Precipitous Delivery and Postpartum Hemorrhage in the Emergency Department

Focused History
PMH, Meds
Estimated Gestational Age/Due date
G?P? (longer labor expected if first vaginal delivery)
Did patient receive prenatal care?
Known OB concerns (placenta previa, multiple gestation)
Prior C section

Call For Help
Obstetrics
(or Telemedicine Obstetrics)
Pediatrics
Anesthesia
Midwifery
Any assistant physician/nurse

Can patient be transferred?
If presenting part is visible at introitus, patient cannot be transferred, must be delivered in present location

If contractions are <2 minutes apart or mom feels urge to push, delivery is fast approaching, likely unable to transfer

Is fetus viable?
If fundus is below umbilicus, fetus may not be viable and complicated delivery is unlikely because of baby's very small size

Uncomplicated Delivery

Reassure mom, develop partnership

Ask mom to push with contractions, rest in between

Apply gentle counteraction to head to prevent explosive delivery, which can cause a large tear

Usual delivery: gentle downward guidance to head to deliver anterior shoulder, then gentle upward guidance to head to deliver posterior shoulder

Clamp x2, cut two inches (four finger-breadths) from umbillicus

Dry/warm baby, cover, if baby well, give to mom

Is the presenting body part the head?

Yes

- Is the head out? — no → Wait for 1 minute
- Is the head out? — yes → Feel for nuchal cord
- Feel for nuchal cord:
  - No nuchal cord or loose nuchal cord
  - Tight nuchal cord → Attempt to reduce cord by pulling over head → If cannot, clamp (x2) and cut cord
- Is the head entirely out? — yes (from Wait for 1 minute)
- Is the head entirely out? — no → Tell mom: **stop pushing do not pull on head**
- Feel for nuchal cord — nuchal cord present
- Feel for nuchal cord — no nuchal cord → **Shoulder dystocia**

No → OB able to take patient to OR? — no → Telemedecine OB consult if available

OB able to take patient to OR? — yes → C section in OR

Deliver Baby

10 u IM oxytocin

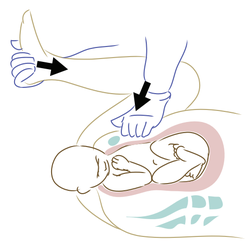
Goal: delivery in 5-7 min to prevent fetal hypoperfusion/hypoxia

Deliver Placenta
Do not pull cord
Wait for lengthening of cord, gush of blood
Mom can push
Usually delivers within 5 minutes, but can take up to 30 minutes

Inspect placenta, should look like a disc
Are there missing parts that may be retained in uterus?

Inspect perineum
Direct pressure or repair if significantly bleeding tear

Dystocia Maneuvers



1. McRoberts: hyperflexion/adduction of both hips (knees against lateral abdomen) - requires an assistant at each leg
+
Apply 30 seconds suprapubic
(not fundal - location is significantly inferior to fundus) pressure directed posteriorly and then laterally (not inferiorly)

McRoberts + Suprapubic pressure resolves 90% of dystocia

Gentle posterior-directed (downward) traction on head, never pull

2. Corkscrew: insert hand along baby's back, rotate anterior shoulder toward baby's face, lateral to pubic symphysis, reinsert hand along baby's back to rotate posterior shoulder in opposite direction, away from baby's face, then reattempt delivery (gentle downward guidance on head as mom pushes)

3. Place mom in all-fours position, then gentle downward traction on head (baby's head guided toward stretcher) (Gaskin maneuver)

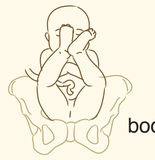
Equipment for Emergency Delivery

Sterile gloves
Sterile scissors
2 Clamps for umbilical cord
Bulb syringe/suction
Sterile sponges/4x4 gauze
Towels and blankets (preferably warmed)
Laceration repair kit with absorbable suture (e.g. Vicryl 2-0 or 3-0)
Neonatal resuscitation equipment, most basic elements:
- Neonatal cardiorespiratory monitor
- Neonatal bag valve mask
- Neonatal laryngoscope (sizes 0 and 1)
- Neonatal endotracheal tube (sizes 2.5 through 4.0)

Neonatal incubator/warmer
Medications (oxytocin most important) & blood

Buttock

Encourage mom to push with contractions until axilla/nipple appears



Never pull baby

Support baby's buttocks/emerging body until axilla/nipple appears

Once legs/hips are out, place a towel over them for warmth and better traction, and put mom into McRoberts position

Using two fingers in birth canal, push both arms medially toward baby's midline to deliver arms (goal is to prevent arms from being raised above head)

Assistant applies maternal suprapubic pressure to encourage delivery of head

Continued encouragement of mom to push with contractions, deliver head

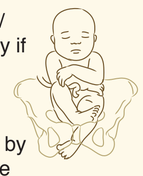
Hand/Arm

Is presentation truly hand/arm?
More common is hand pressed against face - this will self-resolve and lead to normal vertex delivery

If hand/arm is truly prolapsed beyond head, baby is horizontal/transverse lie in canal and cannot be vaginally delivered, C section required

Foot/Leg

High risk for umbilical cord prolapse/ compression. C section is mandatory if baby is still viable



Viability can be established by palpating pulsatile umbilical cord, or by checking sonographic fetal heart rate

Postpartum Hemorrhage

Resuscitative vascular access
Reverse coagulopathy if applicable
Massive transfusion protocol may be required

Uterine Atony (80%)
Most PPH will respond to first line atony treatments

Uterine massage
Oxytocin 40 IU in 1 liter IVNS
Drain bladder with Foley

If continued bleeding:
Misoprostol (Cytotec) 400 mcg sublingually or 1 g per rectum
TXA 1 g over 10 minutes, may repeat x1

If continued bleeding:
Methylergonovine (Methergine) 0.2 mg IM (contraindicated in hypertension)
Carboprost (Hemabate) 250 mcg IM q 15 min prn (contraindicated in asthma)

Retained products of conception
Does placenta deliver easily and look complete?

1. Maternal analgesia
2. Using external abdominal hand, push uterus inferiorly (toward intravaginal examining hand)
3. Sweep inside of uterus with hand to gather POC

Trauma to birth canal
inspect vagina and cervix

Direct pressure
Laceration repair with suture (2-0 Vicryl)
Inject with epinephrine prn

DIC/occult coagulopathy

CBC, fibrinogen, PT/PTT
Treat with cryoprecipitate prn
TEG if available

fibrinogen normally elevated in pregnancy
normal fibrinogen concerning for DIC
low fibrinogen strongly suggests DIC

Maneuvers for life-threatening bleeding unresponsive to usual treatments
Intrauterine balloon tamponade with Bakri Balloon or equivalent
Uterine packing with gauze/procoagulants
External aortic compression (using ultrasound if available)
REBOA / Laparotomy / Cesarean section

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