Common Intrapartum Emergencies for EMS Providers

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Author of Essentials of Prehospital Maternity Care
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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
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

<table>
<thead>
<tr>
<th>True Labor</th>
<th>False Labor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain at regular intervals</td>
<td>Irregular contractions</td>
</tr>
<tr>
<td>Get longer, stronger closer</td>
<td>No change in pattern over time</td>
</tr>
<tr>
<td>Pain starts in the back and moves to the front</td>
<td>Pain felt mostly in front</td>
</tr>
<tr>
<td>Walking increases intensity</td>
<td>No change with walking—or change in activity may stop them altogether</td>
</tr>
<tr>
<td>Bloody show often present</td>
<td>No bloody show</td>
</tr>
<tr>
<td>Cervix effaced and dilated</td>
<td>No change in cervix or fetal descent</td>
</tr>
<tr>
<td>Presenting part descends</td>
<td></td>
</tr>
</tbody>
</table>
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 won't budge:
  - Tuck baby's 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!
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
Reassuring Signs

- Heart rate over 100
- Limbs flexed
- Baby grimaces and wriggles
- Breathes or cries
- Centrally pink after a few minutes of breathing
<table>
<thead>
<tr>
<th>Apgar Score</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance (skin color)</td>
<td>Body blue or pale</td>
<td>Body pink, extremities blue</td>
<td>Pink all over</td>
</tr>
<tr>
<td>Pulse rate</td>
<td>Absent</td>
<td>Under 100 BPM</td>
<td>Over 100 BPM</td>
</tr>
<tr>
<td>Grimace (bulb suction in mouth)</td>
<td>No response</td>
<td>Grimace</td>
<td>Cough, sneeze, cry</td>
</tr>
<tr>
<td>Activity (muscle tone)</td>
<td>Limp</td>
<td>Some flexion of extremities</td>
<td>Active movement</td>
</tr>
<tr>
<td>Respiratory</td>
<td>Apnea</td>
<td>Slow and irregular</td>
<td>Strong cry</td>
</tr>
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</table>
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
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.
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.
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.
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
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
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
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
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
“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.
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
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
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
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
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
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
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
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.
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