Shoulder Dystocia

Objectives

- Definition and Incidence
- Significance
- Risk Factors
- Diagnosis
- Management

Definition

- impaction of anterior shoulder above symphysis
- inability to delivery shoulders by usual methods

Incidence

- 1 to 2 per 1000 deliveries
- 16 per 1000 deliveries of babies > 4000 g

Complications of Shoulder Dystocia

- Fetal/neonatal
  - death
  - asphyxia and sequelae
  - fractures - clavicle, humerus
  - brachial plexus palsy
- Maternal
  - postpartum hemorrhage
  - uterine rupture

Risk Factors

- post-term pregnancy
- maternal obesity
- fetal macrosomia
- previous shoulder dystocia
- operative vaginal delivery
- prolonged labour
- poorly controlled diabetes

Title:

Risk factors for macrosomia

Risk factors for macrosomia

Maternal obesity
Multiparity
Advanced maternal age
Maternal diabetes
Postterm pregnancy
Male infant
Previous macrosomic infant
Excessive gestational or interpregnancy weight gain
Hispanic or African American ethnicity
Maternal birth weight over 4000 g
Familial trait
Genetic variant (eg, Beckwith-Wiedemann syndrome)

Graphic 79202 Version 5.0

Incidence of shoulder dystocia by birth weight in pregnancies with and without maternal diabetes

Incidence of shoulder dystocia by birth weight in pregnancies with and without maternal diabetes

Birth weight (g)	Shoulder dystocia in nondiabetic pregnancies (%)	Shoulder dystocia in diabetic pregnancies (%)
Less than 4000	0.1 to 1.1	0.6 to 3.7
4000 to 4499	1.1 to 10.0	4.9 to 23.1
4500 or more	2.7 to 22.6	20.0 to 50.0

Risk factors are present in
< 50% of cases

Diagnosis

- head recoils against perineum, 'turtle' sign
- spontaneous restitution does not occur
- failure to deliver with expulsive effort and usual gentle direction

Shoulder Dystocia

Ask for help

Lift - the buttocks
- the legs

} McRobert's manoeuver

Anterior disimpaction of shoulder
- rotate to oblique
- suprapubic pressure

Rotation of the posterior shoulder - Woods' manoeuver

Manual removal of posterior arm

Avoid the P's

- Panic
- Pulling (on the head)
- Pushing (on the fundus)
- Pivoting (sharply angulating the head, using the coccyx as a fulcrum)

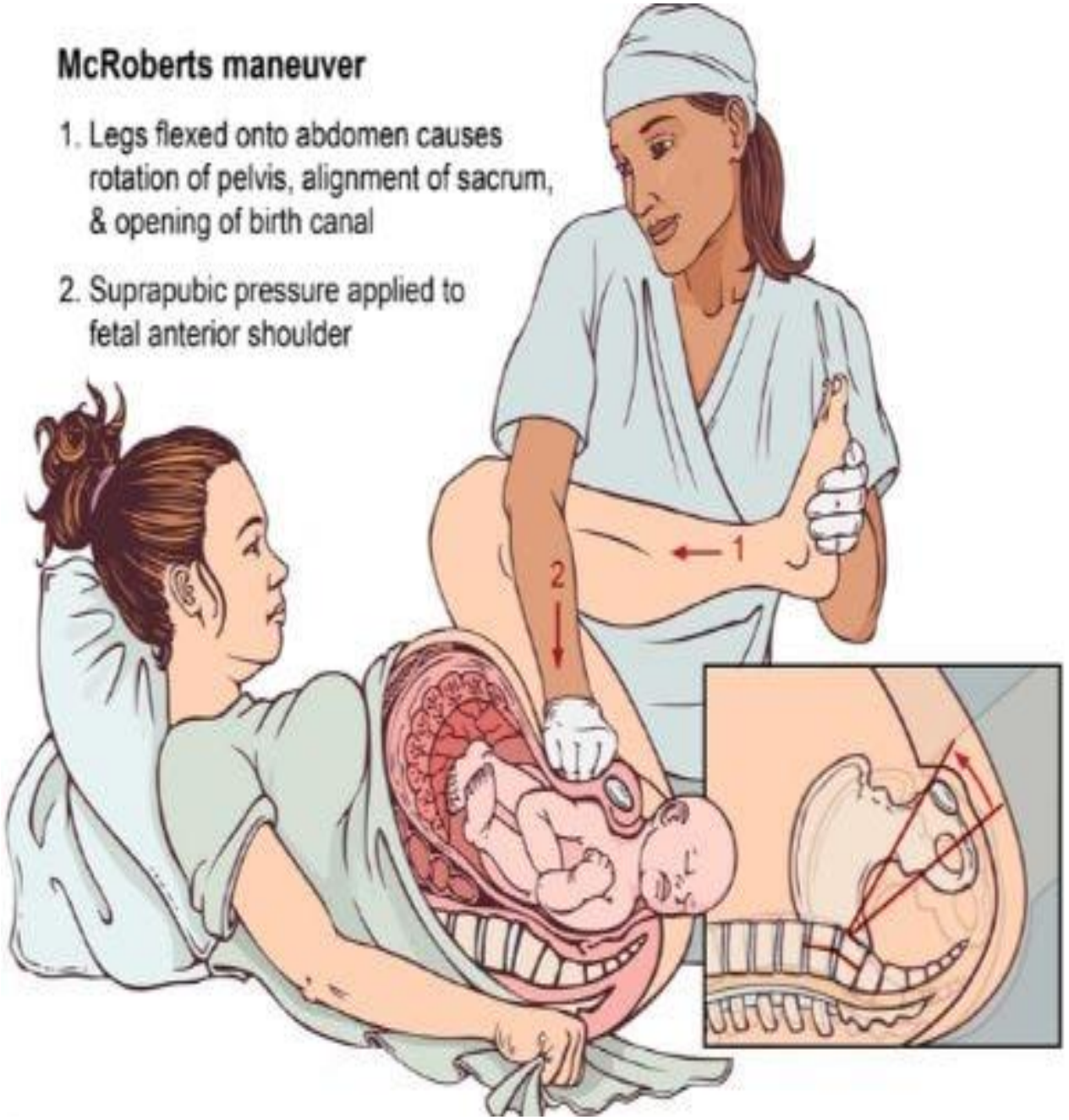
Ask for HELP

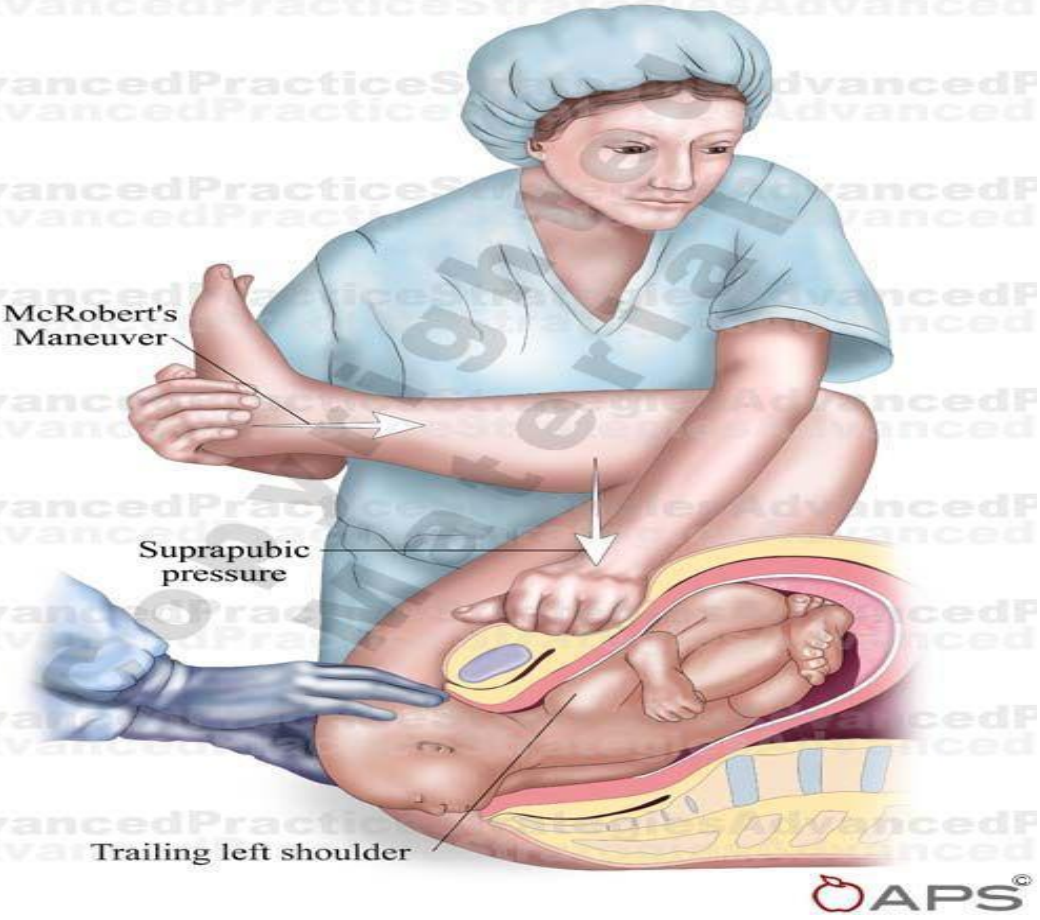
- get the mother on your side
- partner, coach
- nursing
- notify physician back up or other appropriate personnel

Lift - McRobert's Manoeuver

McRoberts maneuver

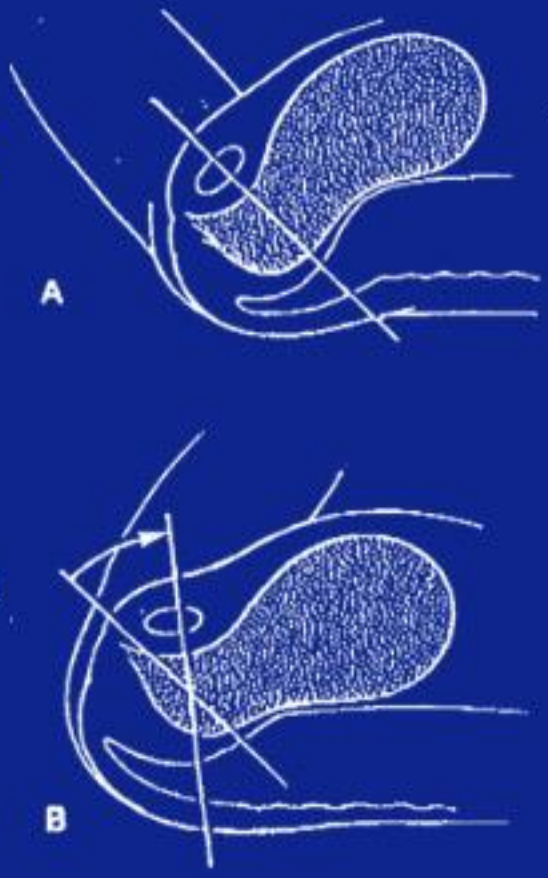
1. Legs flexed onto abdomen causes rotation of pelvis, alignment of sacrum, & opening of birth canal
2. Suprapubic pressure applied to fetal anterior shoulder




McRobert's
Maneuver
Suprapubic
pressure
Trailing left shoulder
APS©

Lifting the legs and buttocks

- McRobert's manoeuver
- flexion of thighs on abdomen
- requires assistance
- 70% of cases are resolved with this manoeuvre alone



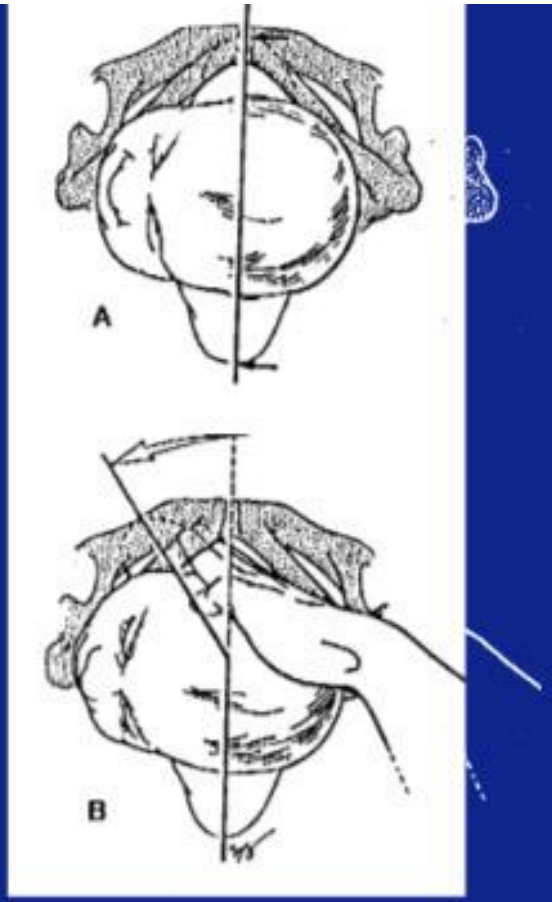
Anterior Disimpaction -

1) Suprapubic Pressure (Massanti Manoeuvre)

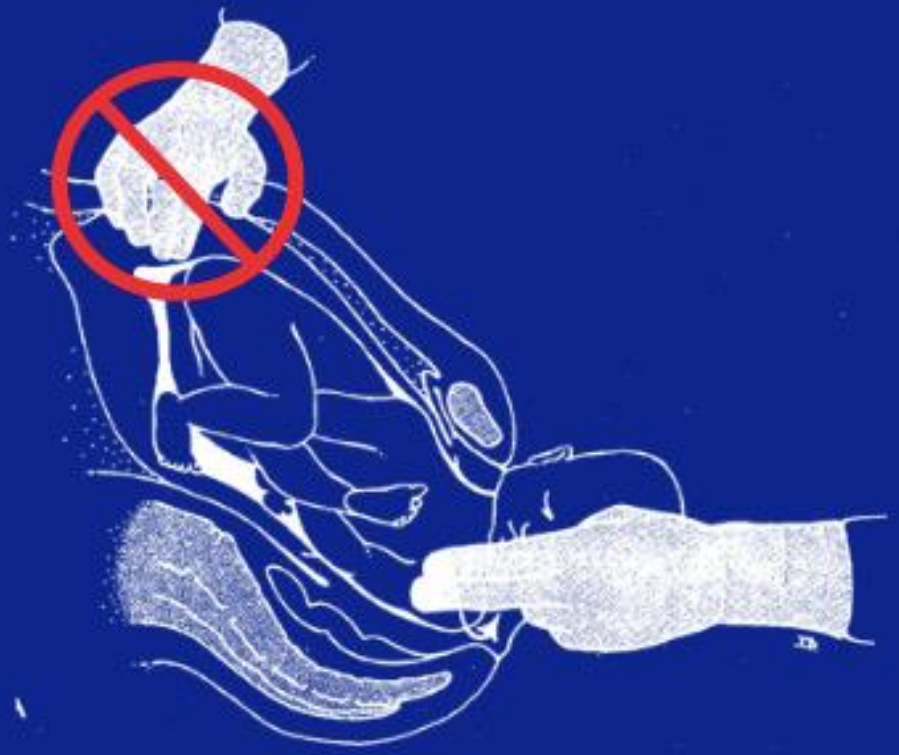
- NO fundal pressure
- Abdominal approach: suprapubic pressure applied with heel of clasped hand from the posterior aspect of the anterior shoulder to dislodge it

Anterior Disimpaction - 2) Rubin Manoeuver

- vaginal approach
- adduction of anterior shoulder by pressure applied to the posterior aspect of the shoulder (the shoulder is pushed toward the chest)
- consider episiotomy
- NO fundal pressure

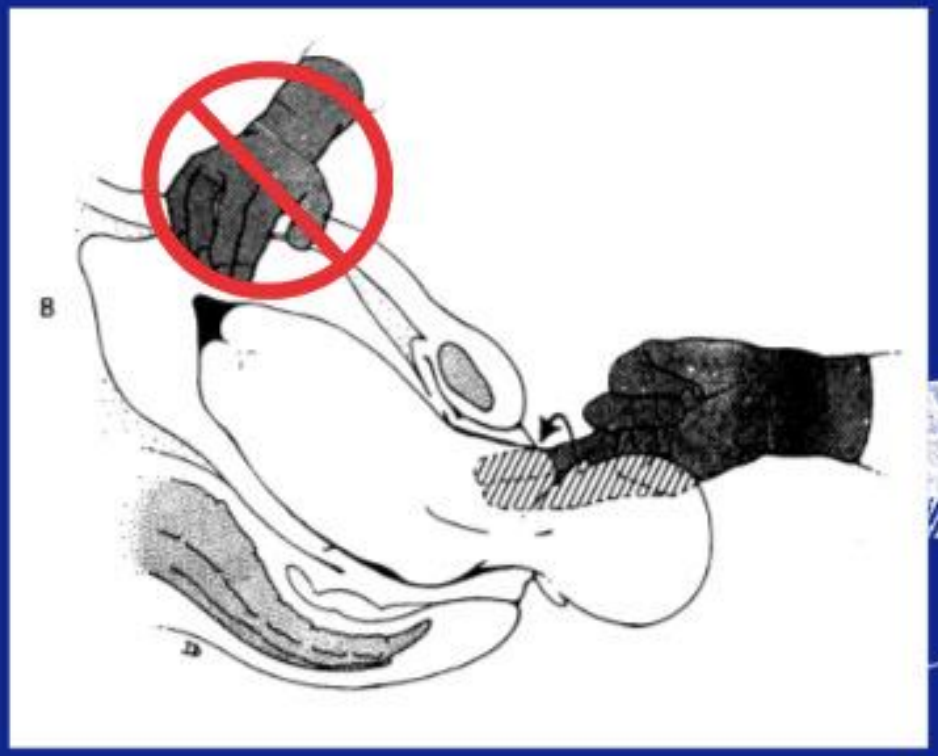


Rotation of Posterior Shoulder - Step 1



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

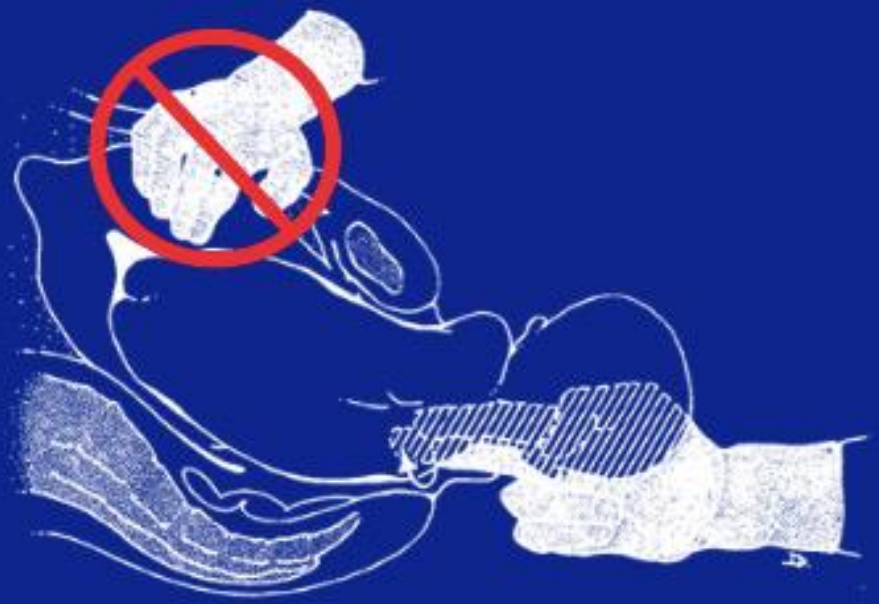
Rotation of Posterior Shoulder - Step 2



Wood's screw manoeuvre

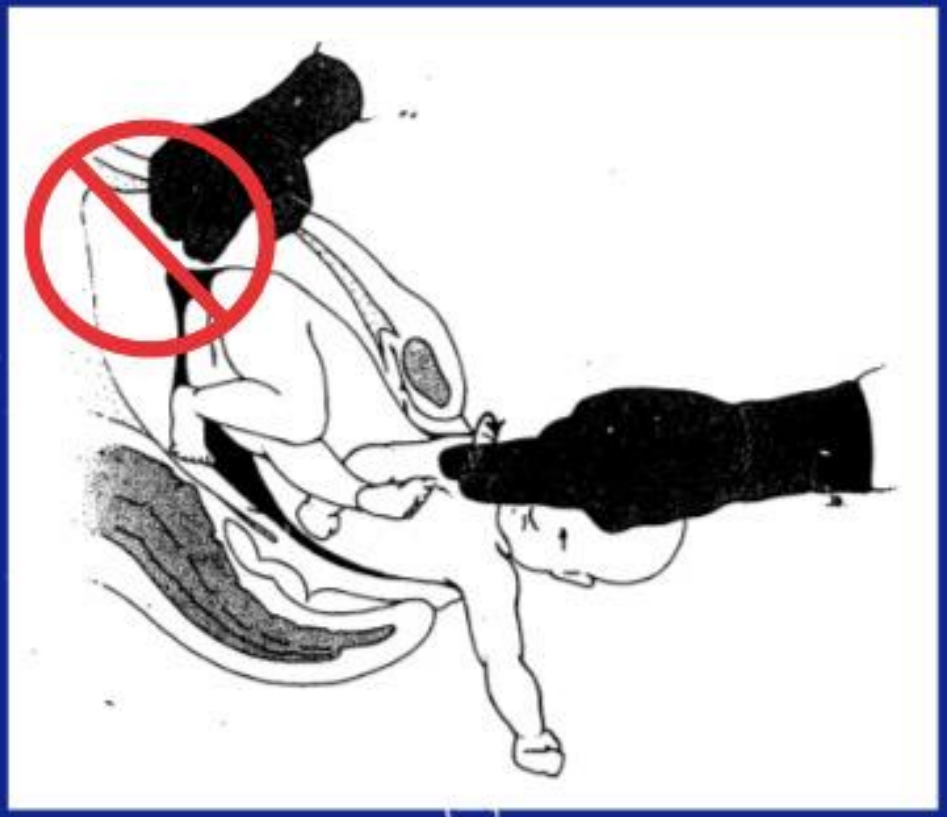
- can be done
- aneously with
- anterior dissimpaction

Rotation of Posterior Shoulder - Step 3



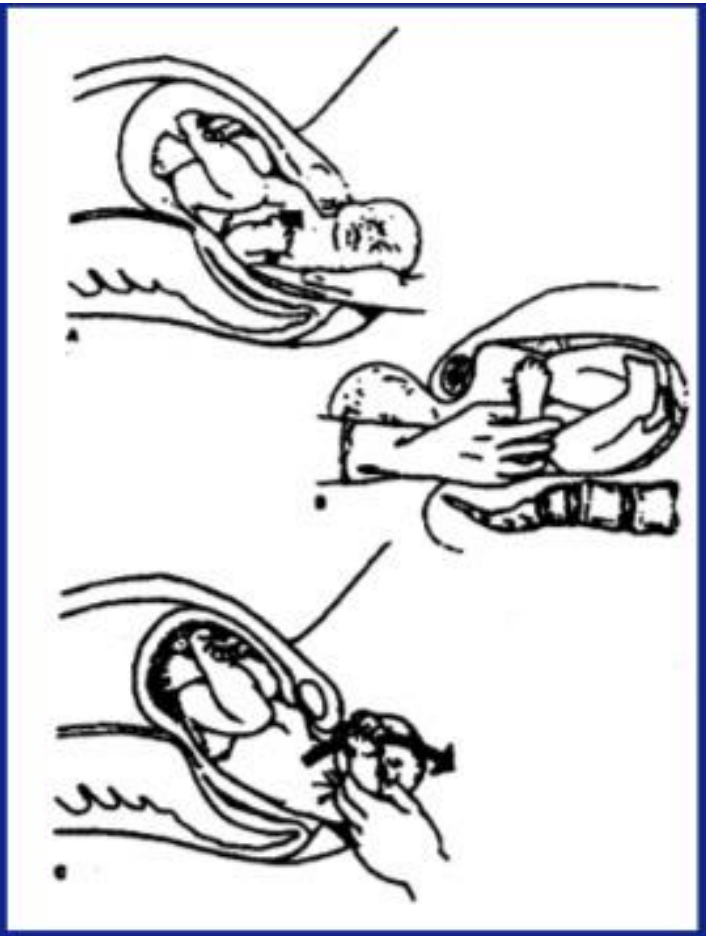
- may be repeated if delivery not accomplished by Steps 1 & 2

Rotation of Posterior Shoulder - Step 4

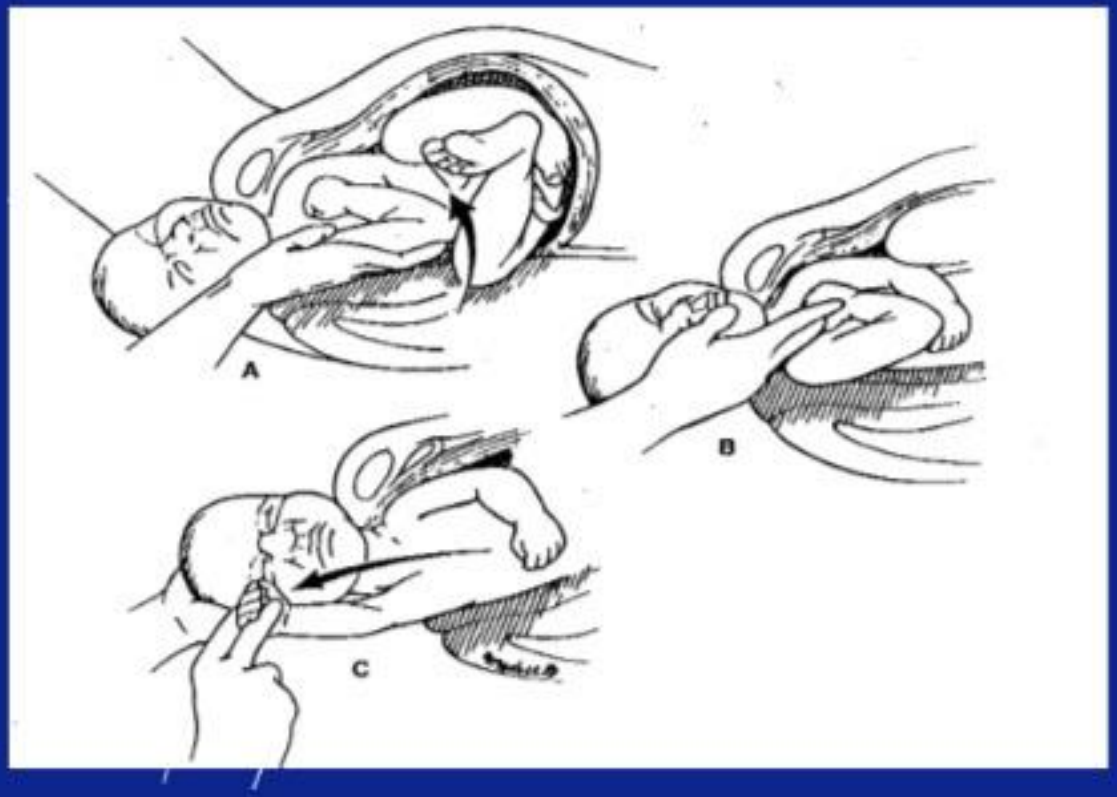


Manual removal of posterior arm

- flex arm at elbow
- (pressure in antecubital fossa to flex arm)
- sweep arm over chest
- grasp wrist/forearm or hand
- deliver arm

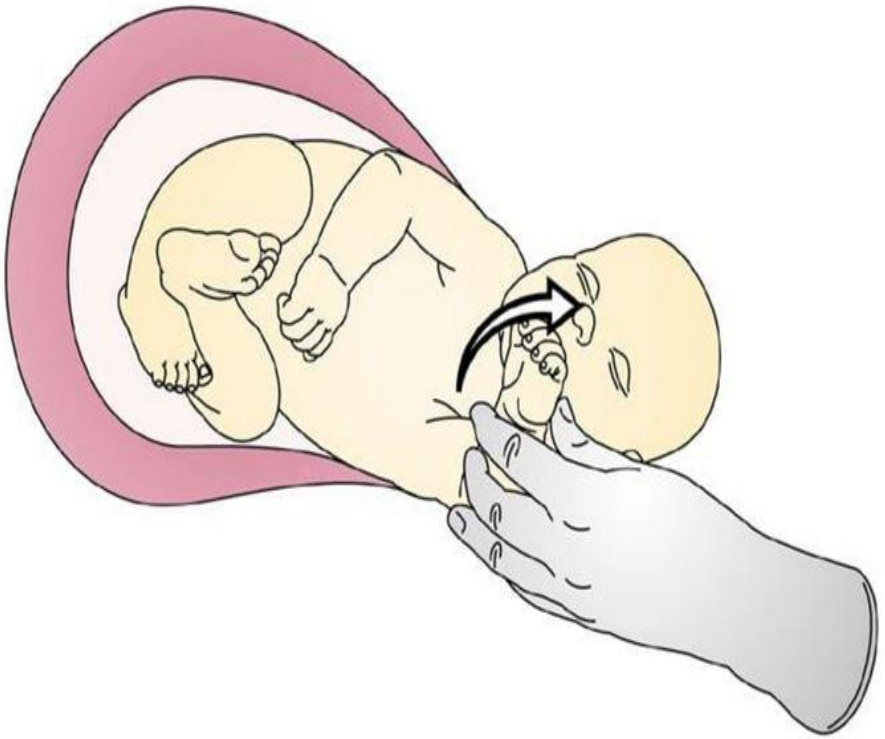


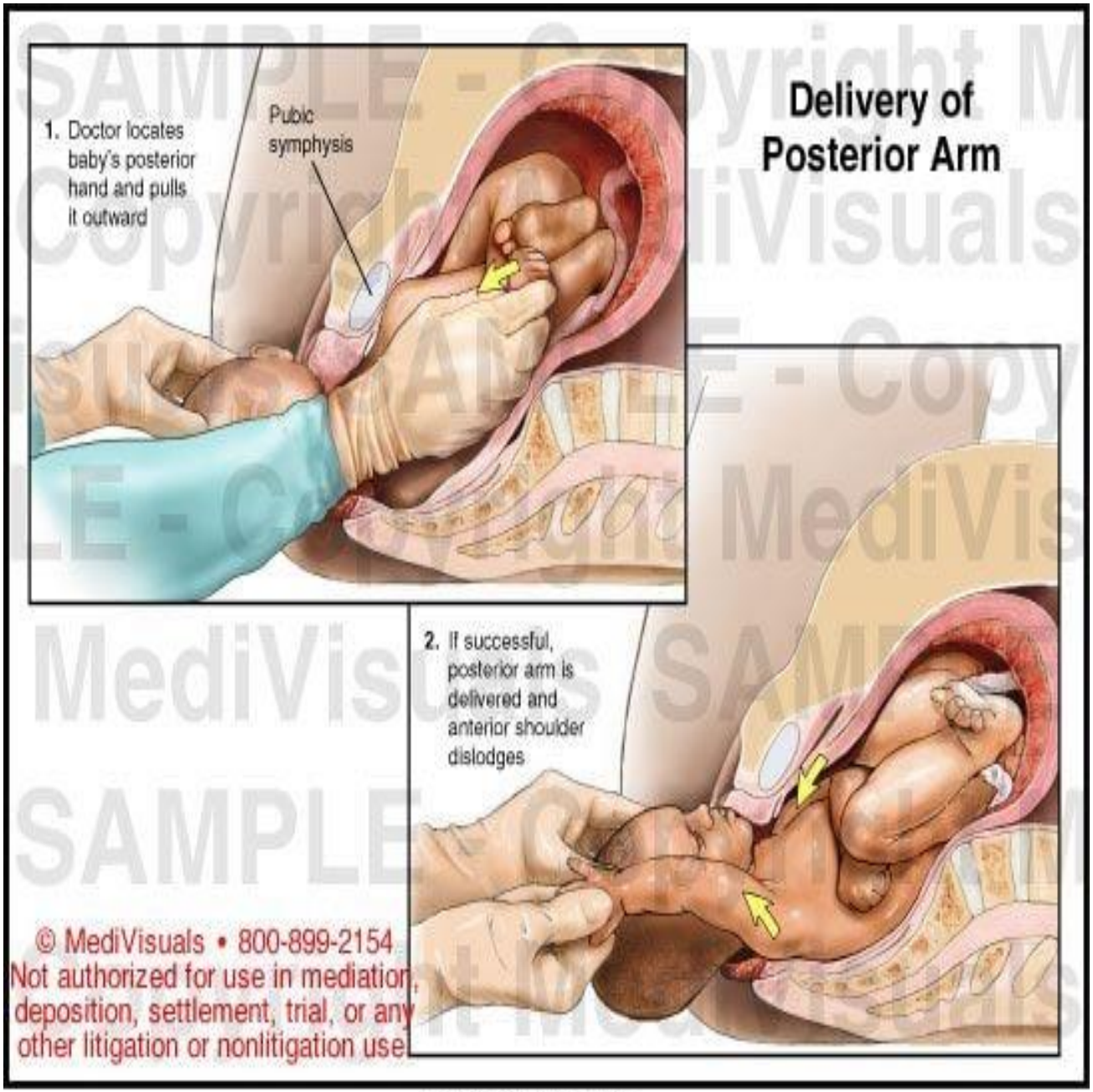
Manual removal of the posterior arm



Delivery of posterior arm

4. Delivery of the posterior arm





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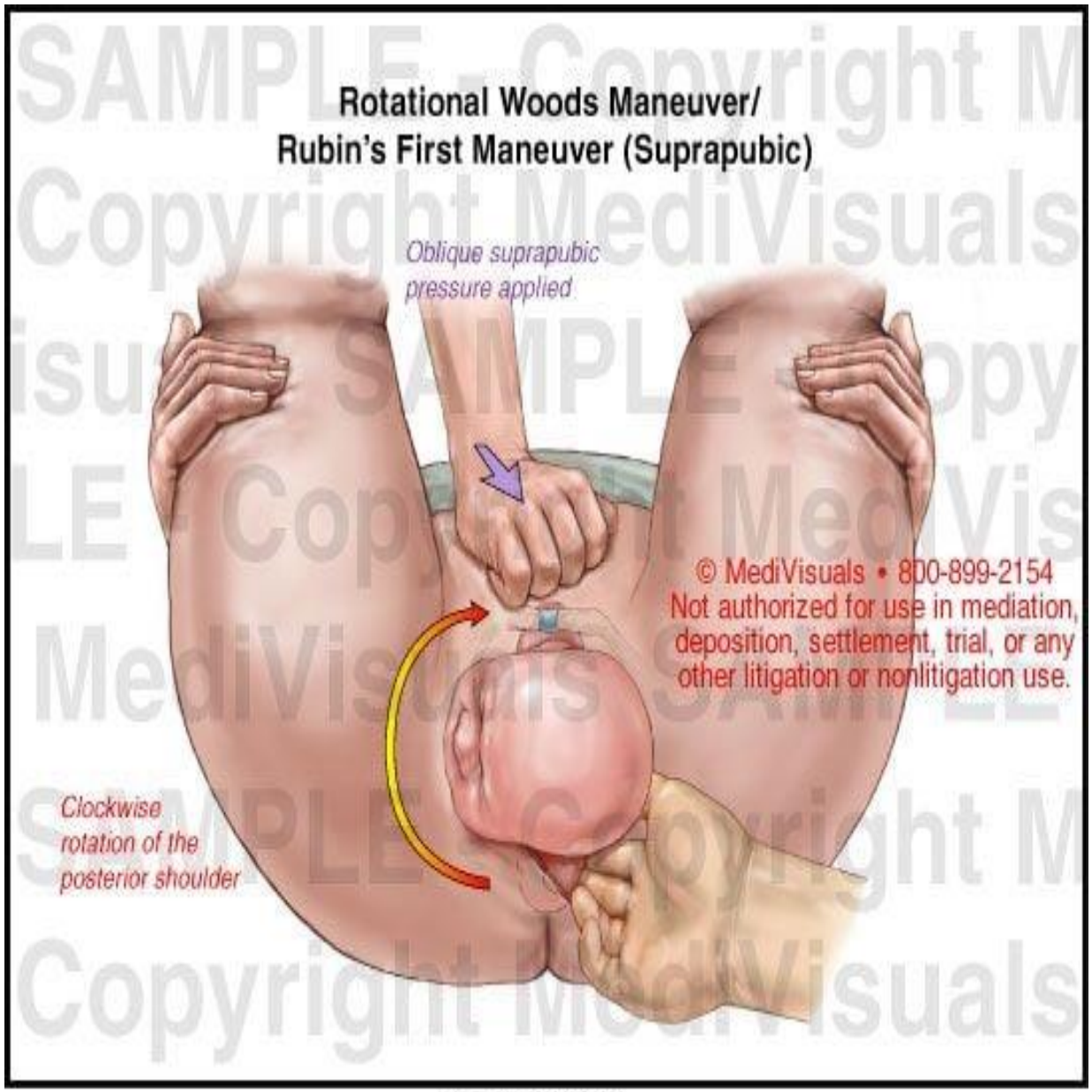

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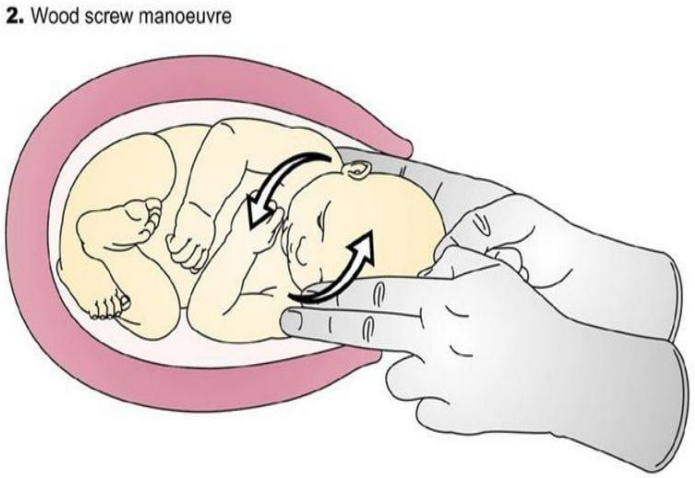
Wood s corkscrew MANEUVER

چرخش شانه خلفی به میزان 180 درجه در جهت عقربه های ساعت

Wood screw manoeuvre



Episiotomy

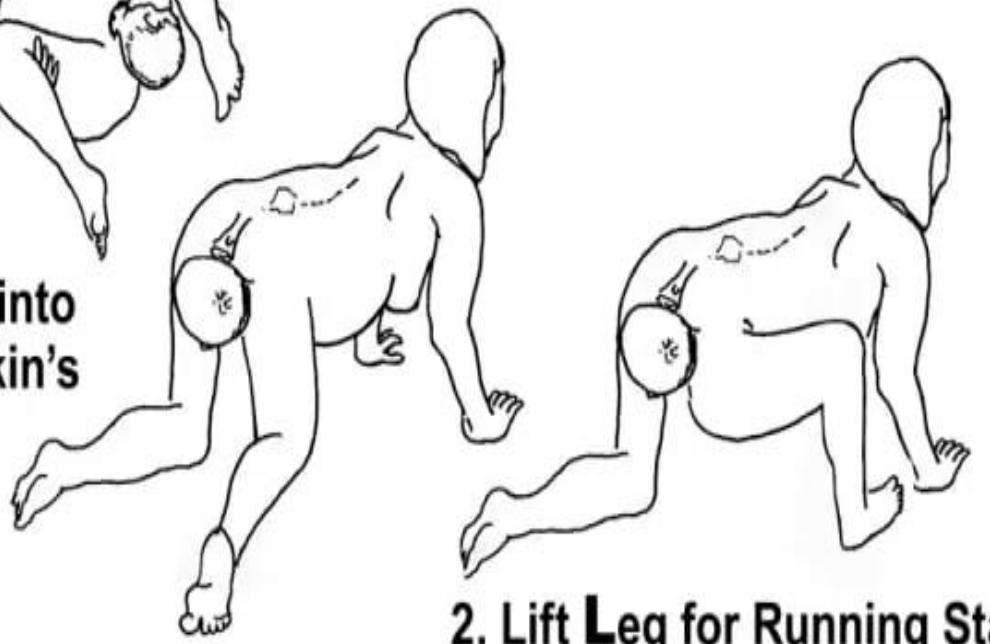
- may facilitate Wood's Manoeuver or allow room for delivery of the posterior arm
- roll over to knee chest: May allow easier access to posterior shoulder

R- Roll the patient (Gaskin or all four maneuver) - increases the flexibility of sacroiliac joint and gravity push the posterior shoulder anteriorly.

Fig. 18.8: Gaskin maneuver or all-fours position

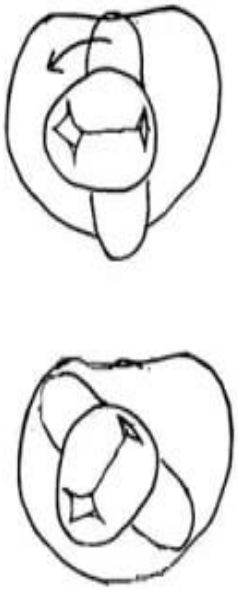
Flip**FLOP**: Four Effective Maneuvers

1. **F**lip into Gaskin's



2. Lift **L**eg for Running Start

3. Rotate to the **O**blique

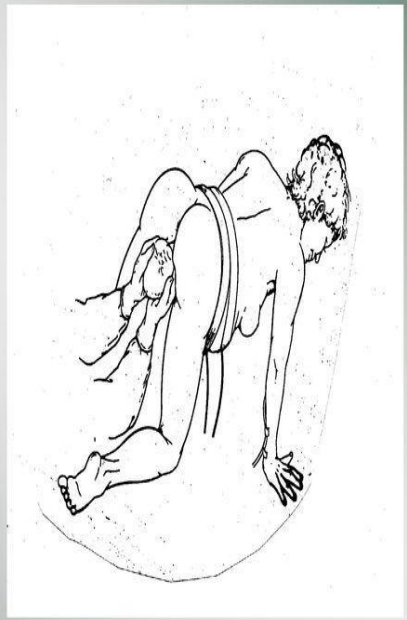


4. Remove the **P**osterior Arm

Avera McKennan

Gaskin Maneuver

- Hands & knee (not knee chest)
- Mechanism of action unknown
- Consider trying first if no epidural



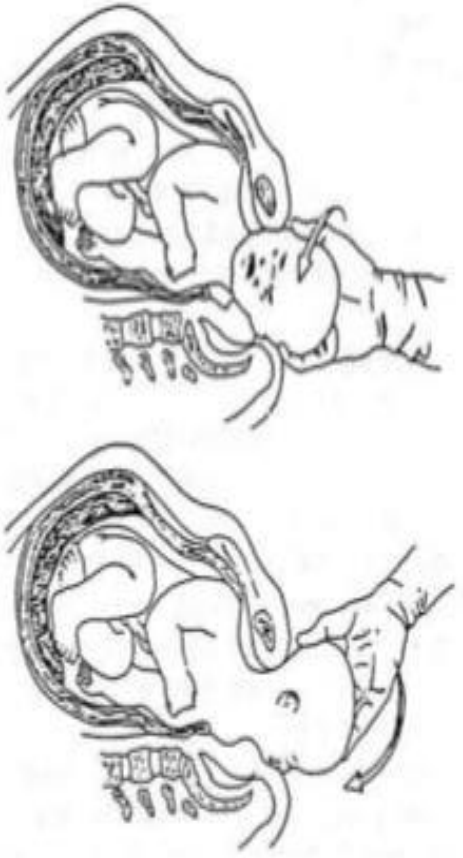
As a last resort

- clavicular fracture
- cephalic replacement (Zavenelli manoeuvre)
- symphysiotomy

Zavanelli maneuver

Consists of cephalic replacement + caesarean delivery.

- Relax uterus with terbutaline
- Rotate head back to OA ("reverse restitution")
- Flex neck
- Upward pressure
- To Operation Theatre



Afterwards

- be prepared for PPH
- inspect for maternal lacerations and trauma
- examine the baby for evidence of injury
- explain the delivery and manoeuvers
- chart what was done

Conclusions

- anticipate and be prepared (most are unpredictable)
- remember the mnemonic "ALARMER"
- stay calm, don't panic, pull, push or pivot

Shoulder Dystocia

Ask for help

Lift - the buttocks
- the legs

} McRobert's Manoeuver

Anteri

Shoulder Dystocia

- suprapubic pressure

Rotate the posterior shoulder - Woods' manoeuver

Manual removal of the posterior arm

Episiotomy - consider

Roll over

Approach to shoulder dystocia

Approach to shoulder dystocia

Notify nursing, anesthesia, obstetric, and pediatric staff to come to patient's room, if not already available, to provide assistance as needed.
Stop maternal pushing while preparations are made and maneuvers are undertaken to reposition the fetus.
Check for and release a tight nuchal cord, if present.
Position the patient with her buttocks flush with the edge of the bed to provide optimal access for executing maneuvers to affect delivery.
Consider performing a mediolateral or median third- or fourth-degree episiotomy to facilitate delivery of the posterior shoulder and other internal procedures. Episiotomy by itself does not help to release the anterior shoulder and increases perineal trauma.
Drain a distended bladder, if present.
Avoid excessive neck rotation, head and neck traction, and fundal pressure because this combination of maneuvers can stretch and injure the brachial plexus.
Perform maneuvers sequentially until shoulder dystocia is released. The sequence may be modified based on provider expertise with the various maneuvers. ▪ Perform McRoberts maneuver ▪ Perform McRoberts maneuver with suprapubic pressure ▪ Deliver the posterior arm or Gaskin all-fours maneuver* ▪ If the posterior arm cannot be delivered, deliver the posterior shoulder ▪ Rotate the fetus (Rubin or Woods maneuver) ▪ Fracture the fetal clavicle Procedures of last resort: ▪ Gunn-Zavanelli-O'Leary maneuver ▪ Abdominal rescue ▪ Symphysiotomy (potentially high maternal morbidity)
Document your evaluation, assessment, and management.

Title:

Documentation of delivery complicated by shoulder dystocia

Documentation of delivery complicated by shoulder dystocia

Date Patient

Antepartum information

Diabetic? no yes
if yes: Pregestational_____ Gestational_____test and result_____

Insulin yes no

Estimated fetal weight _____

Labor and delivery Note Time for:

onset of active labor _____

start of second stage _____

delivery of head _____

delivery of posterior shoulder _____

delivery of infant _____

When and how was the diagnosis of shoulder dystocia made?

Forceps used? yes no Vacuum used? yes no

Indication_____
Instrument used_____

Station when applied _____ Position of fetal head _____
Time forceps or vacuum applied _____
Number of pulls to extract fetus _____

Enter the time of day the following assistance was requested:

Additional obstetrician (name) _____ Arrived _____

Anesthesia (name) _____ Arrived_____

Pediatrician(s) (name) _____ Arrived _____

Additional nurse(s) (name) _____ Arrived _____

Others present _____

Title:

Documentation of delivery complicated by shoulder dystocia, continued

Documentation of delivery complicated by shoulder dystocia, continued

Maneuvers (indicate if maneuver performed, order from first(1) to last, and result)

_____ Extended episiotomy

_____ Wood's corkscrew (posterior shoulder rotated in a corkscrew fashion)

_____ Suprapubic pressure (Note: Fundall pressure should NOT be used)

_____ Rubin (rocking fetal shoulders to decrease girth)

_____ McRoberts (legs flexed back onto maternal abdomen)

_____ Delivery of posterior arm

_____ Fracture of anterior clavicle

_____ Zavanelli (head pushed back into vagina)

_____ Other (describe)

Neonatal outcome

Apgar score: 1 min _____ 5 min _____ If less than 7 also include 10 min _____

Birth weight: _____ pounds _____ounces OR _____grams

Umbilical cord gas results _____

Pediatric evaluation performed by: _____ at (time) _____

Brachial plexus palsy present? yes _____no _____

_____ Erb's

_____ Klumpke's (includes forearm and small muscles of the hand)

Horner's facial palsy present? yes _____ no _____

Fracture present? yes _____no _____

_____ _____

Signature of delivering attendant Date

Prepartum planning for route of birth at term

Prepartum planning for route of birth at term