

## **Optimizing management of an impacted fetal head at time of cesarean delivery**

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### Background

Failure to progress in labor is a common indication for cesarean delivery. When the fetal head is deep in the maternal pelvis but fails to deliver vaginally, cesarean delivery is often complicated by difficulty with elevating the fetal head. This can delay the time from incision to delivery and cause extensions of the hysterotomy incision into uterine blood vessels or down to the vagina, creating increased blood loss and prolong time to repair. Lateral extensions of the uterine incision may increase risk of injury to other structures such as the broad ligament or ureter.<sup>1</sup> Elevating the fetal head (“pushing”) with a vaginal hand is often used to facilitate abdominal delivery; however, this is not always successful and/or may cause fetal injury.

An alternative to first delivering the fetal head in these challenging surgeries is delivery of the body first, referred to as reverse breech extraction. With this technique the operator delivers the fetal arms or legs first, depending on the fetal position. Once all four limbs and the body are delivered, the head will typically easily elevate and deliver. Adjunctive techniques have also been described, including appropriate positioning of the patient on the operating table, use of uterine relaxant medications, and a higher uterine incision location.<sup>2</sup>

Multiple studies have found that reverse breech extraction is associated with lower risk of hysterotomy extension, infection, blood loss, and surgical time compared to the push technique.<sup>3,4</sup> Despite proven benefit, many obstetricians are not trained sufficiently or at all in these techniques. Researchers in the United Kingdom found that only 36% of providers had simulation training in management of impacted fetal head and call for expanding education, especially with simulation.<sup>5</sup>

### Objective

The objective of this educational intervention is to train obstetricians to a level of competence with reverse breech extraction and supporting techniques for cesarean delivery of the fetus with a deeply impacted fetal head. The ultimate goal is to have providers feel comfortable with the techniques such that they are used more in patient care; based on available data, increased use of these techniques would improve patient outcomes which is the ultimate goal of medical education and simulation.

### Methods

The proposed presentation will include a presentation describing the problem, with standard and alternate techniques. Video demonstration and/or hand-on simulation of the techniques will be available.

## Results

This is a presentation and demonstration and no results are to be presented.

## Conclusion

Obstetrics is a hands-on field. Learning new techniques for managing the impacted fetal head, can help providers improve both maternal and neonatal outcomes.

## References

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3. Jeve, Y. B., Navti, O. B. & Konje, J. C. Comparison of techniques used to deliver a deeply impacted fetal head at full dilation: a systematic review and meta-analysis. *BJOG* **123**, 337–345 (2016).
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