Chapter 12

SHOULDER DYSTOCIA

Definition
Inability to deliver shoulders by usual methods (due to impaction of anterior shoulder above the maternal pubic symphysis)

Diagnosis
- Head recoils against perineum
- Spontaneous restitution does not occur
- Failure to deliver with expulsive efforts, episiotomy and gentle downward traction

Incidence
- 1 to 2 per 1000 deliveries
- for babies > 4000 g: 4/1000 for non-diabetic mothers: 16/1000 for diabetic mothers (mostly those associated with obesity or poor control)

Risk Factors
- Fetal macrosomia – and therefore: post term pregnancy, diabetes, maternal obesity, prolonged labour
- Previous shoulder dystocia
- Operative vaginal birth
- Prolonged labour

IN > 50% OF BIRTHS COMPLICATED BY SHOULDER DYSTOCIA, NO RISK FACTORS ARE PRESENT. SO, CAREGIVERS IN OBSTETRICS MUST BE PREPARED AT EVERY BIRTH TO DEAL WITH POSSIBLE SHOULDER DYSTOCIA.

Complications of Shoulder Dystocia
Maternal:
- Postpartum haemorrhage (11%)
    - Uterine atony
    - Maternal lacerations
- Ruptured uterus
- 4th degree tears (2-5.1%)

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Complications of Shoulder Dystocia (cont'd)

Fetal/Neonatal:

- Hypoxia /asphyxia and its sequelae
- Birth Injuries
    - Transient brachial plexus palsy, or permanent brachial plexus injury (Erb's palsy)
    - Fracture of clavicle or humerus
- Fetal death

Management

Avoid the four P's

1. **P**anic

   Work through manoeuvres systematically

   Everyone should be quiet so that the delivering practitioner can be heard when asking for help and telling the woman when to push and when not to push

2. **P**ulling on head / neck – lateral traction in particular increases the risk of brachial plexus injury

3. **P**ushing on fundus – will not help when the shoulder is impacted and increases risk of uterine rupture. Pressure is applied suprapubically for anterior shoulder disimpaction.

4. **P**ivot (i.e., severe angulation of the head, using the coccyx as a fulcrum

The ALARMER mnemonic can be a helpful guide to appropriate and consistent management:

Ask for help
Legs hyperflexed (McRoberts manoeuvre)
Anterior shoulder disimpaction (suprapubic pressure)
Rotation of the posterior shoulder (Wood's screw manoeuvre)
Manual delivery of the posterior arm
Episiotomy
Roll over onto "all fours"

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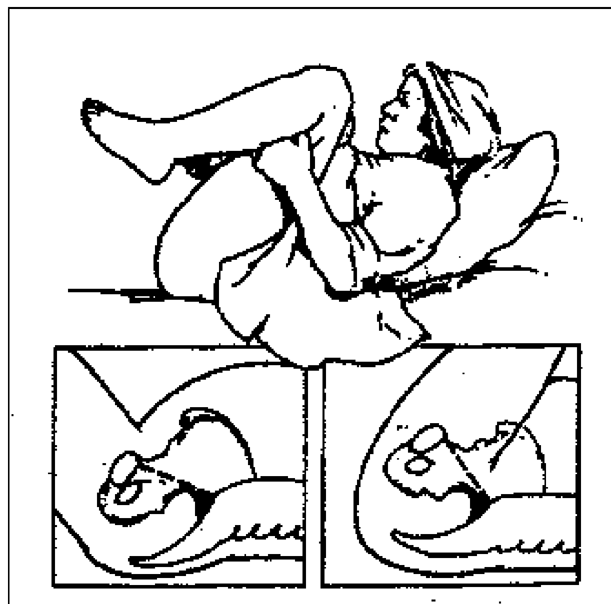
1. **A**sk for help
    - Set up unique paging protocols for obstetric emergencies
    - Additional personnel are needed with the McRoberts and suprapubic pressure manoeuvers
    - Gather personnel ready for possible advanced resuscitation of the neonate
    - Establish and practice an intervention protocol (i.e., emergency drill)

2. **L**egs hyperflexed (McRoberts manoeuvre) successful in 42% of cases
    - Flatten the head of the bed
    - One caregiver on each side of mother helps hyperflex and abduct her hips
    - Straightens the maternal sacrum relative to the lumbar spine

Lift - McRobert's Manoeuver



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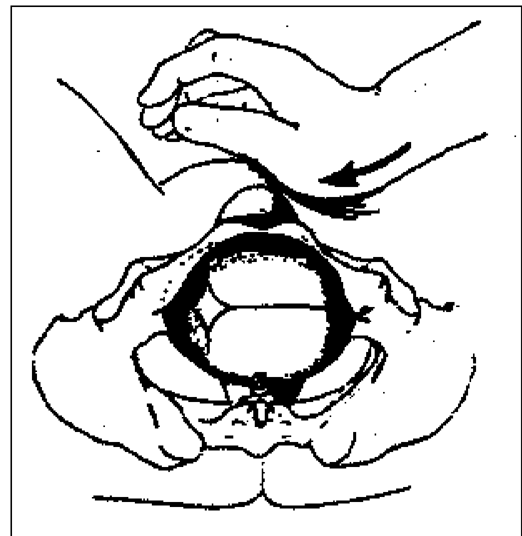
3. **A**nterior shoulder disimpaction (suprapubic pressure) successful in 91% of cases
   The infant's impacted shoulder is pushed away from the midline, where it is above the maternal pubis symphysis. Apply suprapubic pressure with the heel of clasped hands from the posterior aspect of the anterior shoulder to dislodge it (Mazzanti manoeuvre). Apply a steady pressure first and, if unsuccessful, apply a rocking pressure.

Anterior Disimpaction
1) Suprapubic Pressure

- CPR type motion
- directed from side of fetal back
- NO fundal pressure



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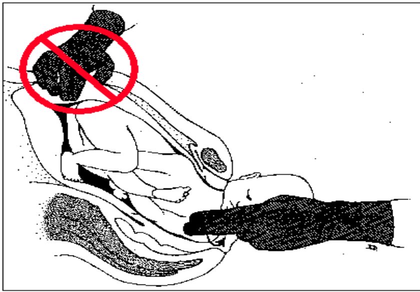
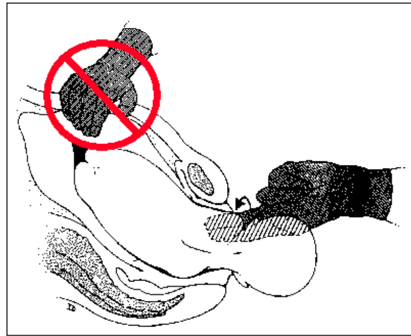
4. **R**otation of the posterior shoulder (Wood's screw manoeuvre)
   - 2 fingers apply pressure to the anterior aspect of either shoulder to rotate it into the oblique or 180^0, repeating as necessary

Rotation of Posterior Shoulder - Step 1

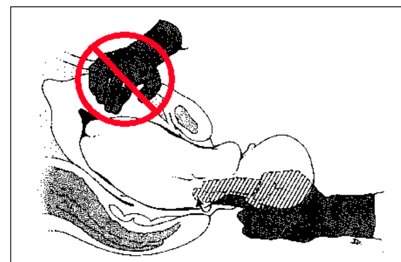


- pressure on anterior aspect of posterior shoulder
- may be combined with anterior disimpaction manoeuvers
- NO fundal pressure

Rotation of Posterior Shoulder - Step 2



Rotation of Posterior Shoulder - Step 3



- may be repeated if delivery not accomplished by Steps 1 & 2

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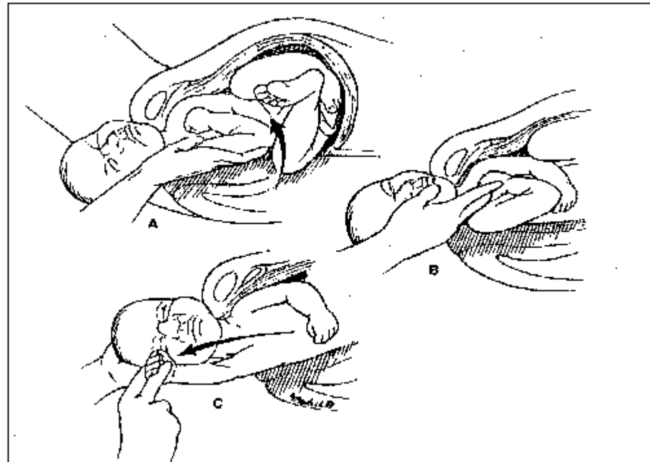
5. **M**anual delivery of the posterior arm

   The arm is usually flexed at the elbow. If it is not, pressure in the antecubital fossa can assist with flexion. The hand is then brought across the fetal chest so that the arm can be delivered.

Manual removal of the posterior arm



6. **E**pisiotomy

   This does not directly help resolve the shoulder dystocia, but may make it easier for the operator to introduce a hand into the vagina for the other manoeuvres.

7. **R**oll over onto all fours

   Moving the woman onto “all fours” appears to increase the effective pelvic dimensions, allowing the fetal position to shift. This may free the impacted shoulder. This may also allow easier access to the posterior shoulder to rotate it or deliver it.

If none of these manoeuvres have been successful, some have suggested:

- Deliberate fracture of the clavicle
- Symphysiotomy
- Zavanelli Manoeuvre (reversing cardinal movements to replace the head in the pelvis, and then carrying out Caesarean Section)

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After Shoulder Dystocia

Assess infant for any trauma

Send cord blood gases

Assess mother for tears of the genital tract

Manage 3rd stage to prevent potential postpartum haemorrhage

Document and describe manoeuvres carried out

Explain all that was done to the mother and others in attendance

KEEP PRACTICING SHOULDER DYSTOCIA DRILLS, USING THE MNEMONIC

Reference

1. Society of Obstetricians and Gynaecologists of Canada (SOGC), **Advances in Labour and Risk Management Course (ALARM)**, 22nd ed., 2015-16.

2. Managing Obstetrical Risk Efficiently (MoreOB), [website] http://www.moreob.com/en/index.htm

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