



Difficult fetal extraction at cesarean delivery: What should you do?

📌 Next time you face this hazardous scenario, try reverse breech extraction

CASE At 2 AM, the director of nursing pages you, asking you to attend to a 26-year-old gravida 1 para 0 who has just been brought by ambulance to labor and delivery after attempting home birth.

The midwife caring for the patient reports that she has been fully dilated for 7 hours and has been pushing for 4 hours. You confirm that the patient is fully dilated, with the presenting part at +1 station; significant caput succedaneum; and molding of the fetal head.

Estimated fetal weight is 3,600 g. The fetal heart-rate tracing is Category II.

You recommend a cesarean delivery. The exhausted patient agrees, reluctantly.

But when you attempt to deliver the fetal head, you realize that it is deflexed and stuck deep in the pelvis. It's going to be very difficult to deliver the head without trauma to the lower uterine segment, upper vagina and, possibly, the bladder.

What should you do now?

Experienced clinicians often recognize, instinctively, a looming catastrophe before it happens because we have seen a similar situation earlier in our career.¹ After we identify the potential for trouble, we attempt to avert disaster by taking preventive action.

uterine segment, vagina, or bladder.

In the scenario described a moment ago, the fact that the patient was in the second stage of labor for 7 hours, at home, without anesthesia, and with failure to progress to vaginal delivery increases the likelihood that the fetal head is impacted deep in the pelvis. Before you perform cesarean delivery, you might find it helpful to perform a vaginal examination to answer two questions:

- On vaginal examination, between contractions, can the fetal head be gently moved out of the pelvis? Or is it deeply impacted?
- Is there sufficient space between the fetal head and symphysis pubis to permit delivery with standard cesarean maneuvers?

If the head is impacted deep in the pelvis, I encourage you to consider alternative approaches to cesarean delivery, including **reverse breech extraction** (FIGURE 1, page 9) or an **assist from a vaginal hand** (FIGURE 2, page 10) to facilitate delivery.

The “pull technique”: Reverse breech extraction

One randomized trial and one retrospective study have evaluated the use of reverse breech extraction (the pull technique) in comparison to pushing up with a vaginal hand from below (the push technique) for managing

Instant Poll



Do you have a clinical pearl for delivering a **deflexed, deeply impacted fetal head at cesarean delivery**?

Send it to me at robert.barbieri@qhc.com. We'll consider publishing it in an upcoming issue.

Please include your name and city and state.



One very good occasion to use that “clinical sixth sense”

Consider the situation in which labor has been complicated by a long second stage, with a large fetus—a disaster waiting to happen. In such a case, cesarean delivery, if it is necessary, can be difficult to perform because the fetal head is stuck deep in the pelvis. Attempting to deliver a deeply impacted fetal head, using standard delivery maneuvers, may cause extensive trauma to the lower uterine segment, vagina, and bladder, and fetal injury. In turn, ureteral injury or postpartum hemorrhage may occur during your repair of damage to the lower

FIGURE 1 Reverse breech extraction—the “pull technique”



ILLUSTRATION: KIMBERLY MARTENS FOR OBG MANAGEMENT

Once the uterus has been opened, reach immediately into the upper segment for a fetal leg. Apply gentle traction on the leg until the other leg appears. With two legs held together, deliver (pull) the body of the fetus out of the uterus.

a difficult cesarean delivery after obstructed labor.

Results of a clinical trial. 108 Nigerian women who had obstructed labor were randomly assigned to a pull technique (reverse breech extraction) or a push technique (assist from a vaginal hand).²

The push technique in this study

was reportedly performed with a “finger” in the vagina pushing up on the fetal head while the surgeon attempted to deliver the head in a standard fashion.

The pull technique was performed by opening the uterus, immediately reaching into the upper uterus for a fetal leg, and applying

gentle traction on the leg until the second leg appeared. Then, with two legs held together, the body of the fetus was delivered (pulled) out of the uterus. The delivery was then completed using a technique similar to that used for a breech delivery. Standard breech delivery maneuvers were used to assist with the delivery

FIGURE 2 Assist from a vaginal hand: The “push technique”

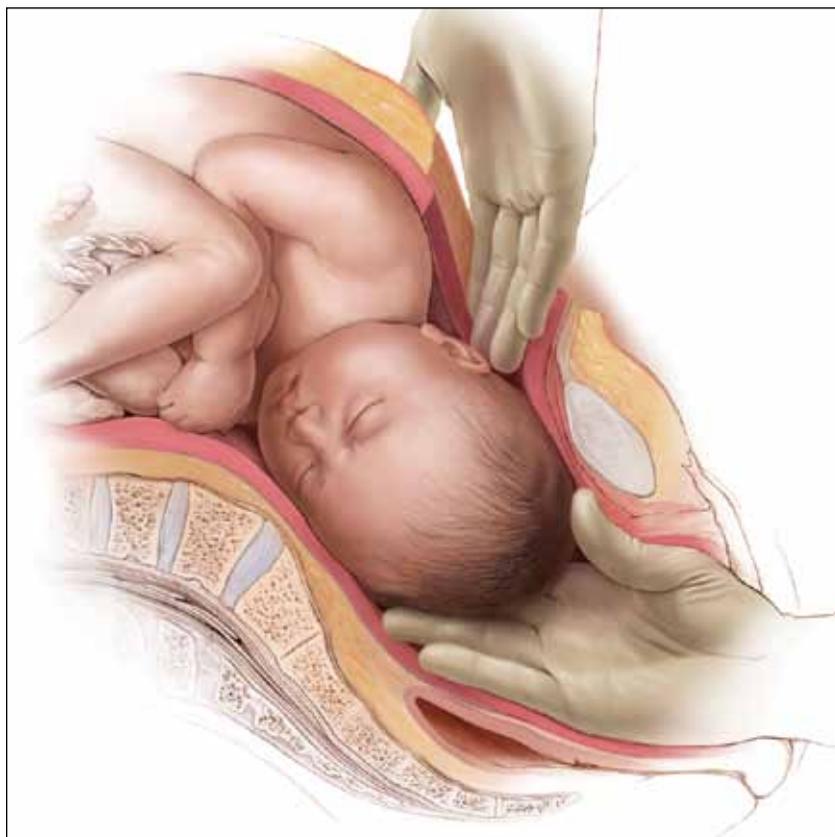


ILLUSTRATION: KIMBERLY MARTENS FOR OBG MANAGEMENT

When pushing the head up from the vagina, try to flex the fetal head. If possible, use three or four fingers—or a cupped hand or the palm of the hand—to apply force spread widely across the presenting part.

of the fetal shoulders and fetal head.

Comparing the push technique with the pull technique, the push technique was associated with longer operative time (89 minutes compared with 56 minutes [$P < .001$]); greater blood loss (1,257 mL and 899 mL [$P < .001$]); and more extensions involving the uterus (30% and 11% [$P < .05$]) and vagina (17% and 4% [$P < .05$]) that required surgical repair. The rate of fetal injury was similar using either technique: 6% (push) and 7% (pull).

Results of a retrospective review. A study of 48 difficult cesarean deliveries reported that the push

technique resulted in a higher rate of extensions of the uterine incision (50%) than the pull technique (15%).³

A third retrospective study is relevant. Investigators compared reverse breech extraction and standard direct delivery of the impacted fetal head, without assistance from a vaginal hand. In 182 laboring women in whom the fetal head was deeply impacted, reverse breech extraction was associated with a lower rate of extension of the uterine incision (2%) than the conventional approach of direct delivery of the impacted fetal head (23%).⁴

My recommendation. When you intend to use a reverse breech delivery technique to deliver a deeply impacted fetal head, I recommend a **low vertical uterine incision** so that you are able to extend the incision superiorly in case there is difficulty delivering the breech. Many clinicians report, however, that it is relatively easy to perform a reverse breech extraction through a transverse uterine incision.⁵ If you have made a transverse hysterotomy incision and it becomes difficult to deliver the breech, consider making a J or T incision in the uterus to provide additional room to deliver the breech.

The “push technique”: An assist from a vaginal hand

Using a hand in the vagina to push the head up toward the uterine incision can be performed by an assistant or the primary surgeon.⁶ If the need for assistance with a hand from below is recognized before the cesarean is undertaken, the mother’s legs can be placed in a supine frog-leg or modified lithotomy position.⁷

The assistant pushing the head up from the vagina should try to flex the fetal head. If possible, three or four fingers—or a cupped hand or the palm of the hand—should be used to apply force spread widely across the presenting part.

Caution: Using only one or two fingers for this technique, with the pushing focused on one small area of the head, may increase the risk of fetal skull fracture.

Using the obstetrical spoon

Some clinicians who routinely use a Coyne spoon to deliver the fetal head at the time of cesarean delivery prefer to use the spoon to deliver the

deeply impacted fetal head. Using two fingers (*not* the entire hand), the spoon is gently placed through the uterine incision to a position below the fetal head. The spoon is then used to help release and elevate the head from the pelvis, and the fetus is delivered in the usual manner with the spoon.

Caution: After an excessively prolonged labor, it may be difficult to place the spoon below the fetal head without damaging the lower uterine segment.

Other techniques to consider

When a transverse uterine incision is performed after prolonged labor, a fetal shoulder often appears in the hysterotomy as soon as the incision is made. This so-called shoulder sign is another indication that the fetal head is deeply impacted. Clinicians have reported that it can be helpful to have an assistant gently push the shoulder cephalad, while the surgeon attempts the direct extraction of the fetal head in the classical manner.

A more formal method of using the shoulder that presents in the hysterotomy incision to facilitate delivery has been reported⁸:

1. The shoulder presenting in the hysterotomy is delivered
2. The opposite shoulder is delivered
3. The fetal body is delivered
4. The fetal head is delivered last.

There are risks and consequences to extending the second stage

Trends in OB practice have resulted in more instances of labor in which the second stage extends past 3 hours. Prolonged labor markedly increases the likelihood that an obstetrician will encounter cases in which the fetal head is deflexed and deeply impacted in the pelvis, making extraction of the fetal head very difficult. Prolonged labor also increases the likelihood that the lower uterine segment and upper vagina will be edematous and very thin, increasing the likelihood of trauma to these, and adjacent, organs.

One approach to reduce the risk of difficult fetal extraction is to limit the second stage of labor to 3 hours or less in most situations. If you are asked to perform a cesarean delivery on a patient whose provider has allowed the second stage to extend well beyond 3 hours, be

prepared to perform a reverse breech extraction! 



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