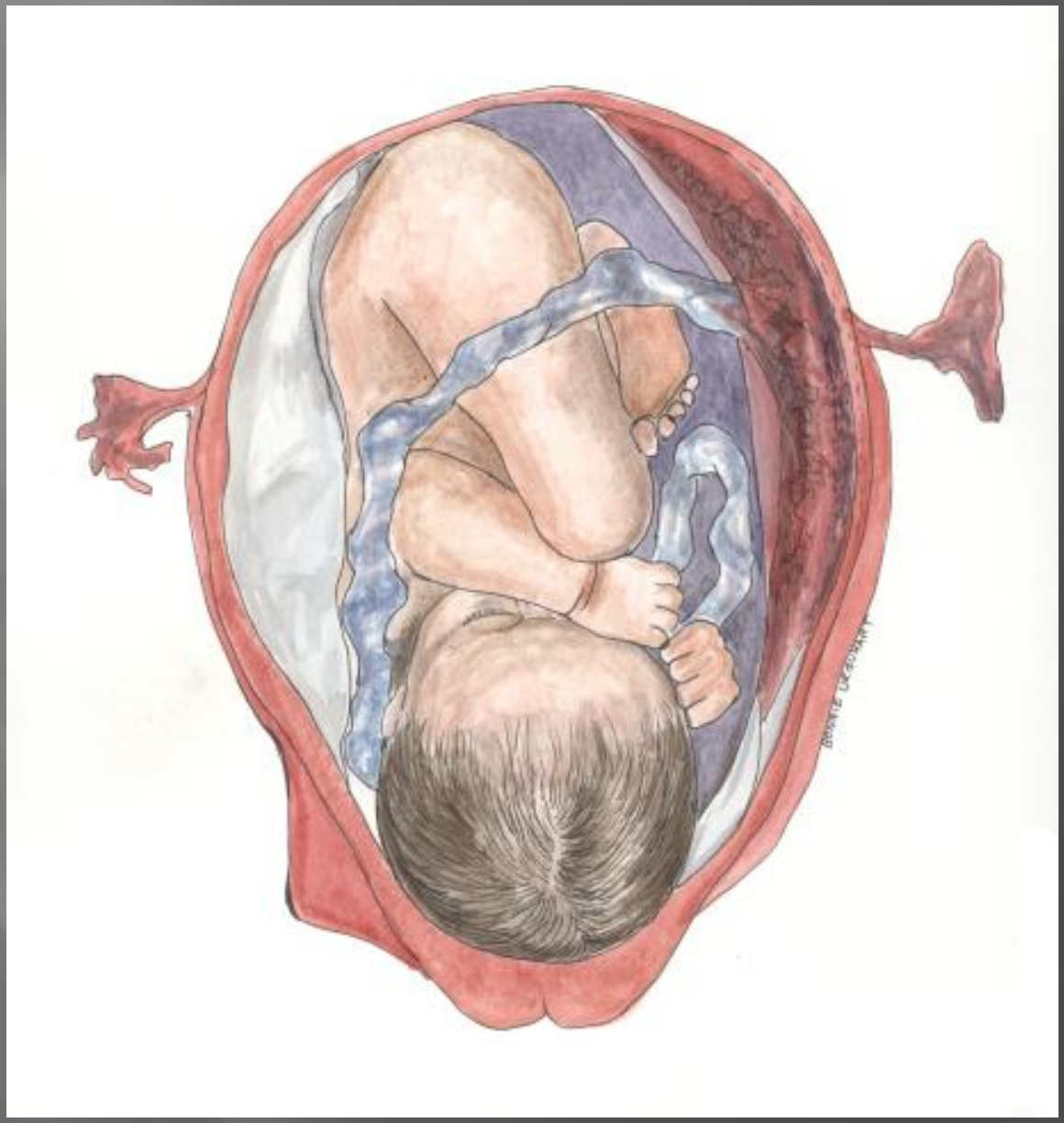
Common Intrapartum Emergencies

For EMS Providers

©Bonnie Urquhart Gruenberg, CNM, MSN, RN, EMT-P
Author of **Essentials of Prehospital Maternity Care**
www.birthguru.com

Countdown to Labor

- Cervix changes
- Mucus plug
- Runs of Braxton Hicks
- Baby "drops" – increased pelvic pressure
- May have loose stools



Assessment of the Woman in Labor

- How many weeks pregnant – due date? (37-42 weeks from LMP is full term)
- Prenatal care? Complications Sonogram?
- How many pregnancies? Vaginal births, cesarean sections, abortions?

*Rough rule of thumb - if fundus is above umbilicus, baby is potentially viable (viability is 23-24 weeks)

Assessment of the Woman in Labor

- Contractions? How far apart? For how long?
- Bleeding? Water break? Color of fluid?
- Baby moving?
- Urge to push – Rectal pressure?
- Drugs/ medications?

*Active labor usually 2-3 min apart and lasting 60 sec

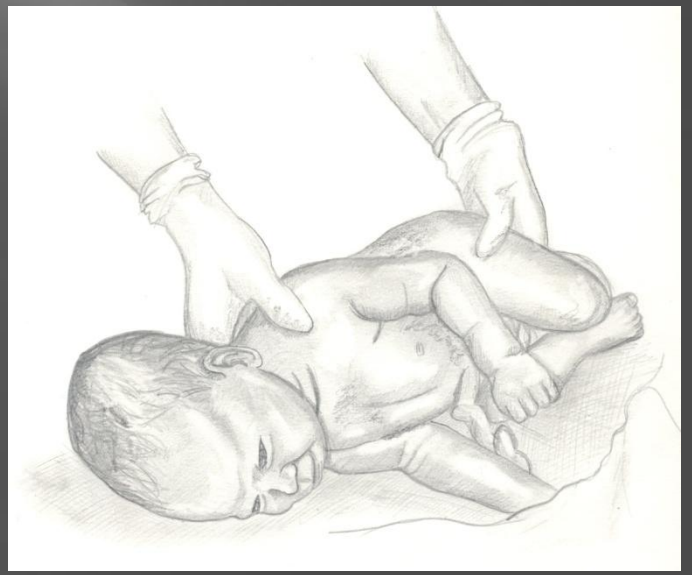
Stages of Labor

- First-stage labor –cervix thins, softens, opens to 10 cm dilation

  Prodromal (early) labor 0-4 cm

  Active labor 4-10 cm

  Transition 8-10 cm
- Second-stage labor - Delivery
- Third-stage labor - Placenta



True Labor vs False Labor

True Labor	False Labor
Pain at regular intervals	Irregular contractions
Get longer, stronger closer	No change in pattern over time
Pain starts in the back and moves to the front	Pain felt mostly in front
Walking increases intensity	No change with walking—or change in activity may stop them altogether
Bloody show often present	No bloody show
Cervix effaced and dilated Presenting part descends	No change in cervix or fetal descent

Stay and Deliver or Transport?

- Distance to the hospital?
- Slow or rapid labor?
- Involuntary pushing/rectal pressure?
- Rupture of membranes?
- Complications?
- Bulging perineum?
- Crowning?
- "I'm having the baby – NOW!"

Setting up for Delivery

- Respect modesty – private setting if possible
- Warm room or ambulance if possible
- IV access- if there is time
- Backup ambulance – esp. if complications expected

Equipment on Hand

- Baby blankets/ Towels/ Bath blankets/ Hat /Underpads
- Bulb syringe
- Gauze sponges
- Cord Clamps
- Scissors/ Scalpel
- Placenta container
- Baby resuscitation kit
- Oxygen/ OB medications

Universal Precautions

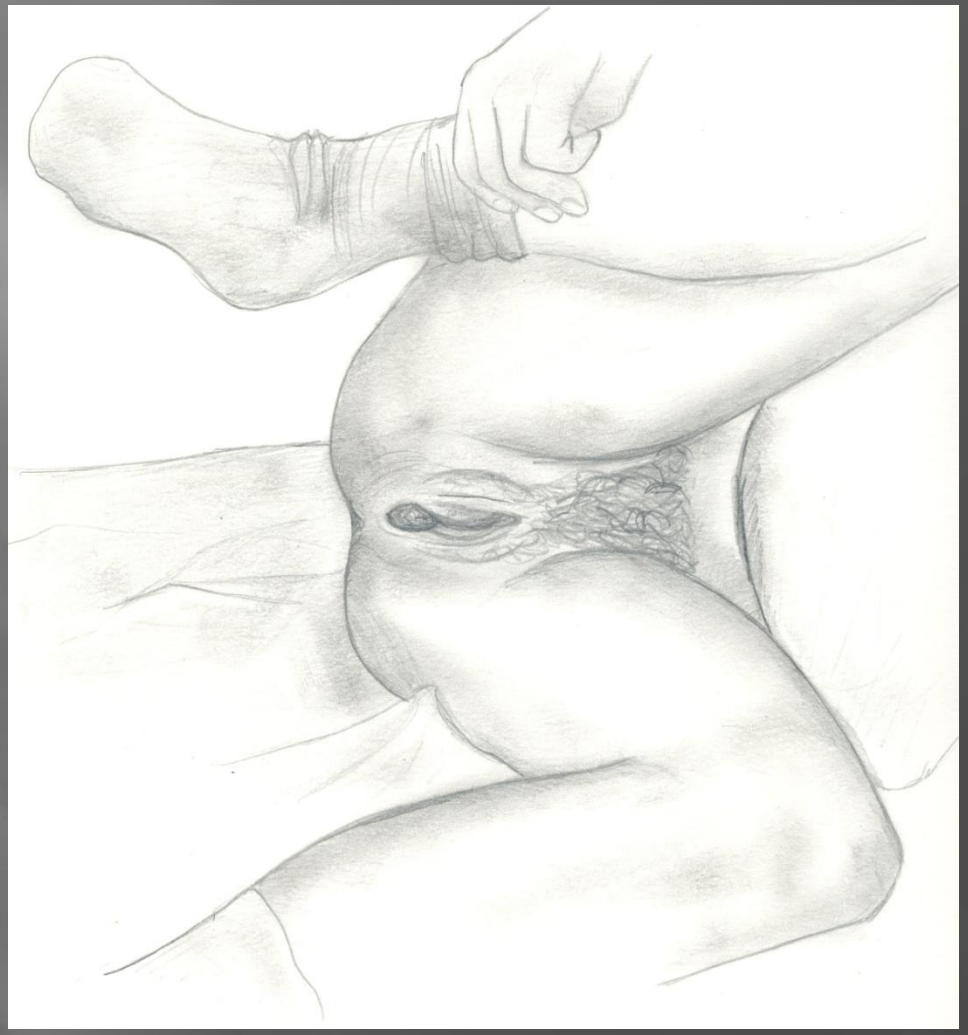
- Births are messy
- Blood can spray or pool
- Amniotic fluid can gush or splash
- Maternal urine/feces
- Mother may have genital infections
- Gown/ gloves/ mask/ eye protection recommended

Maternal Positioning

Avoid flat on her back!

- Semi-Fowlers – Pillow's under mother's rump
- Side-Lying
- Hands and Knees
- Squatting is most natural, but not very practical for EMS

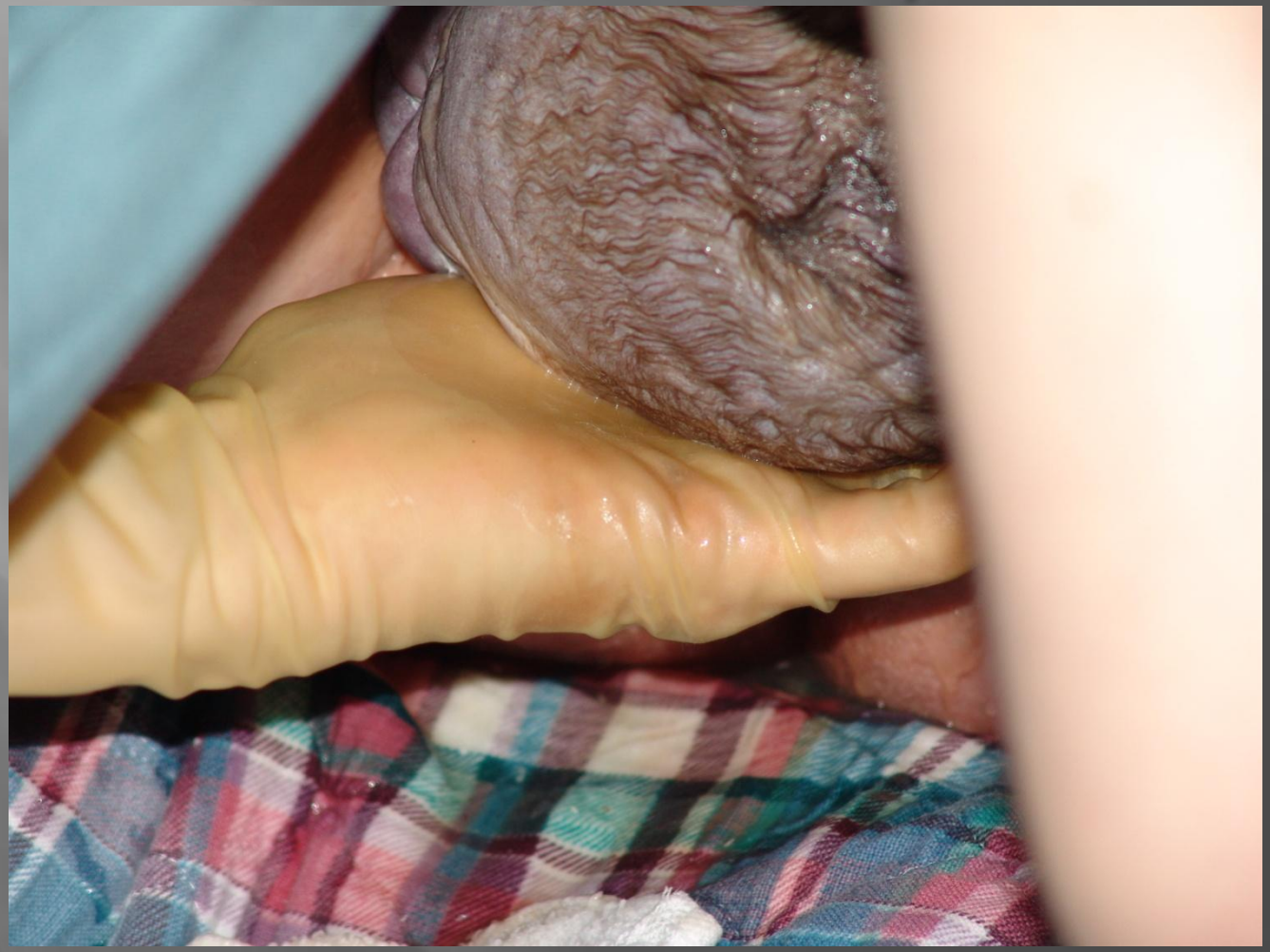
- On or above a soft surface
- Mom should be curled in a "C"- chin on chest, back pushed outward



Crowning

- As head reaches pelvic floor, mother may expel feces, bulging of perineum, scalp visible
- Primigravida – Typically slow progress – advance, retreat
- "Multip" – Can be VERY rapid - be ready for anything
- Support perineum with hand (holding gauze pad)
- Apply counter-pressure to fetal head

Support the head. No force is necessary.

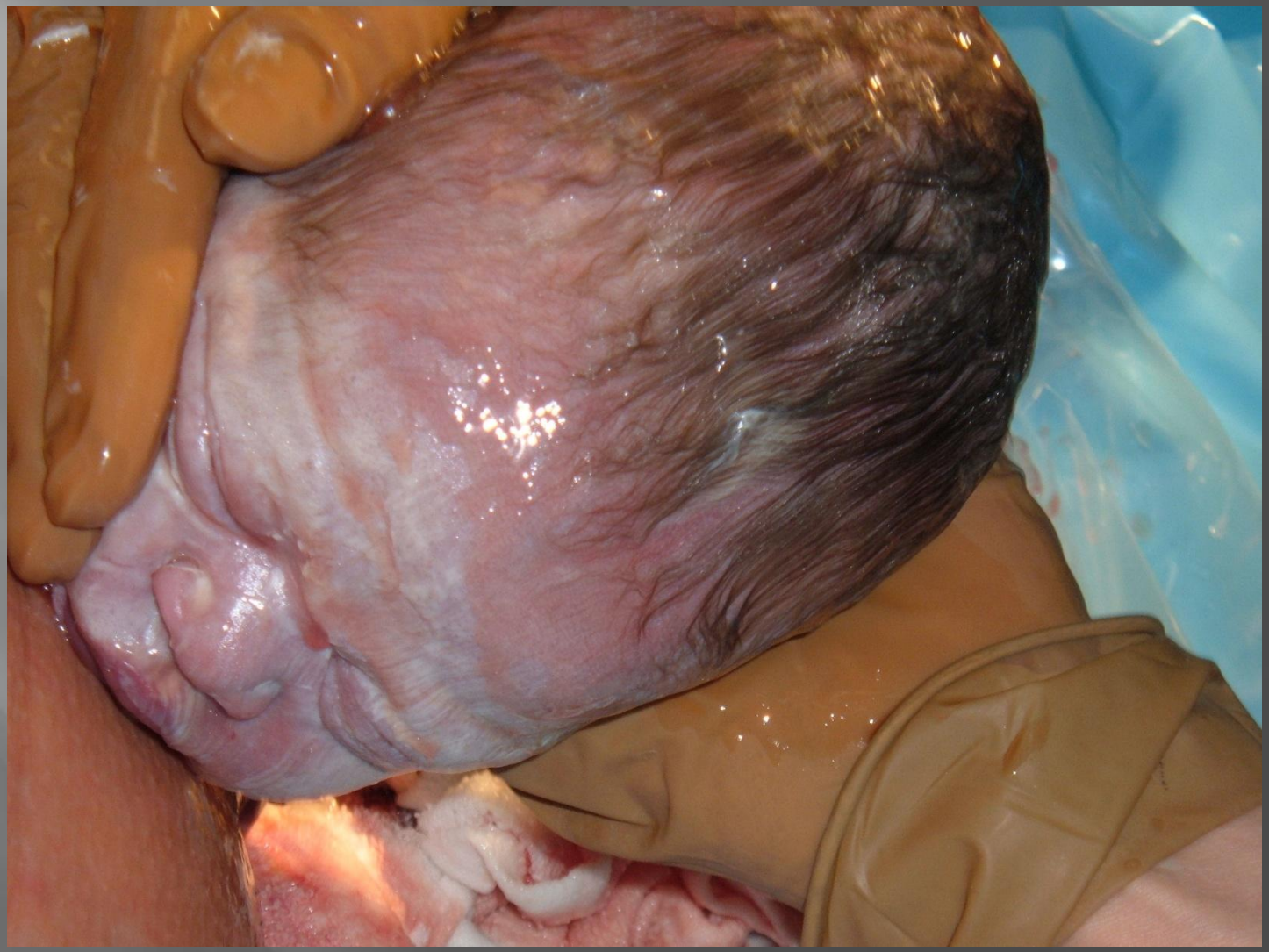


The head is out…

- Suction?
- Check for nuchal (neck) cord
- Slip it over head or around shoulders
- If cord is tight and wont budge:
  - Tuck babys chin to chest and keep head near perineum while mom pushes. Usually the baby will slide out. Unwrap the cord immediately. baby out and unwrap cord

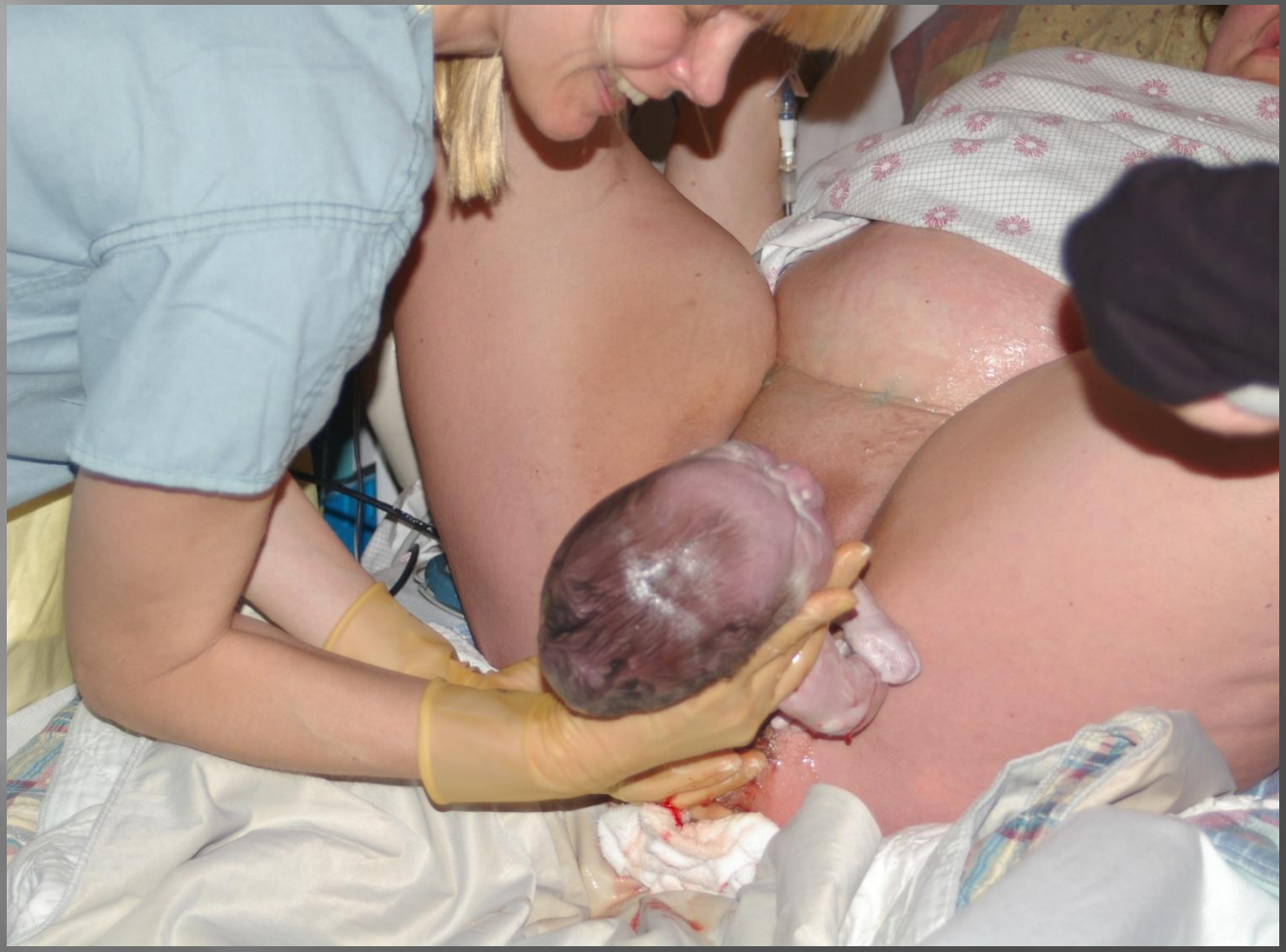
  or

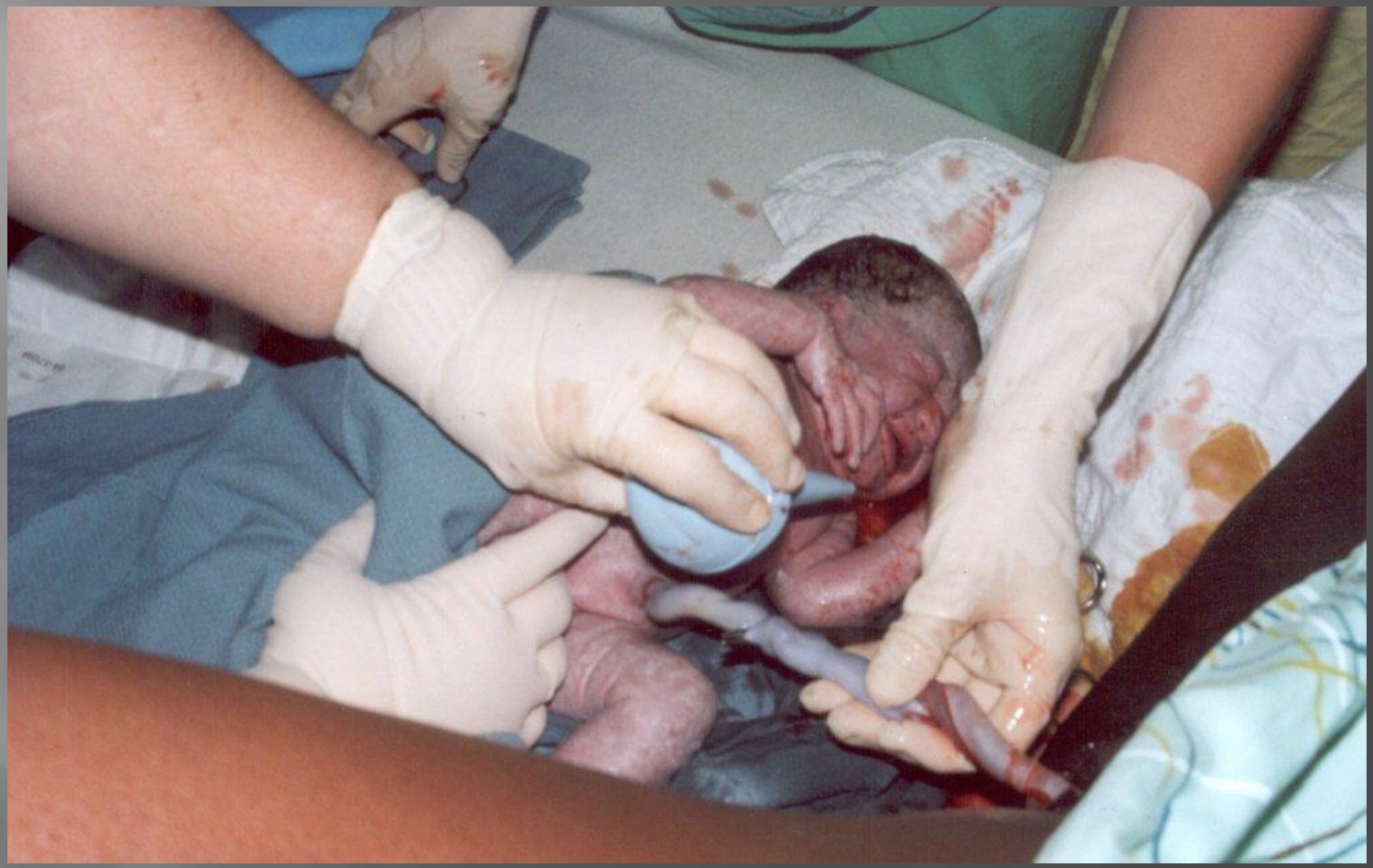
  - Double clamp and cut- *with scissors not scalpel!*



Delivering Shoulders

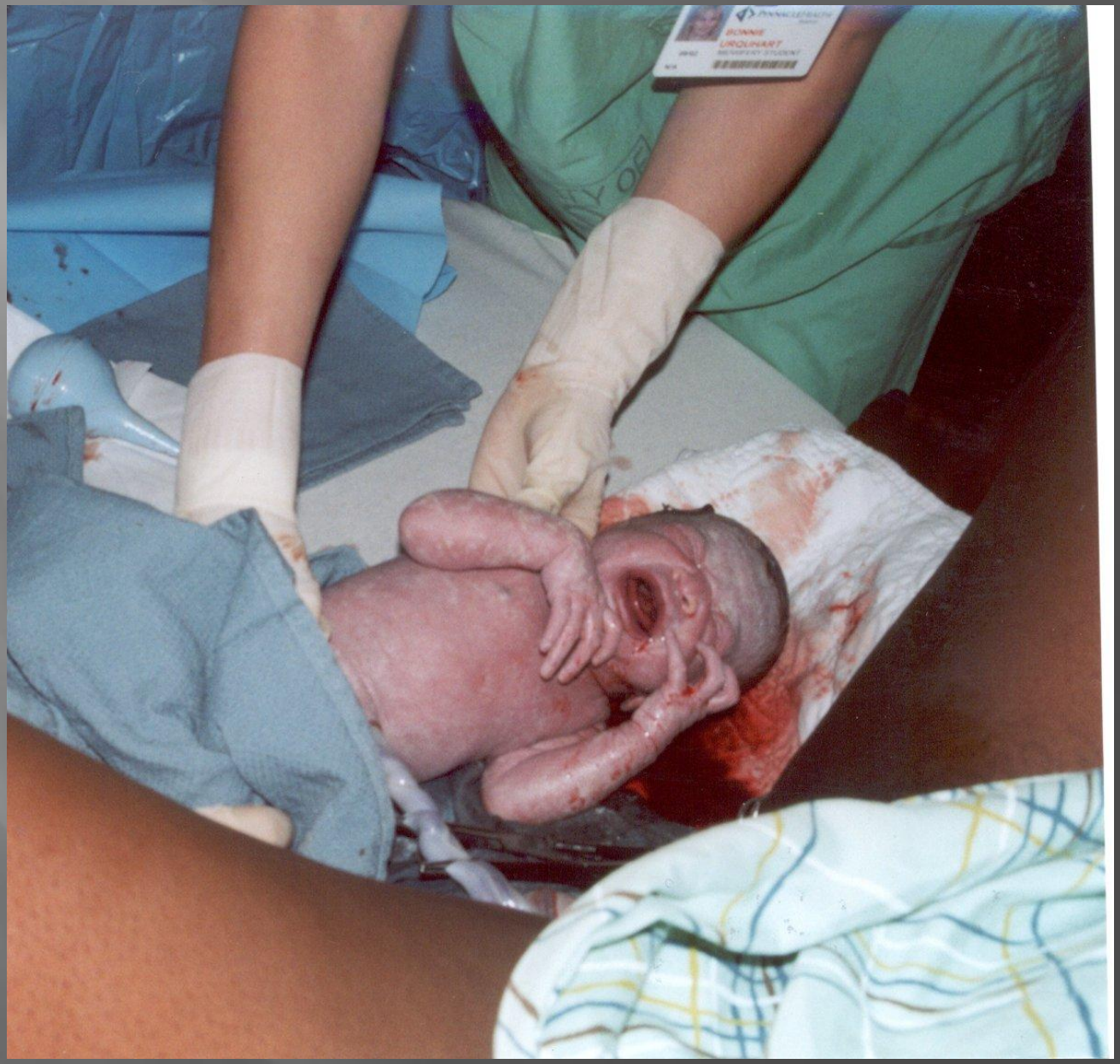
- Ask mom to push
- Place hands on head and press downward firmly but gently
- The anterior shoulder will become visible
- Guide body upwards and deliver to bed or to maternal abdomen
- *Do not pull or twist head!*
- Babies are SLIPPERY!





Stimulating the Newborn

- Immediately cover with warm baby blanket and baby hat. Preserve heat at all times.
- Position, open airway, suction mouth, then nose with bulb or wall suction set to 100 mmHg
- Stimulate baby by rubbing back and flicking feet
- Check pulse by palpating cord
- Replace wet linen quickly

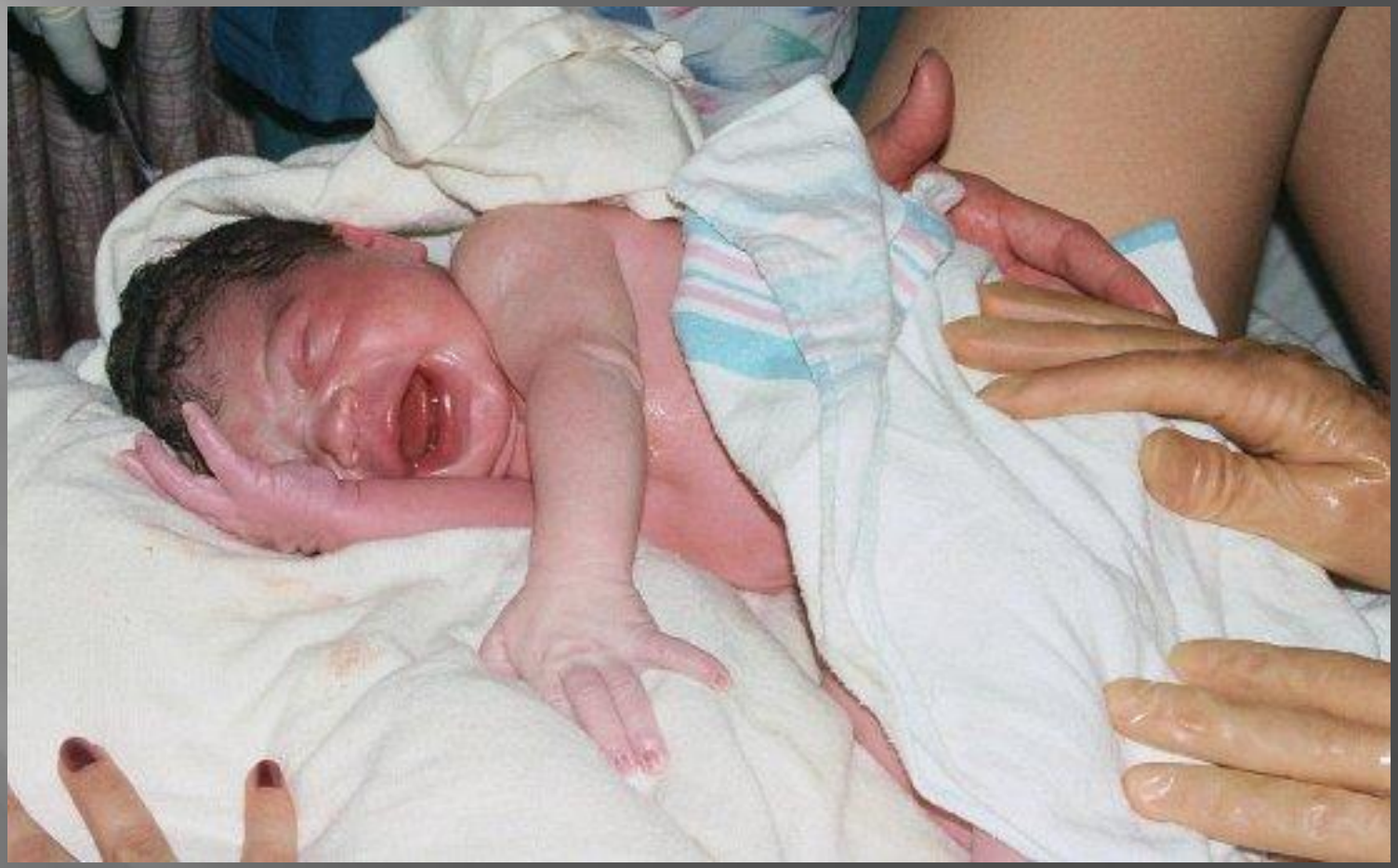

PINNACLEHEALTH
BONNIE
UROLIHART

Reassuring Signs

- Heart rate over 100
- Limbs flexed
- Baby grimaces and wriggles
- Breathes or cries
- Centrally pink after a few minutes of breathing

Apgar Scoring

Apgar Score	0	1	2
Appearance (skin color)	Body blue or pale	Body pink, extremities blue	Pink all over
Pulse rate	Absent	Under 100 BPM	Over 100 BPM
Grimace (bulb suction in mouth)	No response	Grimace	Cough, sneeze, cry
Activity (muscle tone)	Limp	Some flexion of extremities	Active movement
Respiratory	Apnea	Slow and irregular	Strong cry



After the first few minutes of life

- Heart rate 120 – 160 (may be 180 right after birth)
- Respirations 30-60 (may be 70 first hours after birth)
- Irreg resps with pauses of 5 to 15 seconds normal
- Rales may persist for an hour or so.
- Blue or white hands and feet are normal
- Face may be bruised and purple

Precipitous Delivery

- Multips can deliver in one push, sometimes unexpectedly
- Sometimes preceded by painless labor
- May deliver on toilet in response to rectal pressure
- Don't let a multip in advanced labor walk to the ambulance

Precipitous Delivery

- Do not let baby fall!
- Provide soft landing
- Some babies born rapidly
- Mother may tear badly
- Babies usually do well if term

Cord Cutting

- May wait until cord stops pulsing - palpate at mothers end of cord
- Clamps 2 inches apart, 6 inches from baby – cut between
- May allow dad to cut cord
- If only one clamp, place by the baby and cut on mothers side or improvise substitute
- Beware of spurting blood
- It's fine not to cut the cord at all

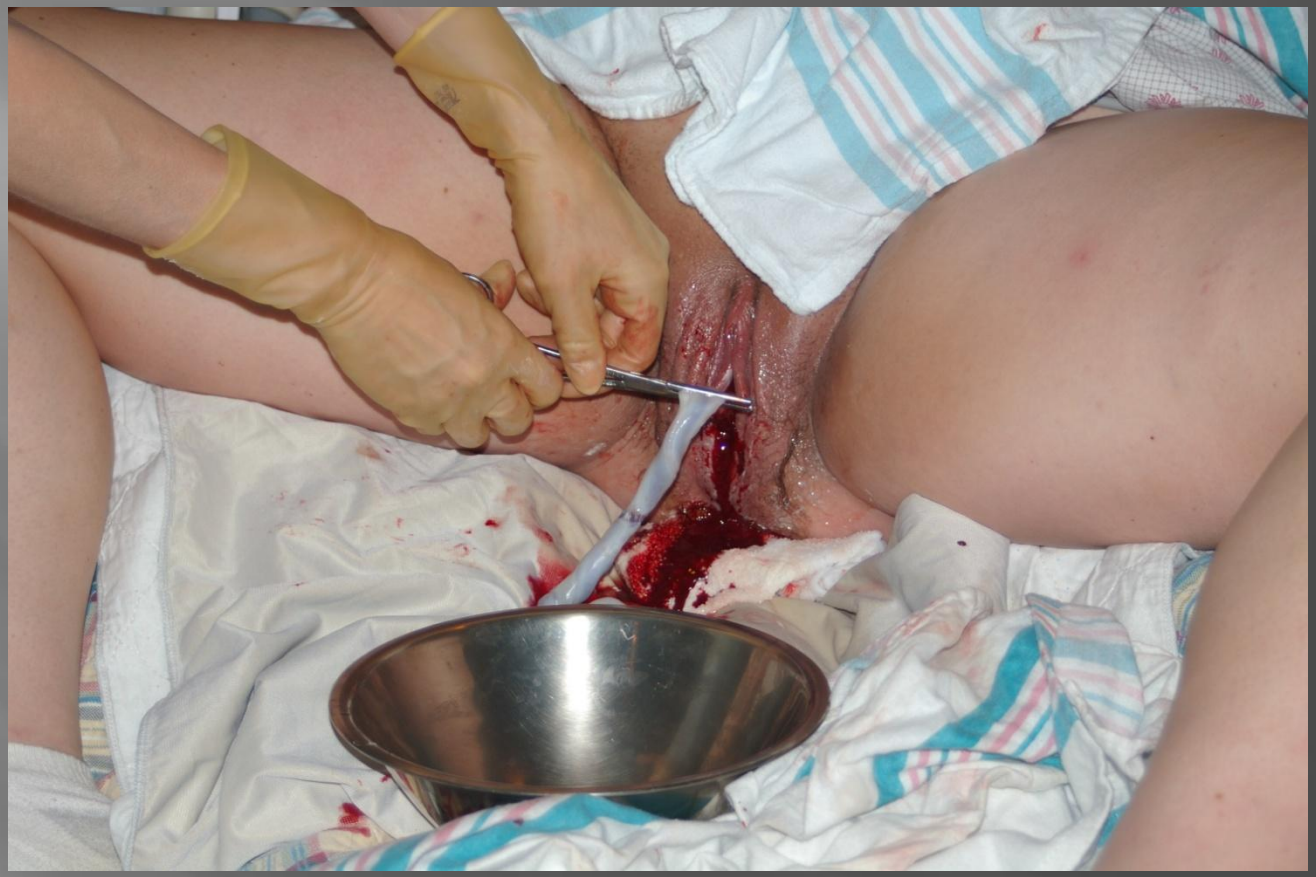
Placenta Delivery

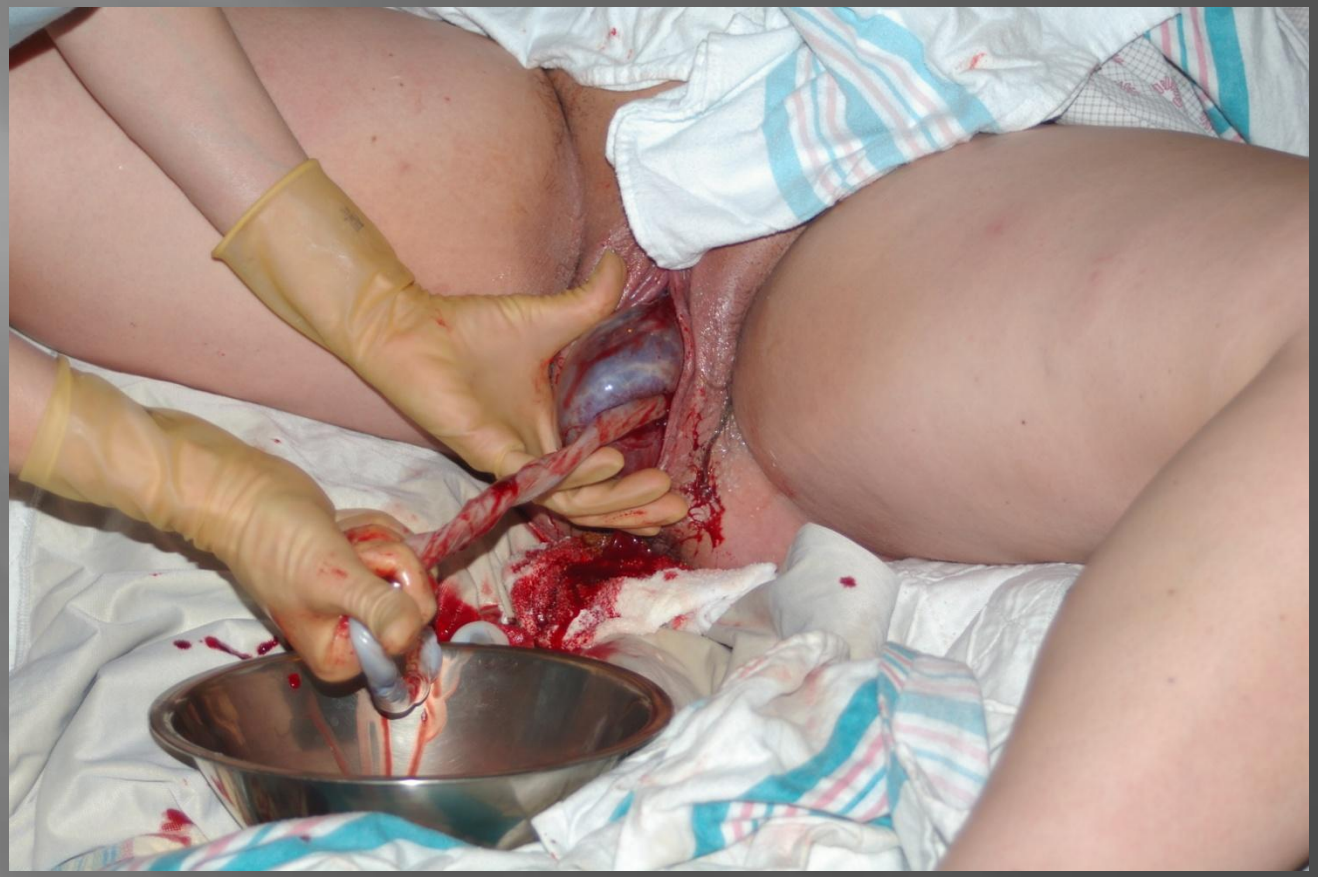
- Placenta is probably ready when:
  - Trickle or gush of blood
  - Cord lengthens
  - Uterus palpable as hard mass

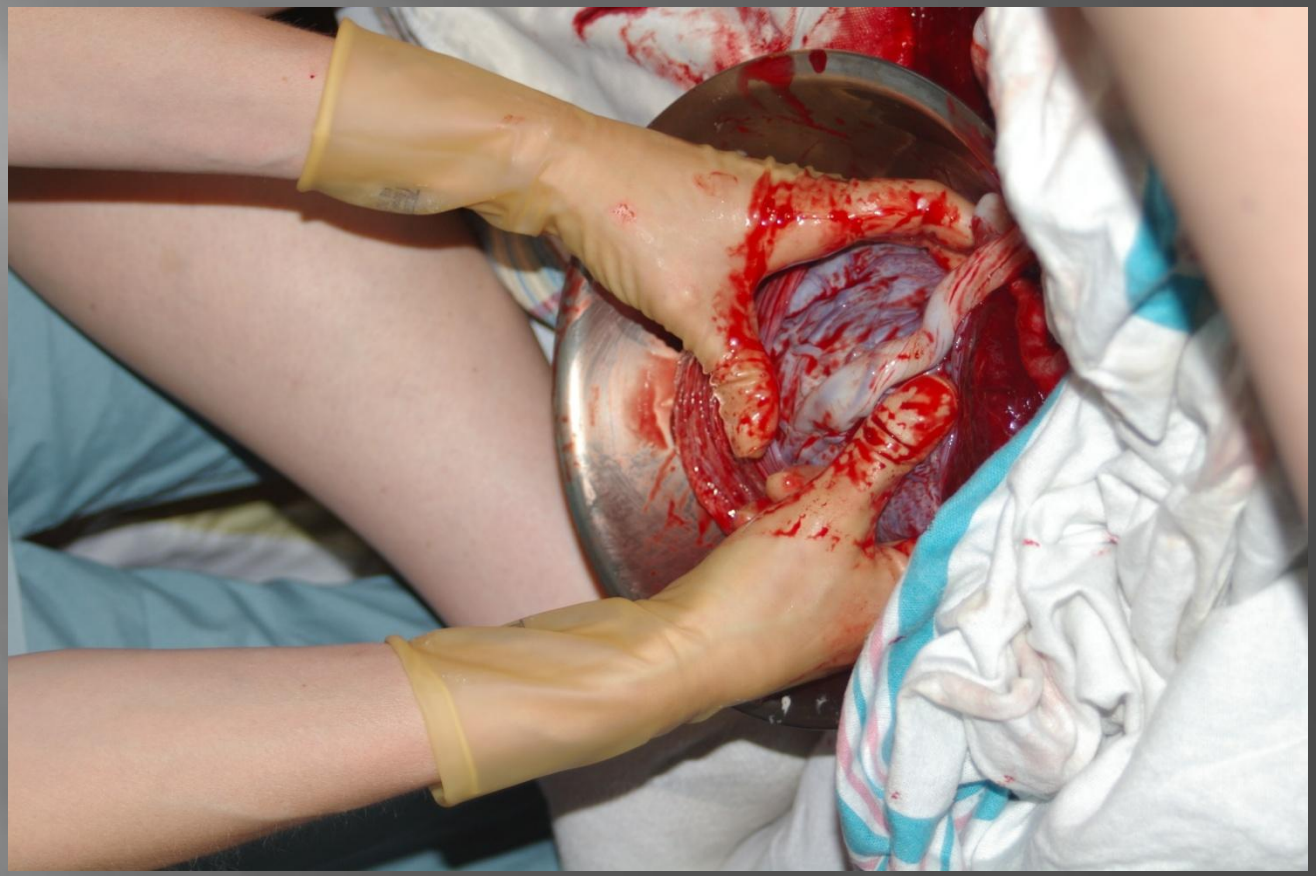
  Hemorrhage can occur before or after placental delivery

Placental Delivery

- Don't wait to transport- placenta may be delayed.
- Breastfeeding may help placenta deliver.
- Always deliver with a contraction and maternal pushing.
- Place hand above pubic bone and press in to guard uterus
- With other hand gentle traction on cord.
- If membranes last to emerge, tease them out slowly .

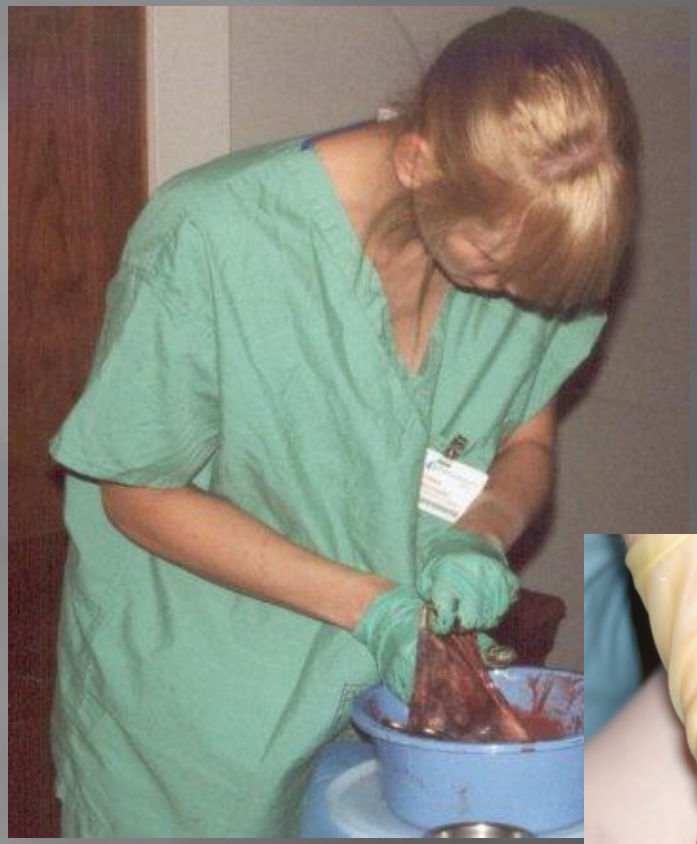


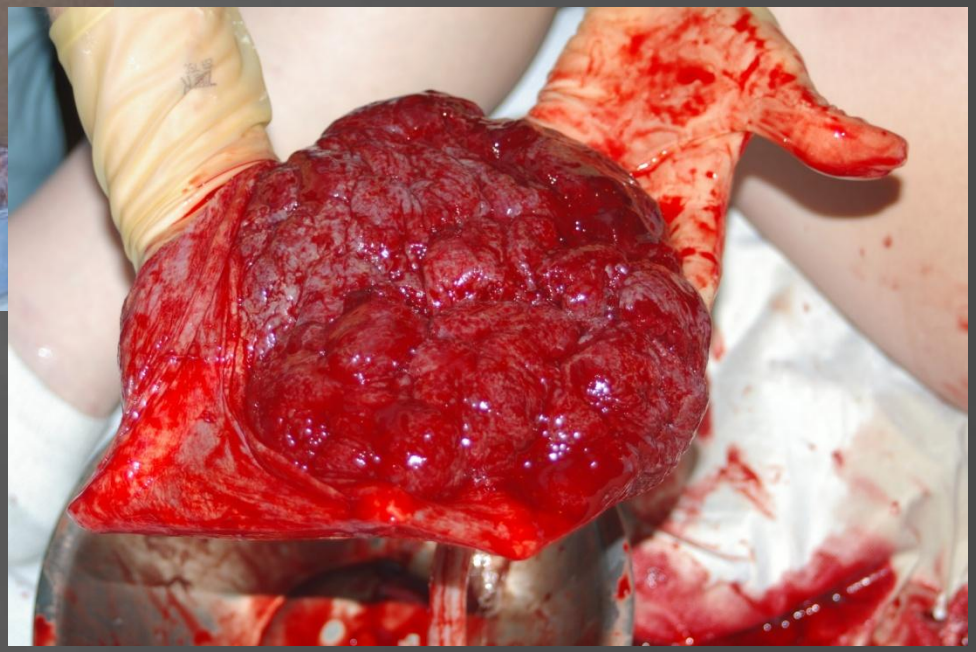




Placental Delivery

- Immediately massage uterus (which will be a few inches below umbilicus) until firm. Bleeding should almost completely stop
- Check placenta for any obvious missing pieces
- Save in bag or bowl for the hospital to inspect
- Total blood loss is rarely more than 500 cc – blood draining from placenta through umbilical cord doesn't count

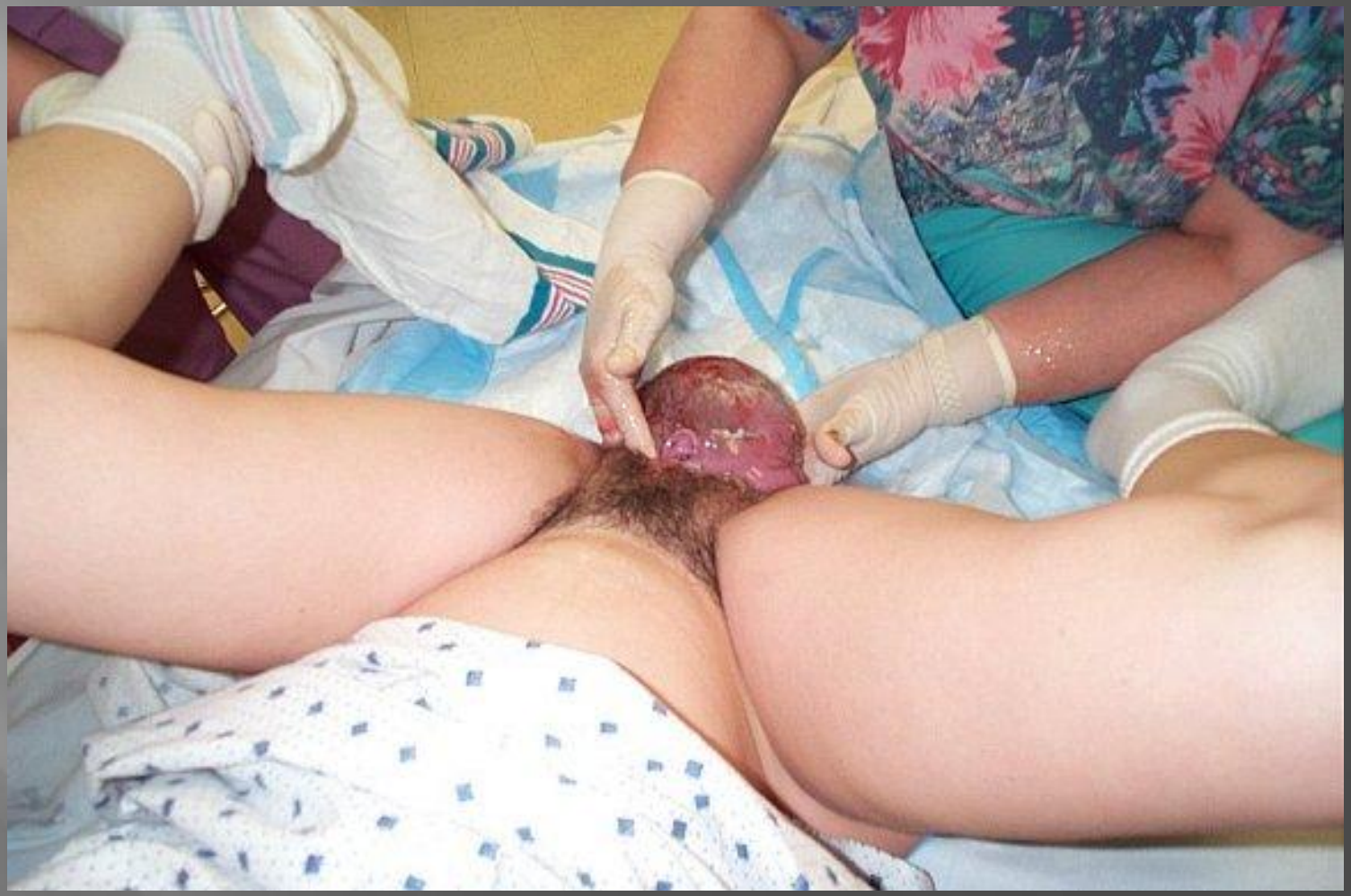




Documentation

- Position of the infant at birth
- Presence of nuchal cord
- Time of birth
- Apgar scores
- Gender of infant
- Initial management of infant
- Time of placenta delivery
- Appearance and intactness of placenta
- Any observed tearing of perineum
- Mother and infant's condition
- Estimated blood loss

A Birth Sequence…



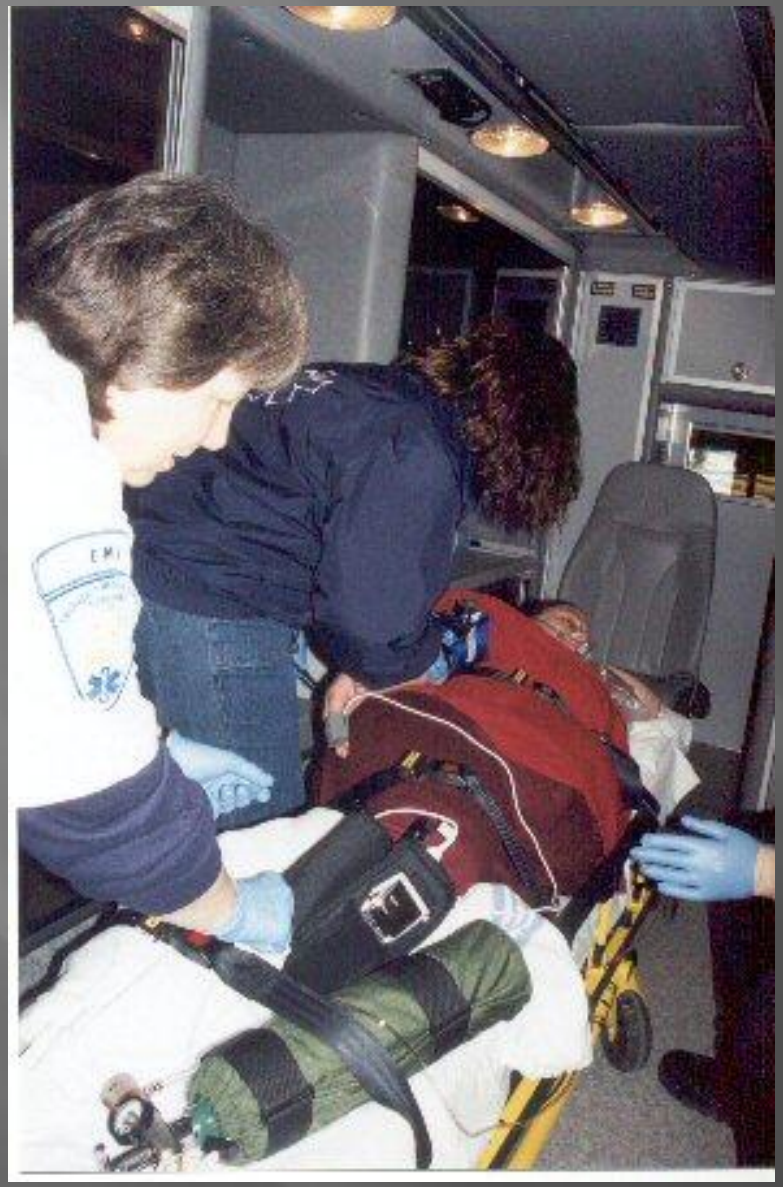
Common Complications of Childbirth

Third Stage Hemorrhage

- Placenta is still undelivered, but mother begins to bleed heavily
- Rapid transport, with oxygen and IV access while trying to deliver placenta
- Treat for shock

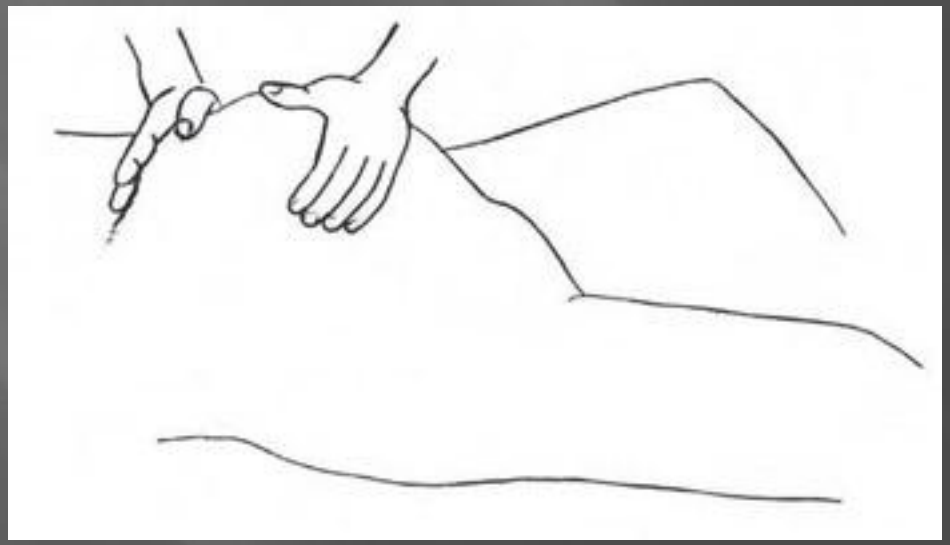
Postpartum Hemorrhage

- May occur immediately after placenta delivery or weeks postpartum
- Usually atony
- More likely with overstretched or overworked uterus – large baby, fast labor, excessive fluid, grand multip



Postpartum Hemorrhage

- Immediately massage uterus aggressively until it feels rigid
- Prepare for shock- large bore IV and O2 with rapid transport
- Pitocin or methergine?



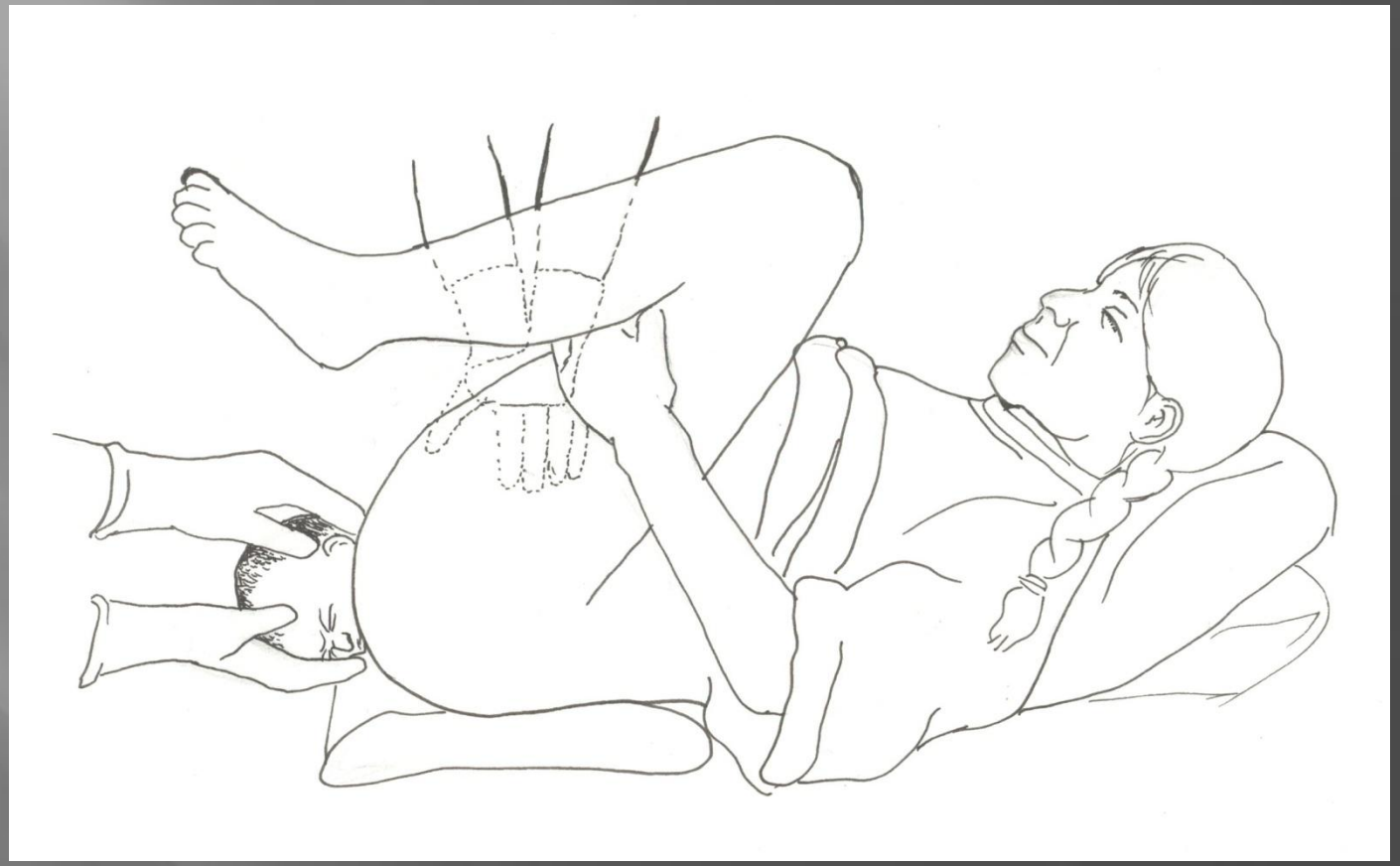
Breastfeeding can control atony

Shoulder Dystocia

- Shoulder wedges under maternal pubic bone upon delivery of the head
- Often unpredictable
- High risk of nerve injury to infant
- High mortality if not resolved
- Occurs with 5 to 7% of large babies (over about 9 pounds)
- 50 % of shoulder dystocias occur with average sized babies

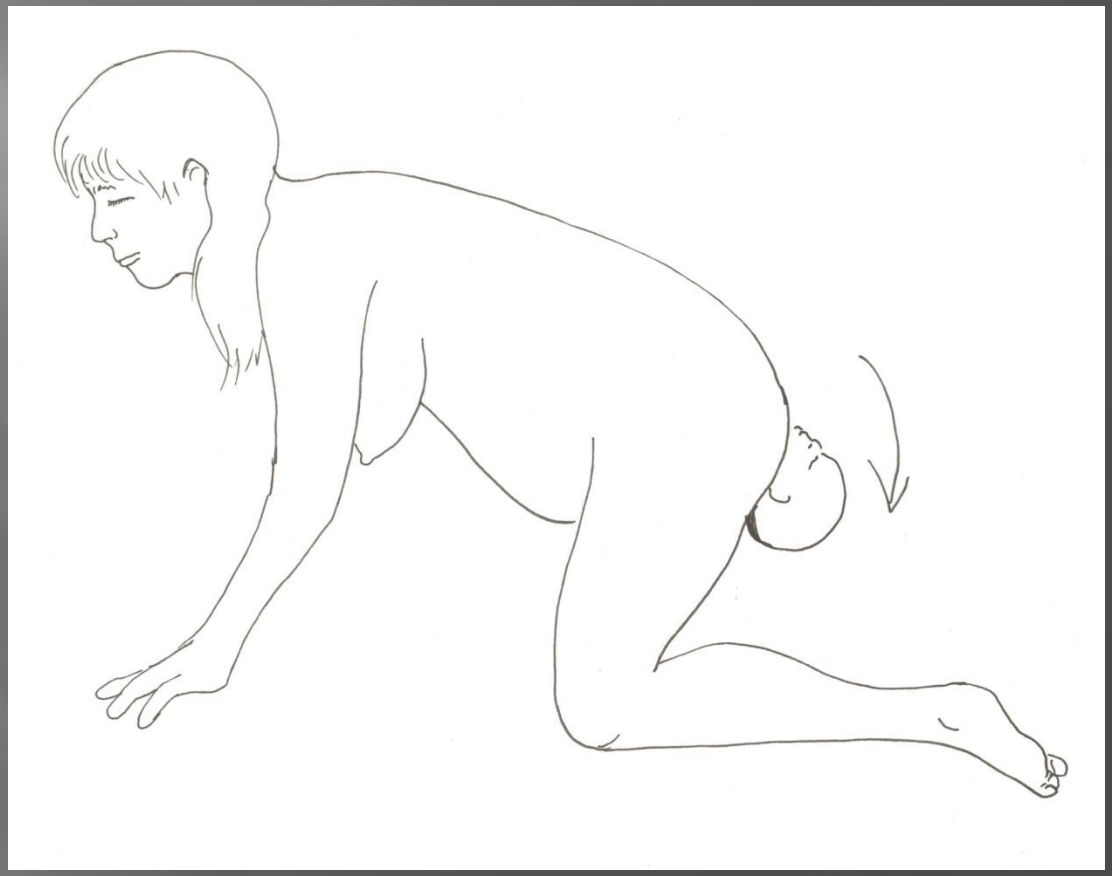
Shoulder Dystocia

- Watch for “Turtle sign”
- Put mother into McRoberts position (on back with hips elevated and knees back towards armpits)
- Assistant gives firm suprapubic pressure
- Mother pushes HARD while birth attendant grasps head and guides firmly downward until anterior shoulder appears
- Usually this will resolve dystocia



Shoulder Dystocia

- If unsuccessful, flip mother quickly onto hands and knees
- Grasp head and press down while mother pushes until posterior shoulder appears, then guide head upwards to deliver anterior shoulder
- This will resolve most stubborn cases of shoulder dystocia



Shoulder Dystocia

- If unsuccessful, transport rapidly with mother on hands and knees, on oxygen
- Repeatedly attempt to deliver infant enroute
- Have mother rock pelvis between attempts

Shoulder Dystocia

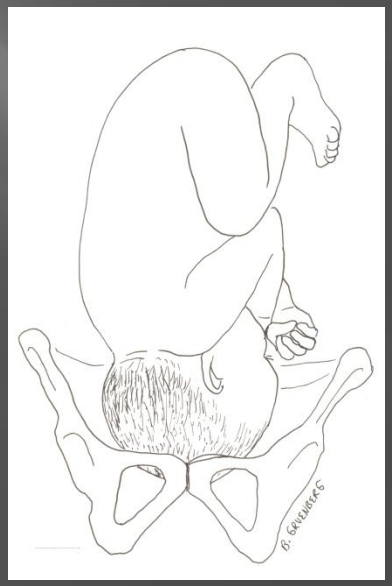
If shoulder dystocia resolves:

- Baby will probably need resuscitation
- Mother is likely to hemorrhage

Presentations

Vertex

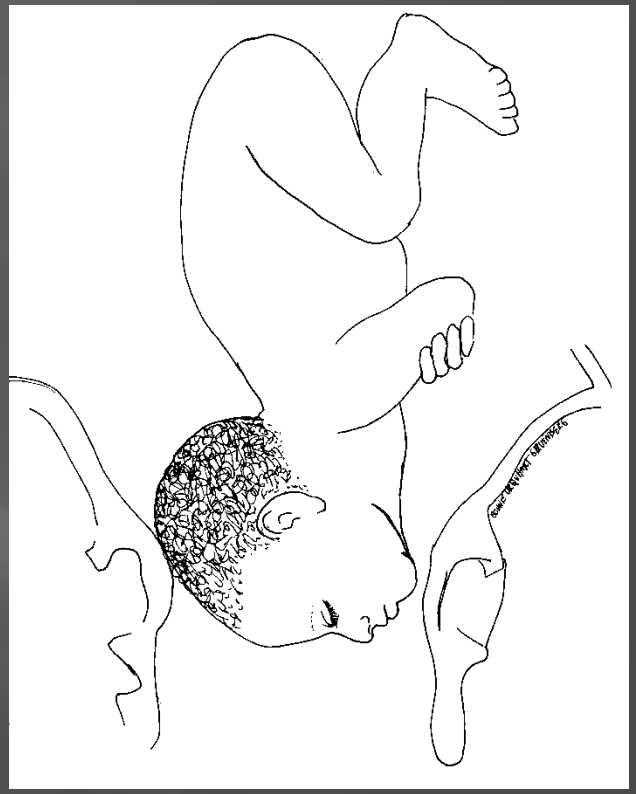
- ideal presentation because smallest diameters present
- Baby dilates cervix and perineum with top of head



Malpresentations

Face Presentation

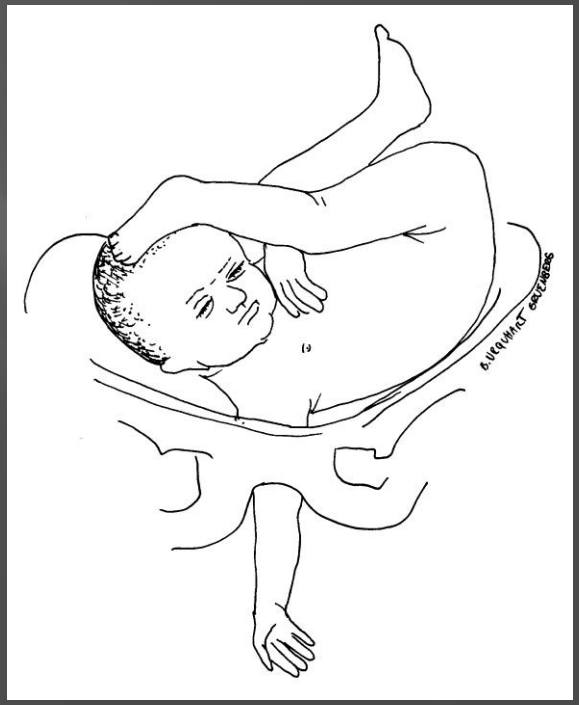
- Often associated with anomalies
- Chin faces pubic bone
- May have airway problems due to facial swelling



Malpresentations

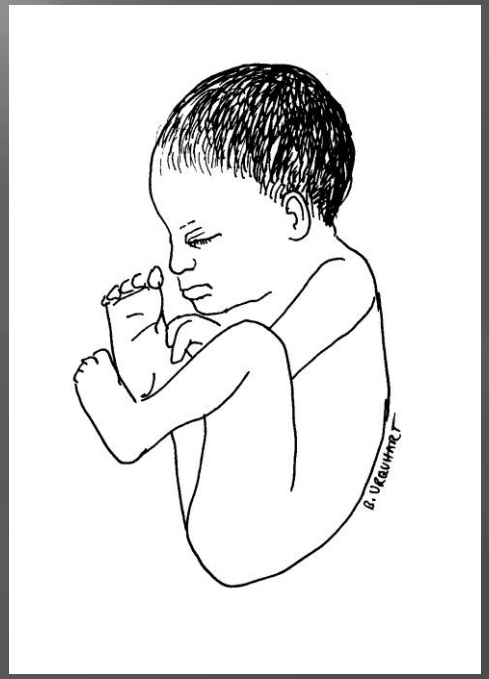
Shoulder/Arm Presentation

- Do not attempt to deliver
- Rapid transport



Malpresentations -Breech

- Breech 3 to 4 percent of full term, more common with preemies
- High risk of complications

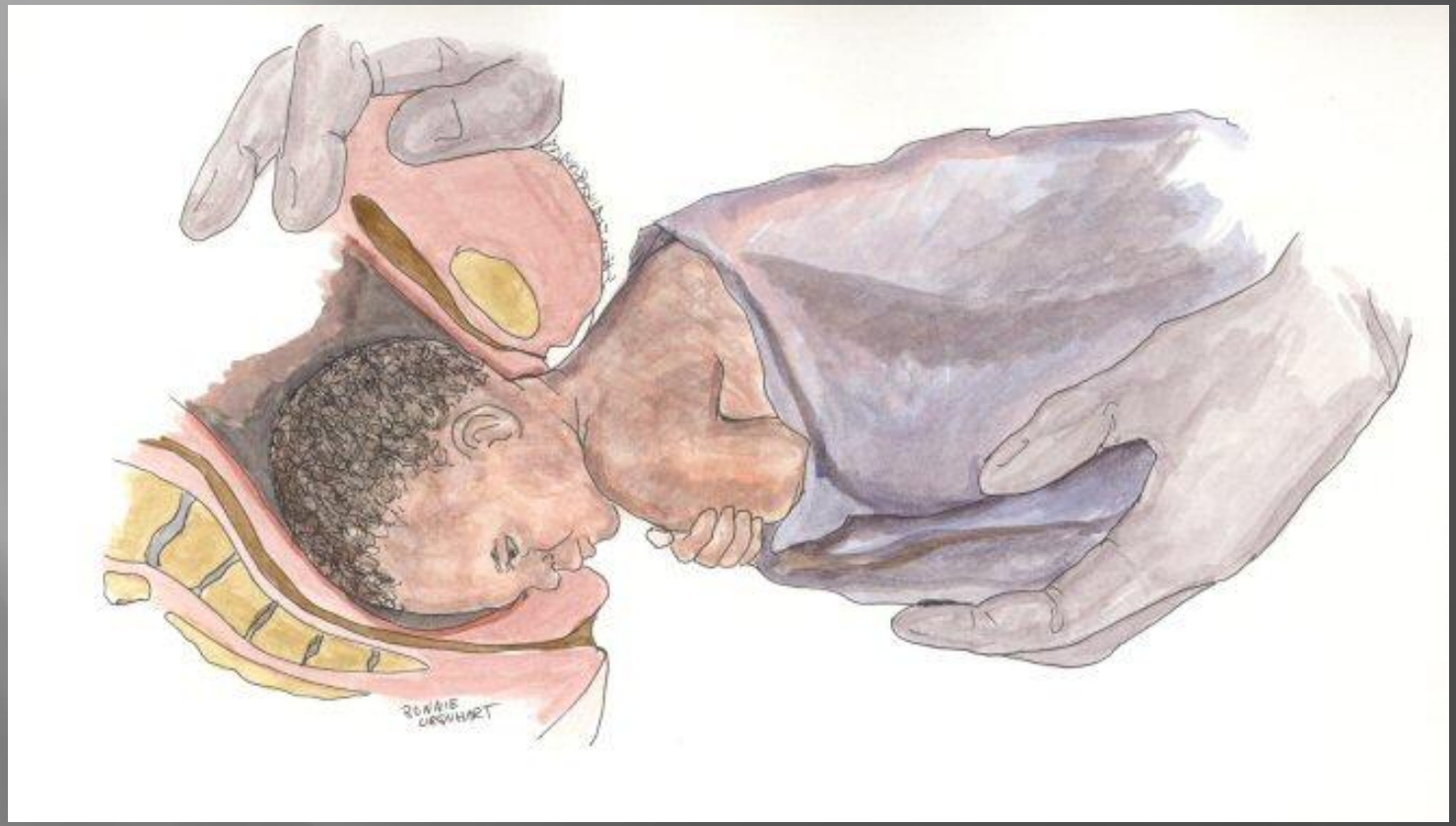


Malpresentations- breech

- “Hands off the breech!”. Encourage hard pushing.
- Let emerge without assistance. May grasp hips to encourage back to rotate upwards.

Malpresentations-Breech

- Wrap towel around body as it emerges.
- To deliver head, raise infant but no more than parallel to floor
- Suprapubic pressure may help deliver head


RONALD
CROWHURST

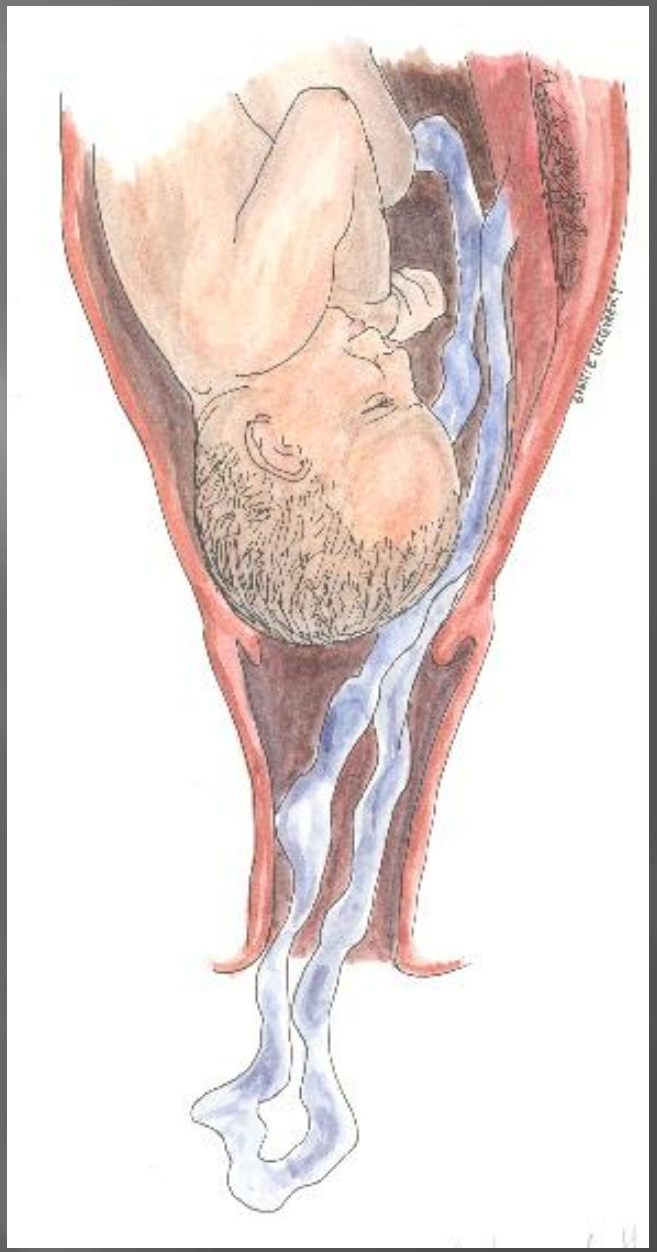
Malpresentations -Breech

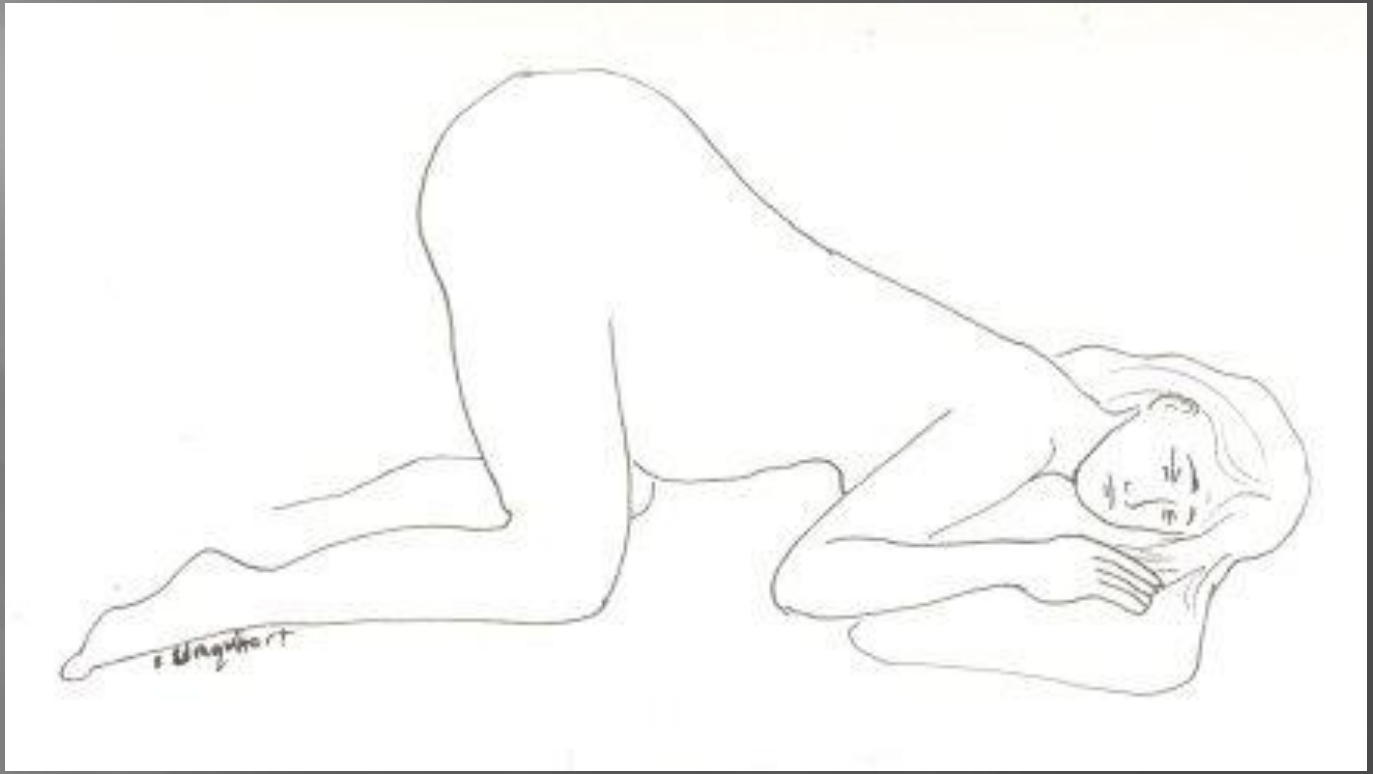
- If head does not deliver, make airway for baby
- Rapid transport with mom on O2 and IV
- Avoid handling cord, keep it warm and moist
- Have mom push with contractions while you continue lifting body and suprapubic pressure
- Mother is likely to hemorrhage after delivery

Malpresentations

Cord prolapse

- more common with non-vertex positions
- Emergency!
- Put mother in knee chest or supine with hips elevated
- Insert sterile gloved hand and push presenting part off cord
- Put mom on high flow O2
- Rapid transport for immediate c-section with your hand in place





Knee chest

Infant Resuscitation Meconium

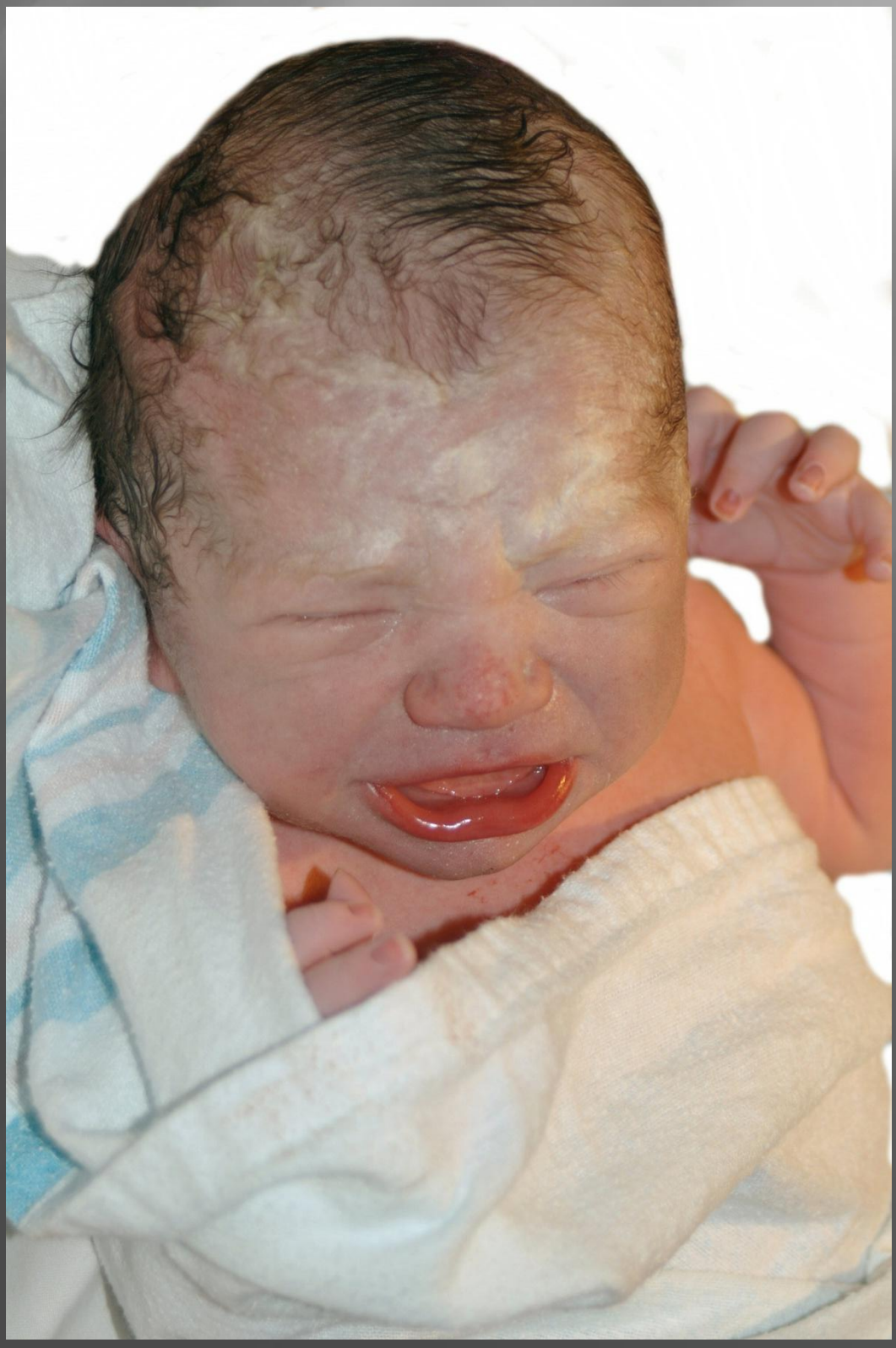
- Fetal bowel movement in fluid
- Thin – yellow or green, Thick – Pea soup
- Suction on perineum
- If baby vigorous, great
- If not, intubate, endotracheal suctioning before first breath until airway clear
- Beware of vagal response

Infant Resuscitation Asphyxia

- Primary – will begin to breathe with minimal stimulation
- Secondary – Needs positive pressure ventilation
- Can't tell primary from secondary in clinical presentation

Infant Resuscitation

- Some risk factors for a baby that may need resuscitation:
  - Multiples
  - Prematurity
  - Maternal preeclampsia/ hypertension
  - Meconium in fluid
  - Fetal abnormalities
  - Malpresentations
  - May be totally unexpected



Infant Resuscitation

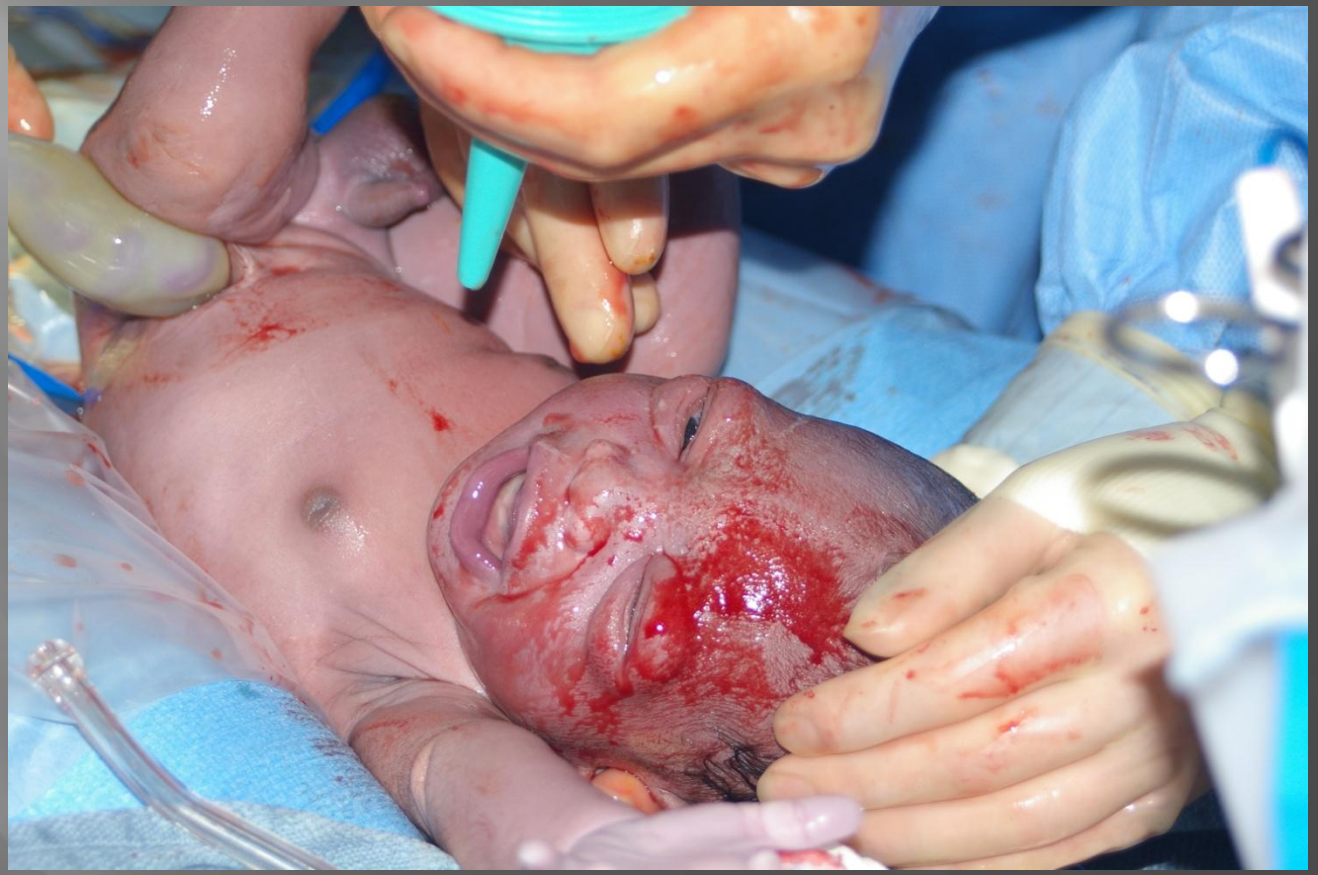
Immediate care:

- Keep baby warm
- Suction
- Position for open airway if not crying
- Stimulate back and feet
- Replace wet linen and put on hat
- If stimulation not effective and baby is not breathing after 20 seconds, must start ventilations

Infant Resuscitation

Baby breathing, heart rate over 100?

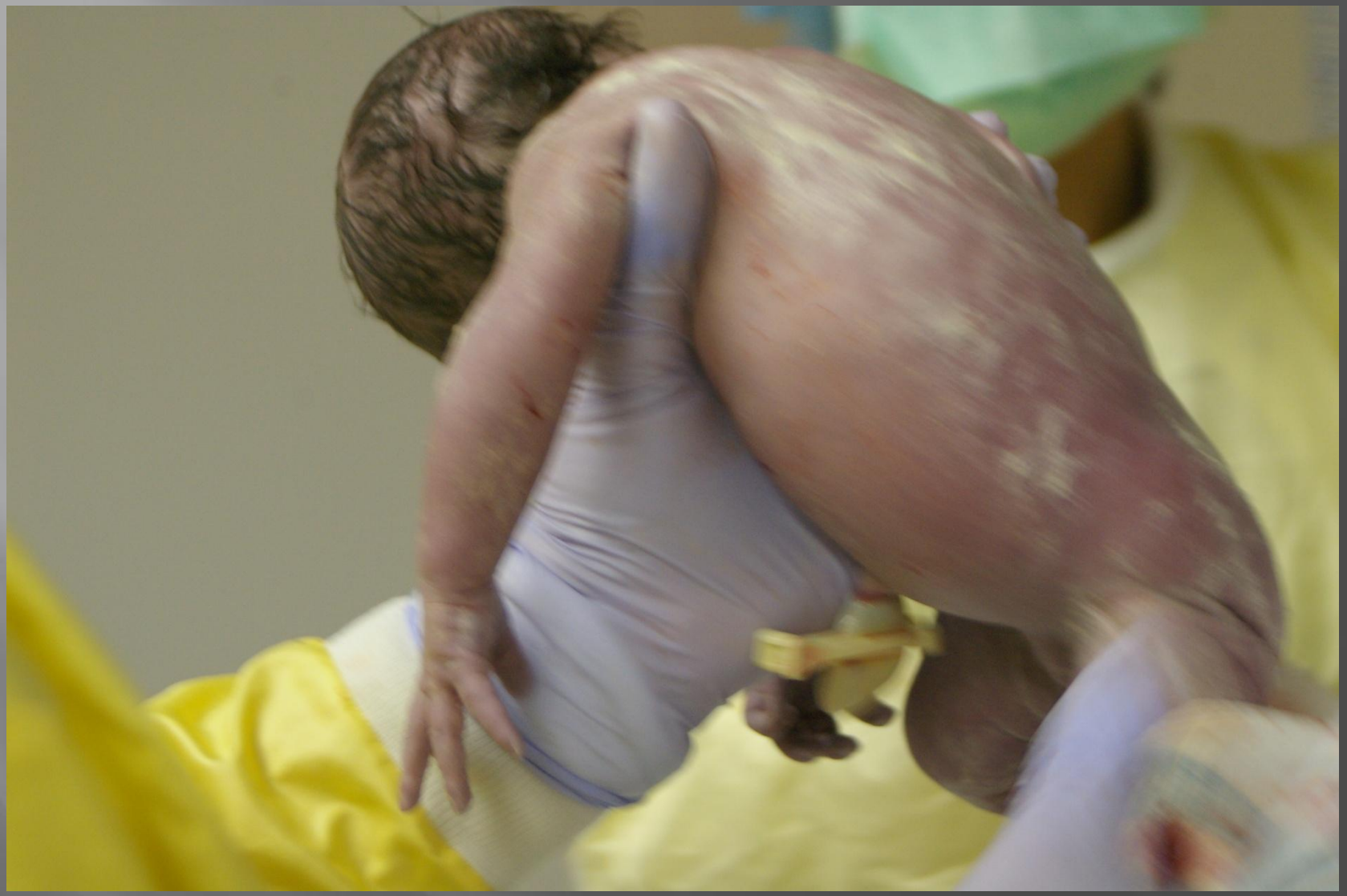
- Assess color
- Pink body and mucus membranes? Great!
- Central cyanosis? Give Blowby O2:
  - 5 liters per minute
  - Hold tubing half-inch from infant's nose and mouth
  - Gradually withdraw after baby pinks



Infant Resuscitation

Not Breathing or pulse under 100?

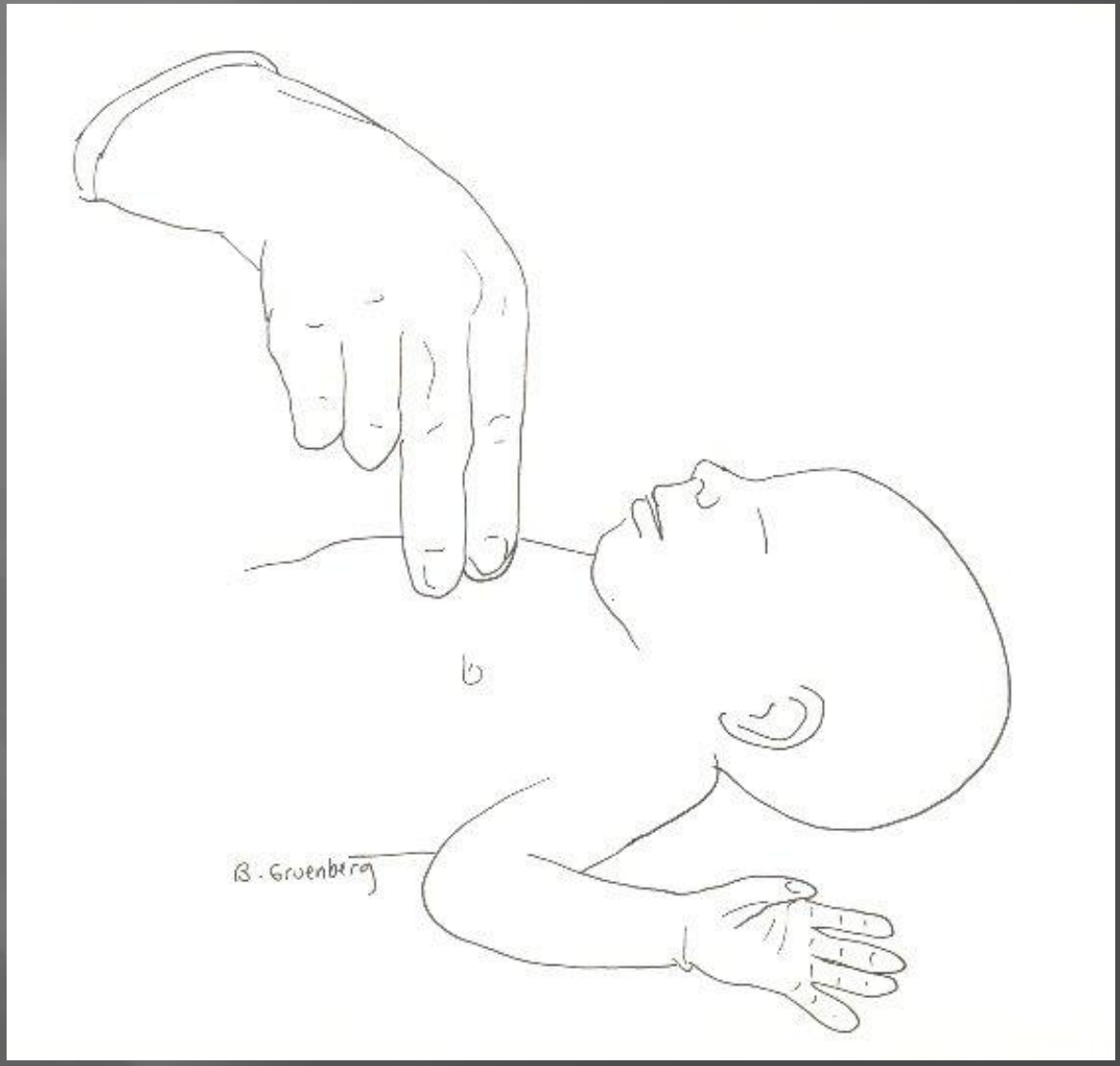
- Positive pressure ventilations
- Baby in sniffing position - towel under shoulders
- Proper fitting mask with good seal
- 60 times a minute
- 100% O2, compress with fingertips
- Ventilate for 30 seconds, then if baby is breathing/ and heartrate over 100, gradually wean



Infant Resuscitation

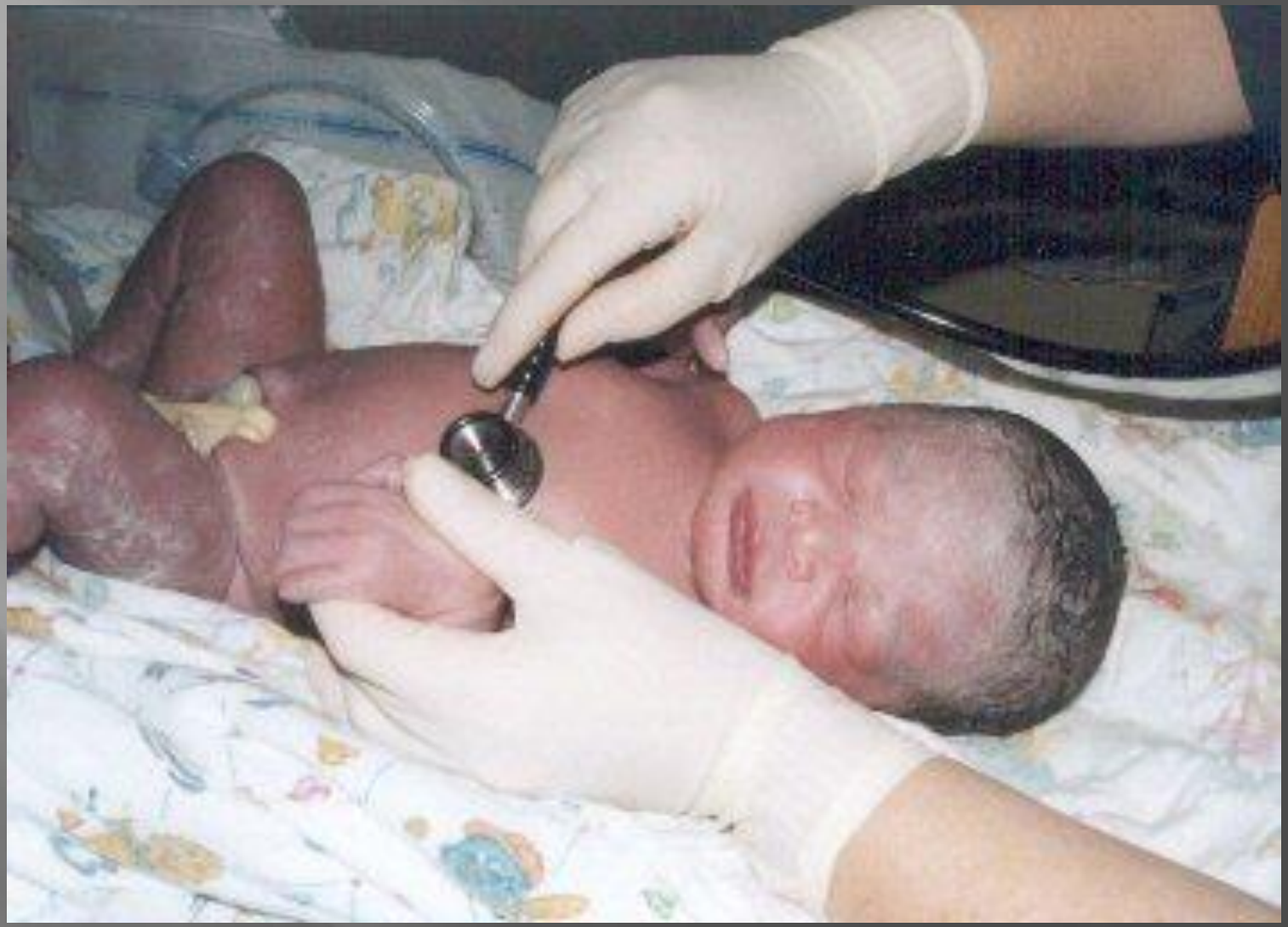
After 30 seconds of effective ventilation, if heart rate less than 60 (or 60-80 and not increasing):

- Start compressions
- Two thumbs with hands encircling –or- two fingertips of one hand positioned over sternum (below the nipple line and above the xyphoid)
- 90 compressions with 30 ventilations per minute – three compressions, pause to give one ventilation
- After 30 seconds of compressions with effective ventilations, if no improvement, drug therapy and intubation


b
B. Gruenberg

Infant Resuscitation

- Intubate if suctioning for meconium or prolonged ventilations
- Drug Therapy
  - Epinephrine 1:10,000 0.1 to 0.3 mg/kg every 5 minutes IV or ET
  - Narcan 0.1 mg/kg, IV or ET – but NOT to infant of chronic narcotic user or the baby may seize
  - Volume expanders – LR or NS only if infant is clearly hypovolemic 10 cc/kilo over 10 minutes
  - Reassess every 30 seconds



Infant Resuscitation

Do not resuscitate if:

- Macerated and obviously long-dead
- No signs of life and fused eyelids
- Severe anomalies and no signs of life (such as open skull)

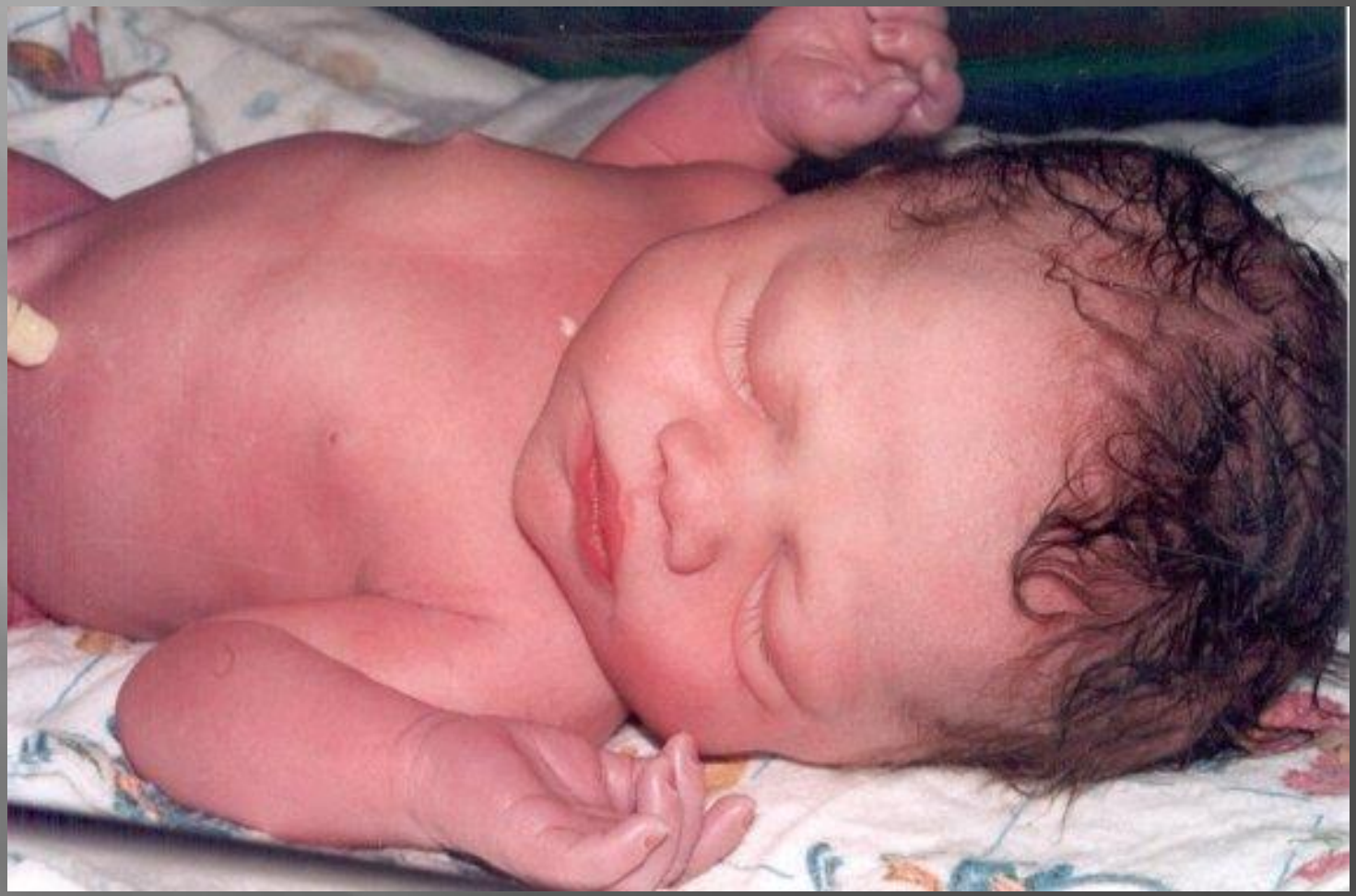
A few minutes after birth…
Cause for concern

- Body and face cyanotic or pale
- Grunting with respirations
- Retractions with breathing
- Floppy tone
- Heart rate below 100
- Apnea

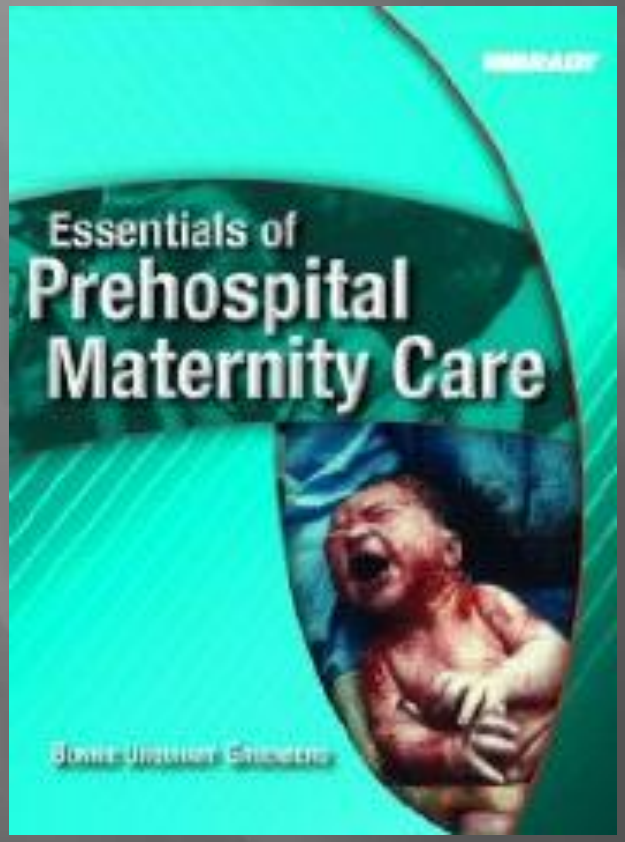
Infant Resuscitation

- Most babies need little more than stimulation, warmth, and suctioning
- Resuscitation to the extent of cardiac compressions and medications is very rare

Practice builds confidence..

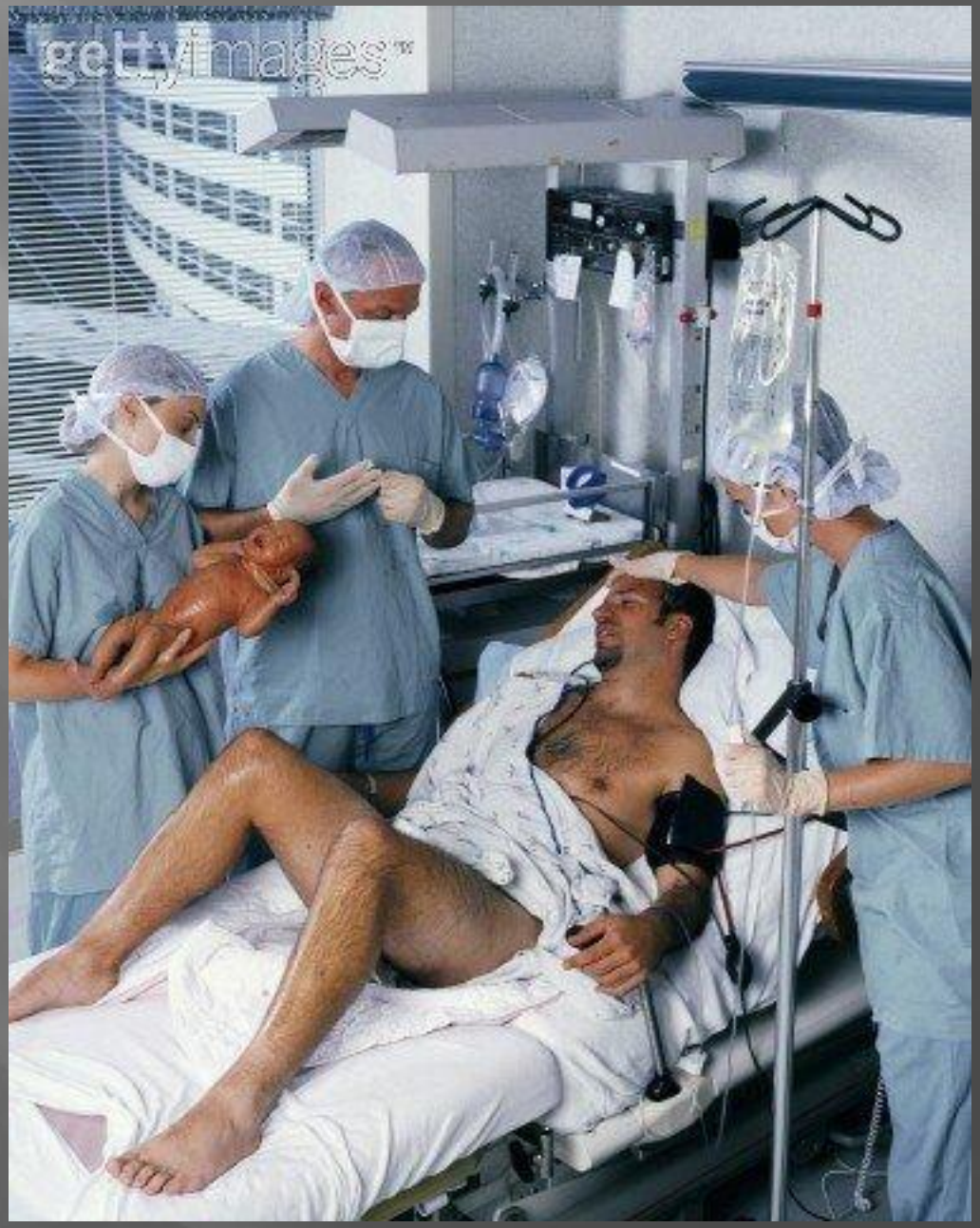


Presentation
©Bonnie Urquhart Gruenberg



Bonnie U. Gruenberg is the author of Essentials of Prehospital Maternity Care (Prentice Hall 2005) available at Amazon.com
Visit www.birthguru.com for many other products, many of them free of charge.

Special thanks to my clients and coworkers, who generously allowed me to use images of their babies, and also took the photographs that show me attending births.
-Bonnie U Gruenberg


gettyimages