits of better results by relaxing the soft parts of the mother. This position can be obtained only by having the assistance of two attendants who hold the legs one on each side or by allowing the feet of the patient to rest upon two chairs if assistants are not at hand.

19. When the child is born, it is placed on its right side across the abdomen of the mother. This position aids perhaps in the closure of the foramen ovale. The child remains upon the abdomen until the cord is tied and cut. At this point I should like to enter a protest against the too common practice of spanking or beating the baby to make it breathe, as this is unnecessary and may do harm. I rarely have to do anything except hold the baby up with its head down to allow the mucus to run out of the mouth or blow a few times upon the child's chest to establish respiration quickly. Sometimes we breathe into the child's trachea through a small catheter but not very often. In my early practice I did this more frequently but now I know that haste and anxiety in inducing the child to breathe are seldom necessary.

20. The third stage of labor may be completed by delivering the placenta manually. It is my practice, however, to administer by deep hypodermic injection into the muscles of the mother, 1 c.c. of pituitrin immediately after the birth of the child and in a very short time the placenta is expelled with very little hemorrhage.

I never bag these cases, because a natural dilatation of the cervix is desired and this is not obtained when bags are used. The dilatation and retraction of the cervix which leads to the desired obliteration begins above and is not the same as that brought about by the use of bags. Bags also displace the presenting part and predispose to prolapsed arms, a thing that happened twice last week in New York City, which I have not seen before in three months.

Now what advantages do I claim for my method of version?

1. The woman suffers no pain after the dilatation of the os has taken place. Therefore I eliminate the second stage with all its suffering and it seems to me women will not dread their confinements and will have more children.

2. The soft parts are thoroughly dilated and are not for a long time

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subjected to pressure so that a relaxed, flabby vagina, and torn perineum and prolapsed bladder does not occur in our practice.

3. We see no temperature in our cases because we believe that tender tubes and ovaries, and perhaps many of them the subject of latent gonorrheal infections, are not lighted up into activity by the long pressure and bruising of the on-coming head.

4. The woman suffers no shock and therefore should be more resistant to possible infection.

5. There is no bleeding of any moment in our cases and the uterus remains contracted and in better condition after the delivery is effected. The lochia is less in amount.

6. We believe the baby's head is subjected to less compression injury than is the result after a long and tedious labor and especially after a forceps delivery. Therefore epilepsy and other cranial complications should be less common than after ordinary labors.

7. Of lesser importance but yet a justifiable consideration, the attending accoucheur is worked less, has more leisure and finds his specialty an agreeable one to practice, instead of what it is now, the bugbear of medicine.

The maternal mortality in properly selected cases should be *nil.* The maternal morbidity is no greater and I am satisfied is much less, than that in normal cases and my records and temperature charts will prove this statement. Compression injuries to the baby's head are very rare. In my experience the mutilation of the soft parts of the mother is less than in forceps deliveries or as is seen in long protracted second stage labors and in the end these patients go home in good condition, happy, and well satisfied. I have never torn the perineum through the sphincter and only rarely up to the levator, while injuries to the bladder do not occur because the bladder is always emptied before the version is started and is always lifted so high up that it is not even seen during the delivery and therefore it is not torn off from its pivotal point of attachment at the internal os or from the descending rami of the pubes and ischium.

The fetal mortality was certainly no greater than that which is attendant upon other methods of delivery. Cord complications must always be seriously considered when we speak of stillborn children. I believe the cord is responsible for the greatest number of fetal deaths. In many cases this is not recognized on account of the concealed type of prolapsus funis, when the cord is caught between the head and the brim of the pelvis and the death of the child follows from pressure upon it.

For various conditions I have delivered by version and reported, 2900 cases. I have never broken an arm or leg of a living baby—three times an arm of a dead baby was broken when haste was necessary in the mother's interest. I have never had any alarming hemorrhages

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Fig. 15.—Proper position with assistants.

Fig. 16.—Proper position where no assistance is at hand.

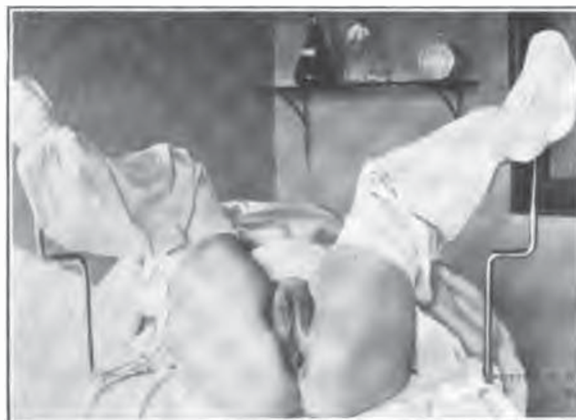

Fig. 17.—Improper position for version.

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and the period of involution of the uterus in all of these cases was shorter and with less lochial flow during the lying-in period. I never had a case of postpartum hemorrhage. Convalescence too was more rapid. I attribute this favorable condition to the absence of all shock which is so often experienced by patients who go through a long second stage of labor. The uterus was not tired out neither was the delivery precipitate. Then too there was present greater strength and a better sense of well-being at the end of the puerperium.

Fig. 18.—Properly gloved hand for version.

Fig. 19.—Improperly gloved hand for version.

As I have previously stated, for the year ending August 31, 1920, I personally delivered 1113 women, 920 of which were delivered by version. Of the 920 versions, 400 were primiparæ and 520 were multiparæ. There were in this total number of cases:

80 abdominal Cesarean sections.
13 footlings.
22 breech cases.
2 vaginal Cesarean sections.
39 instrumental deliveries.
2 cases were delivered by instruments on the aftercoming head following version.
There were 9 cases of twins.
12 cases delivered themselves before they could be reached.
There were 10 cases that were delivered as vertex cases.
There were 3 face cases; 2 with the chin anterior and 1 with chin posterior. It was necessary to do a craniotomy in one case.

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There were 41 stillborn children, classified as follows: breech, 2; short cord, 2; hydrocephalus, craniotomy, 1; prolonged labor, faulty presentation, 1; prolapsed cord, no pulsations felt, 5; hydrocephalus, 2; hydrocephalus, spina bifida, 1; face presentation and prolapsed cord, 1; twins, premature, 4 months, 1; disproportion between child and pelvis (weighed 10 pounds each), 3; eclampsia, 1; macerated fetus, 6; monster, anacephalic type, 5; cord around legs and arm, 1; macerated fetus, specific, 1; albuminuria of mother, 1; L.O.P., 1; placenta previa, 7 months, 1; fibroid tumor, complicating labor, 1; brow, 1; marginal placenta previa at term, 1; diabetes in mother, 1; faulty position of head at term, seen in consultation, instruments had been applied, child dead, 1.

Of the complications those having to do with the cord were most numerous and seem to bear out my statement made previously that cord complications are the cause of the majority of our stillborn children.

There were 16 prolapsed cords; 10 short cords; complete knots were found in 3 cases; twisted cord was found in 2 cases; the cord was around the neck once in 37 cases, twice in 13 cases, three times in 3 cases, four times in 1 case, six times in 1 case, with a living child; once around the neck, and between the legs 4 times; twice around the neck and between the legs 2 times; cord between the legs, necessitating cutting before delivery, 5 times; cord around both legs, once.

There was one case of loose placenta and one of adherent placenta; marginal placenta previa, 7 cases; central placenta previa, 2 cases.

The largest baby was 12½ pounds, another weighed 12 pounds, 1 ounce.

There were 34 children who died in the hospital before being discharged or inside of 14 days from birth classified as follows: One congenital syphilis, aged 8 days. Fourteen convulsions, from 36 to 72 hours. These were not after difficult deliveries so I am satisfied they were not the result of cerebral or petechial hemorrhages.

One hemorrhage into and rupture of suprarenal gland—found by autopsy 4 days after birth.

Ten were bleeders living from 2 to 6 days who bled from the mucous membranes, bowels, eyes, nose, etc.

Five cases of inanition living from 6 to 10 days and the cause of these deaths I cannot explain.

Three monsters living from 2 to 3 days.

Two mothers died who had been delivered by version, one a poorly nourished patient sick with a colitis and running a temperature for a week before delivery, living 41 days and then dying from the effects of her colitis which she had had for years. Blood cultures 3 weeks following delivery were sterile. The second case was up and around the hospital ready to go home, when she developed a lobar pneumonia, from which she died four weeks after delivery.

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(*For discussion, see pp.* 629 *and* 636.)

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