

Management of shoulder dystocia using the HELPERR mnemonic

Mary Huntley (corresponding author) – Senior Lecturer in Midwifery, University of Northampton

Janice Dickson Smith – Senior Lecturer in Practice, University of Northampton

Abstract

Shoulder dystocia is a rare obstetric emergency which can be managed using the HELPERR mnemonic. Midwives should recognise the signs and understand the principles of managing shoulder dystocia. Step-by-step images to illustrate the HELPERR mnemonic can enhance knowledge and understanding of this logical sequence of actions.

Keywords

Shoulder dystocia; HELPERR mnemonic; Obstetric emergency; Midwife

Shoulder dystocia occurs when a fetal shoulder becomes impacted, most commonly on the maternal symphysis pubis, or the sacral promontory of the maternal pelvis (Royal College of Obstetricians and Gynaecologists (RCOG), 2012). The RCOG reports that it is not common, occurring in between 0.58% and 0.70% of vaginal births. This does, however, constitute an obstetric emergency, as the bony dystocia will result in failure of delivery of the fetal shoulders following delivery of the head (Coates, 2014). The figures reported by RCOG may not truly reflect the occurrence of shoulder dystocia because some situations are managed by midwives before they become an obstetric emergency and, as such, may not be reported.

HELPERR in midwifery practice

The Standards for pre-registration midwifery education (Nursing and Midwifery Council, 2009) require the newly registered midwife to be able to 'identify and safely manage appropriate emergency procedures'. The management of shoulder dystocia is therefore taught and assessed in pre-registration midwifery training.

It is common practice to use mnemonics to enable recall of information relating to the management of this obstetric emergency; however, the meanings of these logical steps are often elicited incorrectly (Jan et al, 2014). The authors have therefore considered the cognitive impact of enhancing students' understanding of the HELPERR mnemonic, and this article aims to show, in pictorial form, what we see in practice, mirrored against internal views of the pelvis in an attempt to aid learning and absorption of information. An open educational resource of a video demonstrating the management of a shoulder dystocia is also provided at <http://www.kaltura.com/tiny/rt05t>.

Recognition of shoulder dystocia

The midwife attending the birth should observe for the following signs (RCOG, 2012):

- Difficulty with delivery of the face and chin
- The head remaining tightly applied to the vulva or even retracting (turtle sign)
- Failure of restitution of the fetal head
- Failure of the shoulders to descend.

Shoulder dystocia becomes obvious after the head emerges and then retracts up against the perineum; this is known as turtle sign and/or head bobbing (*Figure 1*). Once shoulder dystocia has been recognised, it is important to advise the woman to stop pushing (RCOG, 2012) because this may result in the shoulder becoming further impacted.

The midwife should now instigate the HELPERR mnemonic (Table 1) to assist with the mechanisms and management of shoulder dystocia. The mnemonic was devised by the American Academy for Family Physicians (AAFP) for the Advance Life Support in Obstetrics course, which originated in the USA in 1991 and has been licensed in England since 1996.

The following mechanisms and management of shoulder dystocia can be used to assist with the birth when the fetus is in the left occipital anterior position. It is important to note that if the fetus is in the right occipital anterior position, the manoeuvres will need to be carried out in the opposite direction.

Using the HELPERR mnemonic

H: Help

Firstly, call for help, as appropriate personnel will be required to assist. The use of the mnemonic SOAPS may be helpful in the allocation of roles:

- S: senior midwife
- O: senior obstetrician
- A: anaesthetist
- P: paediatrician
- S: scribe.

These roles will need to be allocated appropriately and a local pro forma should be used.

E: Evaluate for episiotomy

Although this is a bony problem, consider performing an episiotomy to provide additional room to carry out internal manoeuvres. Be sure of the position of the fetal back, as this will determine the directions in which the manoeuvres will be performed. Each manoeuvre should be carried out for a maximum of 30–60 seconds, and if the shoulders are not felt to dislodge, it is necessary to move on to the next manoeuvre (Winters et al, 2012). If the shoulders are felt to dislodge then routine axial traction can be applied to deliver the baby (Winters et al, 2012).

L: Legs into McRoberts' position

Lie the woman flat in a supine position and remove pillows. With one assistant on each side of the woman, hyperflex her legs against her abdomen and bring her knees towards her ears (*Figure 2*).

This manoeuvre will rotate the angle of the symphysis pubis superiorly, straighten the lumbosacral lordosis and increase the diameter of the pelvic outlet. This procedure simultaneously flexes the fetal spine, often pushing the posterior shoulder over the sacral promontory, allowing it to fall into the hollow of the sacrum; the symphysis may now rotate over the impacted shoulder.

This will also increase the functional size of the bony pelvis, decrease the bisacromial diameter and change the direction of the maternal force to be perpendicular to the plane of the inlet (Gobbo et al, 2005).

If the woman is in lithotomy, her legs will need to be simultaneously straightened before being placed into McRoberts' position.

P: Pressure (suprapubic)

Rubin I

External suprapubic pressure, also known as Rubin I, is applied by an assistant, using a CPR-style hand position. Pressure should be applied to the posterior aspect of the anterior shoulder in a downward lateral direction.

The shoulders should adduct (reduce the bisacromial diameter) and rotate under the symphysis pubis.

Initially, pressure should be continuous. If unsuccessful, a rocking motion may be used to dislodge the shoulder from behind the symphysis pubis (*Figure 3a; Figure 3b*).

E: Enter manoeuvres

There are three separate Enter manoeuvres: Rubin II, Woods' screw and reverse Woods' screw.

Rubin II

Insert fingers of the right hand into the vagina (at 5 o'clock position) and apply anticlockwise pressure to the posterior aspect of the anterior shoulder. External suprapubic pressure can also be applied by an assistant to provide additional force (*Figure 4a*;

Figure 4b).

Woods' screw

While maintaining the position of the right hand, insert the fingers of the left hand into the vagina (at 7 o'clock position) and apply anticlockwise pressure to the anterior aspect of the posterior shoulder. Both hands should be used to apply anticlockwise pressure simultaneously. External suprapubic pressure can also be applied by an assistant (*Figure 5a; Figure 5b*).

Reverse Woods' screw

Remove the left hand from the vagina (last hand in, first hand out). Keep the right hand in the vagina and slide the fingers down from the posterior aspect of the anterior shoulder to the posterior aspect of the posterior shoulder, and apply clockwise pressure (*Figure 6a; Figure 6b*). Do not apply external suprapubic pressure.

R: Remove the posterior arm

Insert a hand into the space created by the hollow of the sacrum and, with two fingers, apply pressure to the ante-cubital fossa of the posterior arm to flex the elbow. Then sweep the forearm across the chest and face and deliver the posterior arm (Coates, 2014) (*Figure 7a; Figure 7b*).

R: Roll over on to all fours

Roll the woman onto her hands and knees and/or attempt the manoeuvres again (Coates, 2011) (*Figure 8a; Figure 8b*).

Alternative management

There are different schools of thought as to which manoeuvres should be carried out and the order of these manoeuvres. Jenkins (2014) provided an alternative mnemonic that fits with the current RCOG guidelines, as shown in the right-hand column of Table 1.

Points to note

When considering the management of shoulder dystocia, factors that may influence the outcome should be taken into consideration (e.g. the use of epidural, the mobility of the woman and the experience and expertise of the clinician). The person assisting the birth may alter the sequence in which they apply the HELPER mnemonic (e.g. the application of suprapubic pressure may be followed by the delivery of the posterior arm) (RCOG, 2012).

The Pringle manoeuvre is an alternative way to remove the posterior arm. This can be achieved by inserting a hand into the sacral hollow; the hand is 'scrunched up' (as if reaching for the last Pringle in the tube) and internal rotation or delivery of the posterior arm is attempted (Winters et al, 2012).

Conclusion

This article has demonstrated, through the use of photographs that illustrate abdominal and pelvic views, the manoeuvres used to safely manage the obstetric emergency of shoulder dystocia. In conjunction with the HELPERR mnemonic, the authors hope that this will enrich student midwives' and practitioners' appreciation of these steps, and help to prepare them to appropriately manage this obstetric emergency in practice.

Key points

- The HELPERR mnemonic is a tool which has been proven to be useful to assist with the mechanisms and management of shoulder dystocia
- Always call for appropriate help to assist you with this obstetric emergency
- Each manoeuvre should be carried out in a timely manner; a maximum of 30–60 seconds, and if not effective the clinician should move on to the next manoeuvre
- Depending on the clinical situation the person assisting the birth may alter the sequence in which they apply the HELPERR mnemonic

CPD Reflective questions

- How clearly do you understand why each of the manoeuvres in the HELPERR mnemonic is utilised?
- Consider why the clinician may sometimes reorder the manoeuvres.
- How are the considerations of this article reflected in your clinical policies and guidelines?

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Figures and Tables



Figure 1: Turtle sign and/or head-bobbing (Kristina Kruzan)



Figure 2. McRoberts' position (this and all following figures University of Northampton)



Figure 3a. Rubin I (torso)



Figure 3b. Rubin I (pelvis)



Figure 4a. Rubin II (torso)



Figure 4b. Rubin II (pelvis)



Figure 5a. Woods' screw



Figure 5b. Woods' screw



Figure 6a. Reverse Woods' screw



Figure 6b. Reverse Woods' screw



Figure 7a. Remove the posterior arm



Figure 7b. Remove the posterior arm



Figure 8a. Roll over onto all fours position



Figure 8b. Roll over onto all fours position

Table 1. Summary of ALSO HELPERR mnemonic and adapted HELPERR mnemonic

ALSO HELPERR		Adapted HELPERR	
Call for help	H	Call for help	1st line
Evaluate for episiotomy	E	End pushing	

Legs (the McRoberts' manoeuvre)	L	Legs (the McRoberts' manoeuvre)	
Suprapubic pressure	P	Suprapubic pressure	
Enter manoeuvres (internal rotation)	E	Enter—remove posterior arm/rotate baby into the oblique	2nd line
Remove the posterior arm	R	Roll the woman to her hands and knees	
Roll the woman to her hands and knees	R	Refer	3rd line

ALSO — Advance Life Support in Obstetrics

— From: Jenkins, 2014