



STOP all activities that may lead to further shoulder impaction when you suspect possible shoulder dystocia

START your “rehearsed” algorithm immediately when shoulder dystocia is recognized

FAST TRACK

In my experience, if some movement of the anterior shoulder does not occur after 2 to 3 seconds of gentle downward guidance, you need to consider the possibility of shoulder dystocia

▶ EXPERT COMMENTARY



Ronald T. Burkman, MD, Professor, Department of Obstetrics and Gynecology, Tufts University School of Medicine, Boston, Massachusetts.

Shoulder dystocia is an obstetric complication that occurs in up to 1.4% of deliveries.¹ Although the vast majority can be managed successfully, the complication is associated with risk of fetal injury. The most serious injury is brachial plexus palsy, which occurs in 4% to 40% of shoulder dystocia cases, although less than 10% of these injuries are permanent. Other injuries include fractures of the clavicle and humerus; in rare instances the complication may be associated with fetal asphyxia and death. Early recognition of the complication followed by an orderly approach to management will reduce the risk of fetal injury.

First, recognize shoulder dystocia and take control

Recognition of shoulder dystocia immediately followed by avoidance of further impaction, particularly of the anterior shoulder against the symphysis pubis, will likely increase the chances of successful resolution.

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These factors should lead you to anticipate shoulder dystocia during delivery:

- suspected macrosomia
- diabetic parturient
- prolonged second stage.

However, a high percentage of cases occur in women without risk factors. Because persistent or forceful traction, used in an attempt to deliver the anterior shoulder, may be one of the causes of brachial plexus injury, early recognition of shoulder dystocia, followed by a halt of further traction, reduces the risk of that injury.

In my experience, if some movement of the anterior shoulder does not occur after 2 to 3 seconds of gentle downward guidance, you need to consider the possibility of shoulder dystocia. It is also important to take control of the situation: Instruct the patient to stop pushing and family members to stop urging the patient to push.

Avoid panic. Initiate a care-team management algorithm.

Having a management algorithm that can be quickly recalled and initiated allows the care team to proceed in an orderly fashion and remain calm and avoid panic, particularly if the dystocia is severe. In obstetric emergencies, panic is your enemy,

CONTINUED ON PAGE 24



Steps in the management of shoulder dystocia

- Recognition of shoulder dystocia
- Stop bearing down and stop traction
- Communicate with staff and patient
- Call for help and begin timekeeping
- Initiate the McRoberts maneuver*
- Suprapubic pressure (may be combined with Rubin's maneuver, pushing on anterior or posterior shoulder to rotate to an oblique position)*
- Attempt delivery of posterior arm (episiotomy can be performed at this step, if needed)*,**
- Woods screw or Rubin's maneuver*,**
- Repeat above steps if delivery not accomplished
- Gaskin (all fours) maneuver*
- Zavanelli maneuver and cesarean delivery
- Document event and communicate with patient and family (use of checklists such as the one published by ACOG may help standardize the process)

* The patient can resume bearing down and the clinician can use gentle downward guidance after performing the maneuver. If there is no progress, continue to the next maneuver.

** Order of performance of secondary maneuvers may vary, although Gaskin maneuver may be best carried out near the end due to the need for repositioning and possible reduced patient mobility due to epidural anesthesia.

leading to inefficient activity, team confusion, and an increased likelihood that an error in judgment (too much traction, fundal pressure) may occur. I advise my residents that whenever there are risk factors for shoulder dystocia, or it is suspected for any reason, to do a mental run-through of the management steps.

Rehearse the algorithm. It will make a difference in the delivery room.

To most effectively use a management algorithm, rehearsal using team training drills or simulation is necessary. Studies support simulation and team training even for individuals who have completed training in obstetrics or midwifery. Crofts and colleagues videotaped 450 simulations of shoulder dystocia involving 95 certified nurse midwives and 45 physicians.² The authors noted that **1)** shoulder dystocia could not be resolved in 57% of cases, and **2)** there was frequent confusion regarding

how to perform the internal maneuvers, with poor communication among team members. This same group of researchers later demonstrated that skills in managing shoulder dystocia improved significantly after simulation training. In fact, a high proportion of "trainees" maintained their skill level when tested a year later.³

Finally, when evaluating the impact of training on actual clinical outcomes in their hospital, Crofts and colleagues noted that **the rate of obstetric brachial plexus injury fell from 7.4% in a 4-year period prior to training, to 2.3% in a 4-year period after training.**⁴

Practice within your own L&D unit

The use of in situ simulation (ie, simulation within the labor and delivery unit) has two major advantages:

- It is more realistic than practicing within a lab. Systems issues, such as lack of a uniform procedure for getting help or a lack of chairs in the labor room to assist with performance of suprapubic pressure, can be identified.
- The full team, including ward clerks and other support personnel, can be part of the simulation more readily.

The box on this page provides a possible process to use in managing shoulder dystocia. If there has not been an opportunity for this training, practitioners, at the very least, should be cognizant of the steps they are going to take in managing such cases.

What should you do after primary maneuvers fail?

Try to deliver the posterior arm. Although the order of maneuvers in the proposed algorithm may vary, a recent study using a database of more than 130,000 deliveries suggests that use of posterior arm delivery after failure of primary maneuvers, such as McRoberts or suprapubic pressure, may more likely result in resolution.⁵

Start from the beginning, and try again. If the first set of maneuvers does not resolve the problem, running through them again usually leads to success. Although the risk of

CONTINUED ON PAGE 28



fetal hypoxia increases the longer it takes to resolve the dystocia, it may actually facilitate delivery because fetal tone may also decrease. **Zavanelli maneuver.** In general, use of the Zavanelli maneuver with replacement of the fetal head accompanied by cesarean section is a last resort; there is a lack of data to support its use earlier in the process or more frequently. This maneuver requires reversing the cardinal movements related to head descent in order to successfully complete replacement.

Shoulder dystocia in obese patients proves more difficult

In my own experience with obese patients, suprapubic pressure is often ineffective due to the presence of a large fat pad or pannus. Use of an anterior Rubin’s maneuver to rotate the shoulders about 30° to the oblique often facilitates delivery.

Liberal use of episiotomy to facilitate posterior arm delivery or rotational maneuvers is often necessary with obese patients.

Documentation is key

Documentation of the dystocia event in the patient’s permanent record should not occur until after the care team has discussed the case. This will ensure that the maneuvers utilized and the related timing of events are recorded accurately. This is critically important should a lawsuit occur, since discrepancies or errors in charting will hamper defense of the case. A checklist, such as the one provided by the American College of Obstetricians and Gynecologists (http://www.acog.org/Resources_And_Publications/Patient_Safety_Checklists), lists key points that should be recorded and outlines important steps related to the event.⁶

STOP all activities that may lead to further shoulder impaction when the shoulders fail to deliver readily and you suspect possible shoulder dystocia

START the management algorithm that you are comfortable with and have “rehearsed” and even practiced using simulation



Documentation should not occur until after the care team has discussed the case. This will ensure that the maneuvers utilized and the related timing of events are recorded accurately.

References

1. American College of Obstetricians and Gynecologists. ACOG Practice Bulletin No. 40: Shoulder dystocia. *Obstet Gynecol.* 2002;100(5 Part 1):1045-1050.
2. Crofts JF, Fox R, Ellis D, Winter C, Hinshaw K, Draycott TJ. Observations from 450 shoulder dystocia simulations: lessons for skills training. *Obstet Gynecol.* 2008;112(4):906-912.
3. Crofts JF, Bartlett C, Ellis D, Hunt LP, Fox R, Draycott TJ. Management of shoulder dystocia: skill retention 6 and 12 months after training. *Obstet Gynecol.* 2007;110(5):1069-1074.
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6. American College of Obstetricians and Gynecologists. Patient Safety Checklist, Number 6: Documenting shoulder dystocia. http://www.acog.org/Resources_And_Publications/Patient_Safety_Checklists. Published August 2012. Accessed February 12, 2013.

HAVE YOU READ THESE STOP/START ARTICLES?

» **STOP using antiembolism stockings to prevent DVT**
START using prophylactic LMWH and/or pneumatic compression devices to prevent VTE
 Errol R. Norwitz, MD, PhD (February 2013)

» **STOP performing DXA scans in healthy, perimenopausal women**
START counseling all women on lifestyle interventions to avoid fractures
 Lisa Larkin, MD, and Andrew M. Kaunitz, MD (January 2013)

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