# SHOULDER DYSTOCIA

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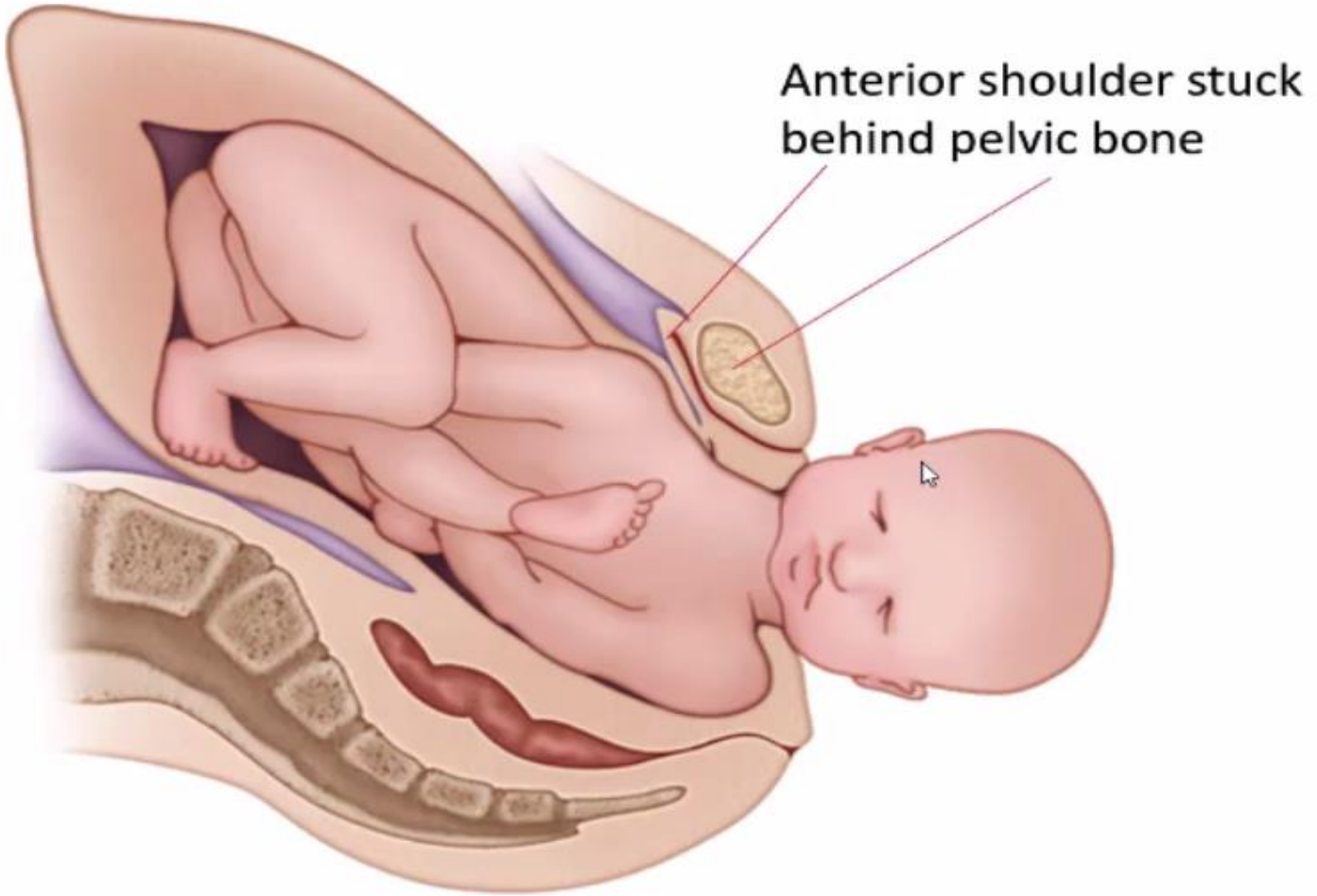
# Introduction

- **Shoulder dystocia** is defined as a delivery that requires additional obstetric manoeuvres to release the shoulders after gentle downward traction has failed.
- Incidence: 0,5-0,7%.
- It is regarded as one of the high-risk situations in obstetrics and its unpredictability continues to be a major concern for obstetricians worldwide.
- Maternity staff should participate in shoulder dystocia training at least annually.

# Introduction

- It occurs when either the anterior shoulder or less commonly, the posterior shoulder impacts on the maternal symphysis pubis after the fetal head has been delivered.
- This may occur due to failure of the shoulders to rotate into the anteroposterior diameter as they traverse the pelvic cavity.
- The posterior shoulder usually enters the pelvic cavity while the anterior remains hooked behind the symphysis pubis. In the more severe cases both shoulders do not cross the pelvic inlet.

# Introduction



# Introduction

- Although there is a limited predictive value of antepartum and intrapartum risk factors associated with shoulder dystocia, staff should have a sound awareness of these risk factors, **anticipate and prepare in advance**.

# Introduction

- Shoulder dystocia is an infrequent emergency that usually occurs unexpectedly. While there are certain predisposing factors, particularly macrosomia, normal birth weight babies make up about 48% of shoulder dystocia cases, possibly because they are the least anticipated.

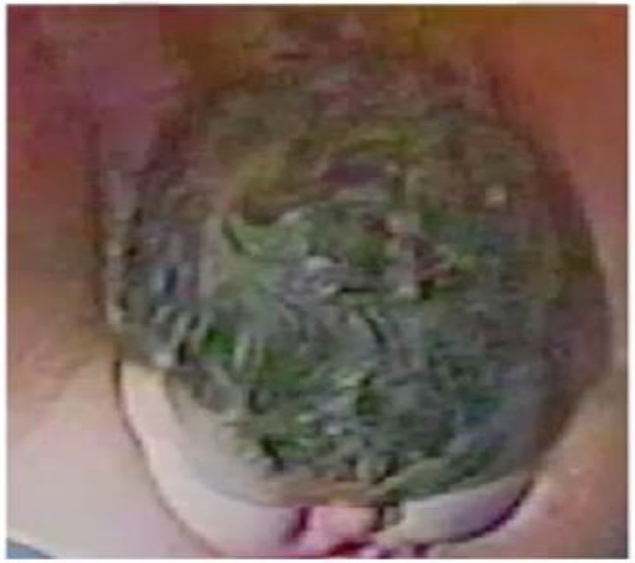
# Risk factors

**Factors associated with shoulder dystocia**

| PRE - LABOUR | INTRAPARTUM |
|---|---|
| Previous shoulder dystocia | Prolonged 1st stage of labour |
| Macrosomia | Secondary arrest |
| Diabetes Mellitus | Prolonged second stage of labour |
| Maternal BMI >30 | Oxytocin augmentation |
| Induction of labour | Assisted vaginal delivery |

# Diagnosis

- The body doesn't follow the head delivery with traction
- ”turtle sign”



# Complications

- There can be significant perinatal morbidity and mortality associated with the condition, even when it is managed appropriately:
  - **Maternal:** postpartum haemorrhage, perineal trauma
  - **Fetal**: brachial plexus injury, clavicle fracture

# Management

- **Shoulder dystocia** is an obstetric emergency, which is potentially catastrophic for both mother and baby. Therefore when it occurs, all delivery ward personnel should be armed with a logical plan of action, which can be initiated and executed without delay.

- Annual skills and drills training for shoulder dystocia management is recommended for the the involved staff.

# Management

- Following the delivery of the head the umbilical cord pH falls by 0.04 units per minute therefore, delivery should occur within 5 minutes of head delivery and permanent injury becomes progressively more likely after 10 minutes.

# Management

- Avoid the three Ps
  - Pulling
  - Pushing
  - Panic

# Management

- All manoeuvres aim to do one or more of the following:

    1. Increase the available pelvic diameters.

    2. Narrow the transverse (bisacromial) diameter of the shoulders by adduction.

    3. Move the bisacromial diameter into a more favourable angle relative to the AP pelvic diameter i.e. to the oblique.

# Management

- The mnemonic **HELPERR** is a useful systematic approach to the management of shoulder dystocia. The order of the manoeuvres is not mandatory, but it helps if the whole team is working to a single plan of action.

# Management

- **HELPERR**

| | |
|---|---|
| **H** | **HELP** |
| **E** | EVALUATE FOR Episiotomy |
| **L** | LEGS (McRoberts' Manoeuvre) |
| **P** | PRESSURE (Suprapubic) |
| **E** | ENTER (Rotational manoeuvres) |
| **R** | REMOVE the posterior arm |
| **R** | ROLL onto all fours (Gaskin Manoeuvre) |

- **If the mother is already on all fours roll her on to her back [through 180 degrees] and use McRoberts**

# Management

- **HELPERR**
- Each manoeuvre should be attempted for 30 seconds before moving to the next.
- Delegate someone to record the times that each manoeuvre is attempted and remember to record which shoulder, left or right, was impacted.

# Management

## HELP

Hit the emergency call button : call urgently the obstetric & neonatal team.

Note the time.

## EVALUATE FOR EPISIOTOMY

If there is no episiotomy, performing one will allow more access for the internal manoeuvres but may not be necessary in all cases.

# Management

- **LEGS- McRoberts' Manoeuvre**
- This is the single most effective intervention and should be performed first
  - Draw the maternal buttocks to the end of the bed
  - Lie the bed flat if not already
  - Both maternal hips should be flexed, abducted and rotated outwards
  - Once in position moderate steady head traction can be applied

# Management

**PRESSURE- Suprapubic (**Rubin I manoeuvre**)**

- This should be performed prior to the additional manoeuvres below.
- An assistant should apply suprapubic pressure from the side of the fetal back over the anterior shoulder towards the fetal face using the 'cardiac massage' / CPR grip.
- The aim is to adduct and internally rotate the anterior shoulder so that it passes under the symphysis pubis (downwards and lateral direction).
- To improve success rates this can be combined with McRoberts Manoeuvre.
- Strong head traction or maternal pushing should be avoided.
- If after 30 seconds the head does not deliver then a rocking movement using the same manoeuvre can be used.

# Management

## ENTER- Rotational Manoeuvre

### 1. Rubin II Manoeuvre

Insert the fingers of one hand behind the anterior shoulder and push the shoulder towards the fetal chest. The aim is to rotate the bisacromial diameter to the oblique diameter of the pelvis.

### 2. Woods' Screw Manoeuvre

The fingers of the opposite hand are inserted into the vagina onto the front of the posterior shoulder. Pressure is exerted onto the posterior shoulder with the aim of rotating the shoulder towards the symphysis pubis. This can be combined with the Rubin II manoeuvre with the aim of rotating the shoulders through 180º

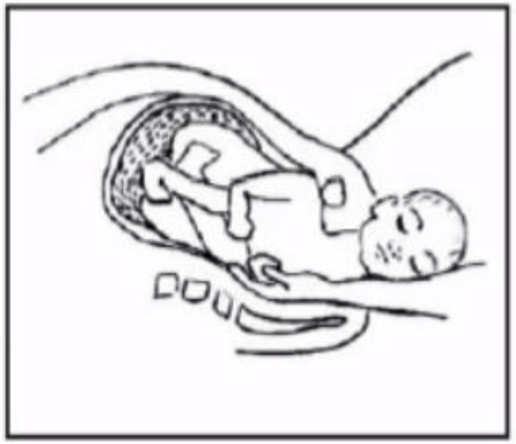
# Management

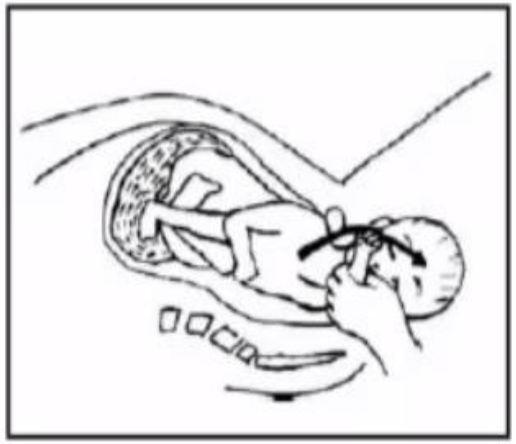
## ENTER- Rotational Manoeuvres

### 3. Reverse Woods' Screw Manoeuvre

The fingers of one hand can be placed behind the posterior shoulder and pressure exerted on the shoulder in the opposite direction to the previous two manoeuvres with the aim of rotating the shoulders 180º in the opposite direction.

# Management





## REMOVE the posterior arm

One hand should be passed into the posterior vagina onto the posterior arm. The fetal humerus should be followed to the elbow. The forearm should be grasped between 2 fingers just below the elbow to sweep the arm across the chest and face. If the posterior arm is delivered the anterior shoulder will deliver with normal head traction.

# Management

## ROLL- Gaskin Manoeuvre

Rolling the woman onto all fours can increase the antero-posterior diameter of the pelvic inlet and facilitate other manoeuvres. (Gaskin, 1988)

**It can be considered prior to performing the internal manoeuvres.**

# Management

## Other Management Options

The following can be considered if all the above procedures have failed and should only be attempted by the obstetric consultant.

# Management

## Other Management Options

1. **Zavanelli Manoeuvre :** head pushed back in and delivered by C/section.
2. **Symphysiotomy.**
3. **Fracture of the fetal clavicle.**

# Management

## Actions to avoid

- Avoid Fundal pressure – risk of ruptured uterus
- Avoid Excessive traction on the neck – may cause brachial plexus injury
- Avoid Twisting or bending of the neck – risk of brachial plexus damage
- Avoid Left lateral delivery – encourages excessive neck traction

# Management

- **Standards for record keeping in relation to shoulder dystocia**

1. Document delivery details clearly
2. Complete the shoulder dystocia reporting form
3. Complete a risk management form

# Management

- **Care of the woman following a birth complicated by shoulder dystocia**

1. Explain as soon as possible to the woman and her partner what has happened
2. Take cord blood for umbilical artery and vein pH
3. Carefully examine the mother for lacerations and third or fourth degree tears
4. Observe for Postpartum haemorrhage (PPH)
5. Arrange a follow up appointment in the consultants postnatal clinic

# Management

## Postpartum – Care of the baby following Delivery

1. Assess baby for abnormal clinical signs. e.g. Erb's palsy, fracture of the humerus or clavicle, encephalopathy.

2. Assess baby for bone or nerve injury (fracture of the humerus or clavicle, Erb's palsy) and encephalopathy.

3. Debrief parents.

# Home Message

- Although there is a limited predictive value of antepartum and intrapartum risk factors associated with shoulder dystocia, staff should have a sound awareness of these risk factors, **anticipate and prepare in advance**.

# Thank you

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