Emergency Delivery in the ED - We Can Do This!

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Disclosures

No disclosures.

Objectives

1. Obtaining pertinent history
2. Controlled delivery method
3. Post-partum hemorrhage management
4. Immediate newborn assessment

Emergency Delivery

"She's fighting not to push!" – Pipestone, MN EMT

1. Patient history / gestational age
2. Presentation – vertex/breech
3. Controlled Pushing
4. Post partume hemorrhage management

Patient History

What is most important to know?

- Vital signs-They're vital!
- How many weeks pregnant? EDD, EGA
  - Easy due date calculator: last menstrual period month-3, day +7
  - Example: LMP 9/3= due date 6/10
- What pregnancy is this? Gravida
- How many pregnancies has she delivered? Para
- Were her previous deliveries vaginal or cesarean section?
- Were they term?
- How long ago was the last delivery?
- Has she had any prenatal care?

OB Panel

Drug/Substance Use

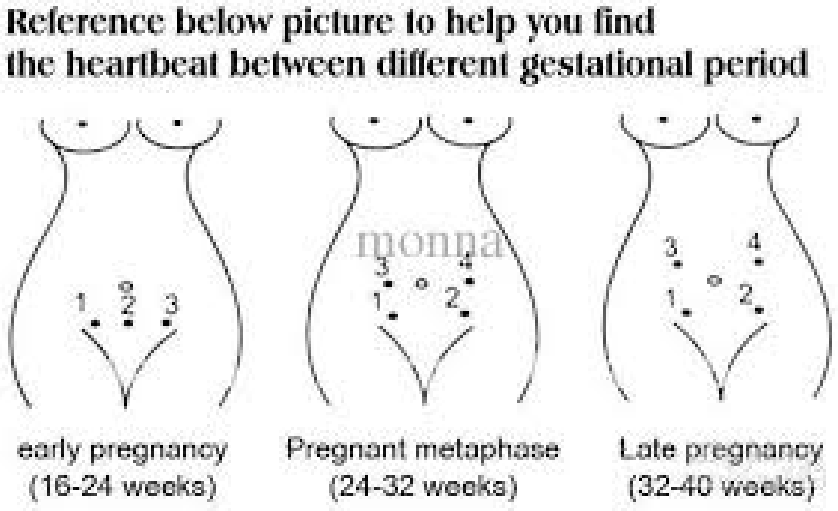
- Ask about any street drugs during patient history
- Meth, cocaine, etc will increase risk of placenta abruption
- Could also affect how extensive of resuscitation the newborn will need

Breathing Techniques

- Slow down! Help patient get back into control
  - Deep breath in, slow breath out
- Avoid holding breath
- Blowing out will take away the power to bear down
- Avoid hyperventilation

Fetal Heart Tones

Fetal droppers and external fetal monitors can be used to detect a fetal heart rate. Before placement, know what you are looking for and what you are going to do with the information obtained



Pushing

- Have patient push with contractions if she has the urge
- Once crowning, apply gentle counter pressure to avoid a “blow out”

Mother Delivered, Now What?

- At this point, you now have 2 patients. Do not separate them!
- Skin to skin is the best way for the baby to recover and bonding to begin
- Each one will need a care provider initially
- Remember, the placenta still needs to deliver and you will need to make sure mom doesn't bleed too much

Post-Partum Hemorrhage

- Patients that deliver in the ED are more than likely a precipitous delivery (labor and delivery that is 3 hours or less).
  - This puts the patient at higher risk for hemorrhage.

- Management of the bleed before seeing clinical signs is most important.

- A patient will exhibit signs of hypovolumia in a later stage of hemorrhage.

Post-Partum Hemorrhage

- Typical vaginal deliveries may have a blood loss of more than 500cc. ED personnel should assume hemorrhage for loss greater than 500cc and on going bleeding

- One (1) to five (5) % of all deliveries will have a PPH

- Resuscitation should be initiated immediately while evaluating the cause for the hemorrhage.
  - Atony
  - Laceration
  - Retained Tissue
  - Coagulopathy

Post-Partum Hemorrhage- Atony

- **First Action**: Fundal massage, followed by or in unison with Pitocin
  - Pitocin can be given IV or IM.
  - If given IM, standard dose is 10mu.
  - If IV, standard dose is 30mu in 500cc of normal saline or lactated ringers.

- Cytote 800-1,000mcg PO or PR

- Methergine – 0.2mg IM; use with caution if patient has hypertension

- Hemabate – 250mcg IM; use with caution if patient has asthma. Be prepared for asthma attack

- Common side effects are nausea, uncontrollable shaking, diarrhea and increased temp

It's A…Initial Newborn Care

Initial newborn care in the first hour of life key concepts…

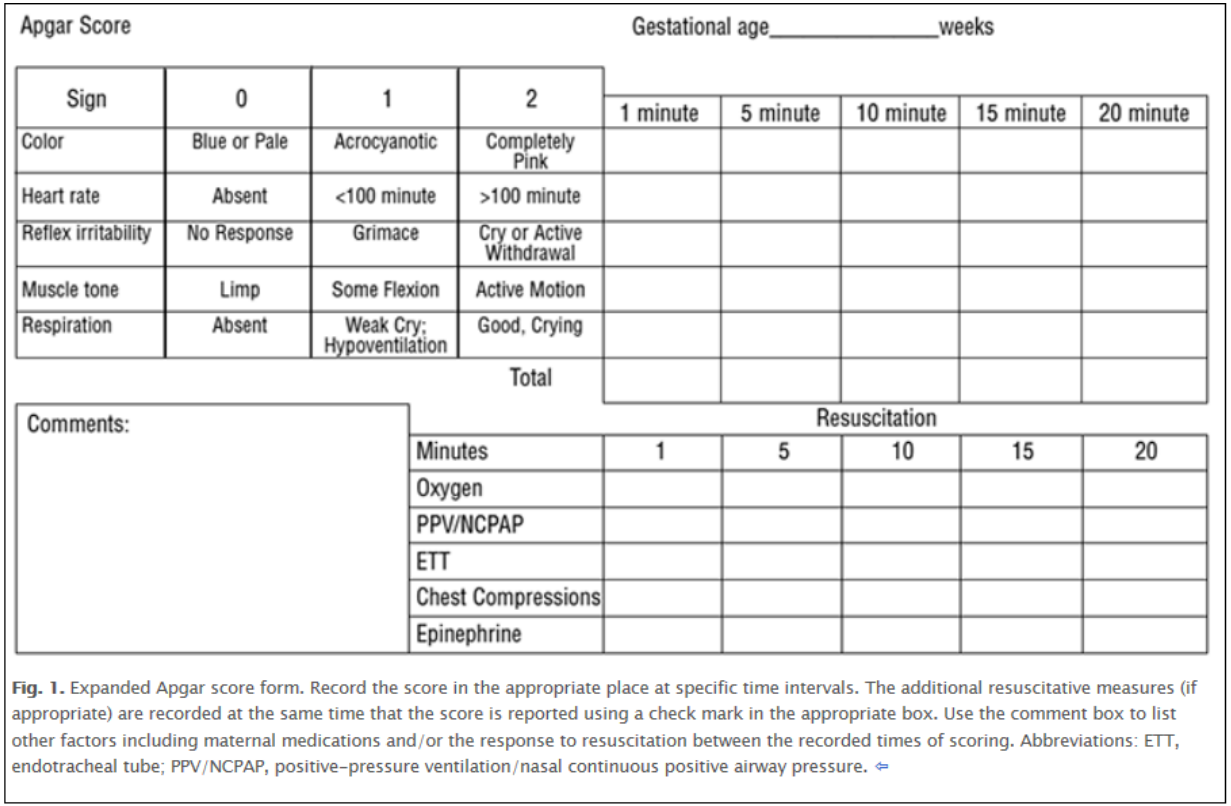
- Skin to skin, keep the baby warm
- NRP
- To clamp or not to clamp – OK to delay clamping
- Apgars performed at one (1) and five (5) minutes
- Newborn assessment and vital signs

Apgars

Apgar score does not indicate neurological or long term outcomes.

- Total score of 7 – 10: adjust well to life
- Total score of 4-6: moderate difficulty adjusting to extrauterine life
- Total score of 0-3: severe distress

Apgars



Apgar Score

Gestational age_____weeks

Sign	0	1	2	1 minute	5 minute	10 minute	15 minute	20 minute
Color	Blue or Pale	Acrocyanotic	Completely Pink					
Heart rate	Absent	<100 minute	>100 minute					
Reflex irritability	No Response	Grimace	Cry or Active Withdrawal					
Muscle tone	Limp	Some Flexion	Active Motion					
Respiration	Absent	Weak Cry; Hypoventilation	Good, Crying					
			Total					

Comments:

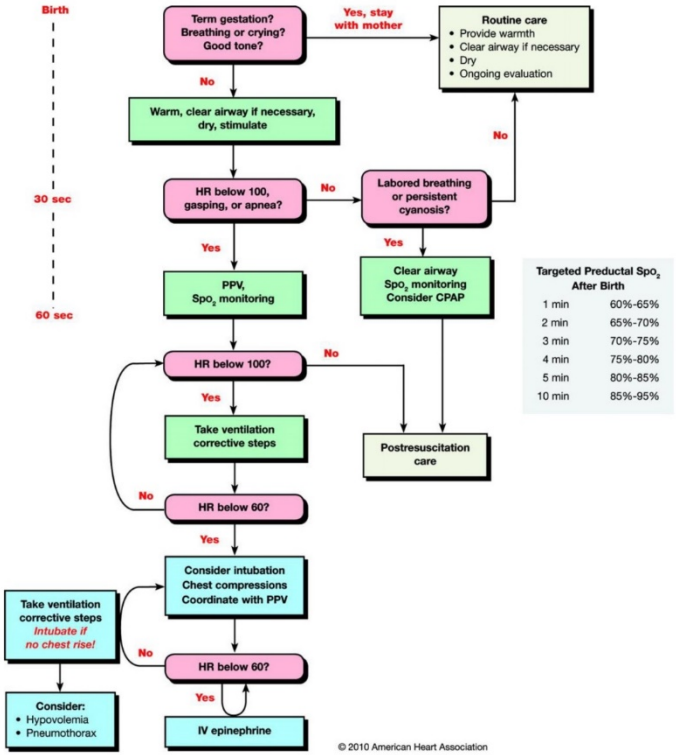
Resuscitation

Minutes	1	5	10	15	20
Oxygen					
PPV/NCPAP					
ETT					
Chest Compressions					
Epinephrine					

Fig. 1. Expanded Apgar score form. Record the score in the appropriate place at specific time intervals. The additional resuscitative measures (if appropriate) are recorded at the same time that the score is reported using a check mark in the appropriate box. Use the comment box to list other factors including maternal medications and/or the response to resuscitation between the recorded times of scoring. Abbreviations: ETT, endotracheal tube; PPV/NCPAP, positive-pressure ventilation/nasal continuous positive airway pressure. ⇦

NRP

Newborn Resuscitation Algorithm.



John Kattwinkel et al. Pediatrics 2010;126:e1400-e1413

Mr. Sopa – Good Ventilations

- M – Mask
- R – Reposition

- S – Suction
- O – Open Airway
- P – Pressure
- A – Alternate Airway

Skin to Skin

- Skin to skin at delivery will help temperature stabilization, breastfeeding and bonding.
- Dry off the infant while on mom's chest. Place a hat, change out any wet blankets.
- Perform assessments

Delayed Cord Clamping

- Infants born with meconium stained fluid with poor muscle tone and inadequate breathing should receive PPV if needed. Routine intubation for tracheal suction is no longer suggested.

- Resuscitation of preterm newborns of <35 weeks should be initiated with low oxygen(21-30%).

NRP: Good to Know

- Recommendation for delayed cord clamping for longer than 30 seconds if no resuscitation is required at birth, regardless of gestation

- Suggested against cord milking if under 29 weeks

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Newborn Assessment

Within the first 30 to 60 minutes of life, the infant should have a full assessment

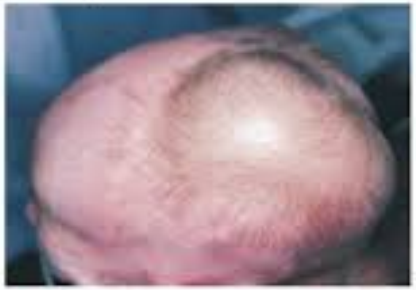
- Fontanels, sutures
- Eyes, nose, palate, ears
- All fingers and toes
- Lung sounds
- Heart sounds
- Bowel sounds

- Gentalia
- Hip Flexion
- Feet
- Reflexes
- Sacral Dimple

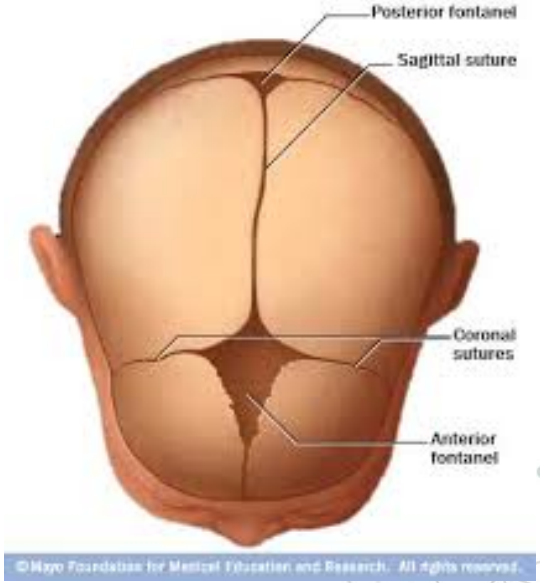
Fontanelles and Sutures

- Run your hand/fingertips over the fontanels and sutures
- The sutures are usually over riding

Cephalhematoma

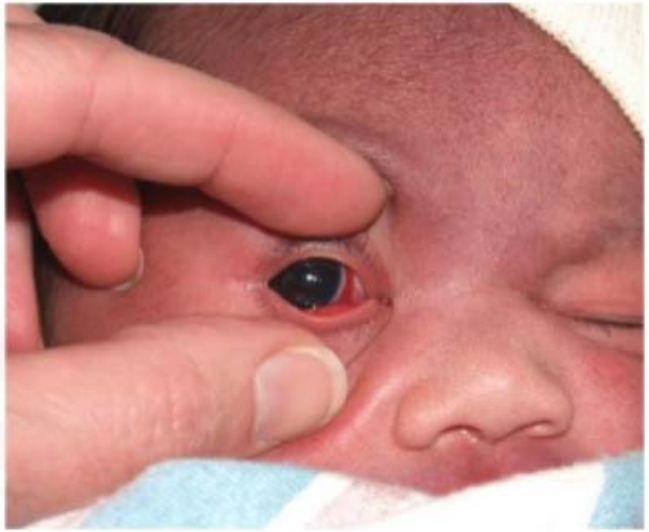


- Subperiosteal
- Not cross suture lines



Eyes

Physical Examination - Eyes



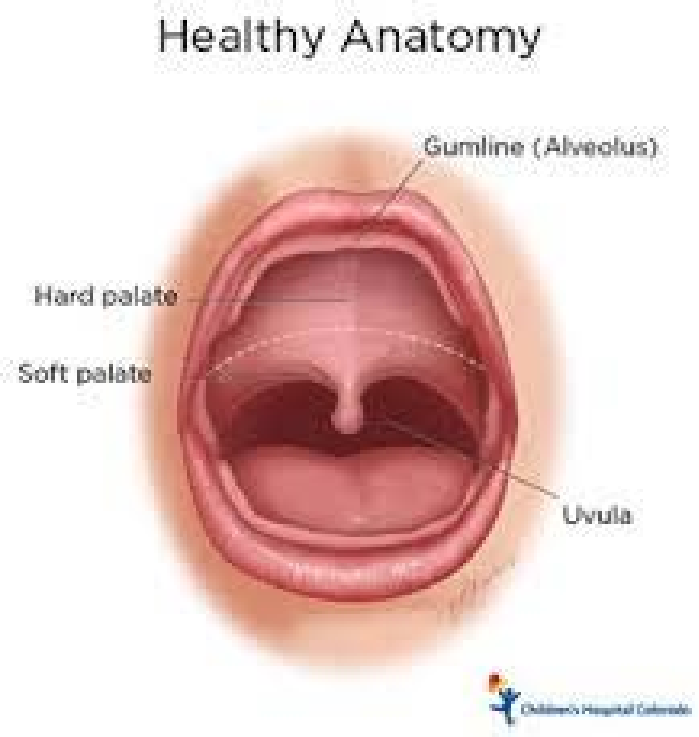
Subconjunctival Hemorrhage

Subconjunctival hemorrhage is a frequent finding in normal newborns.

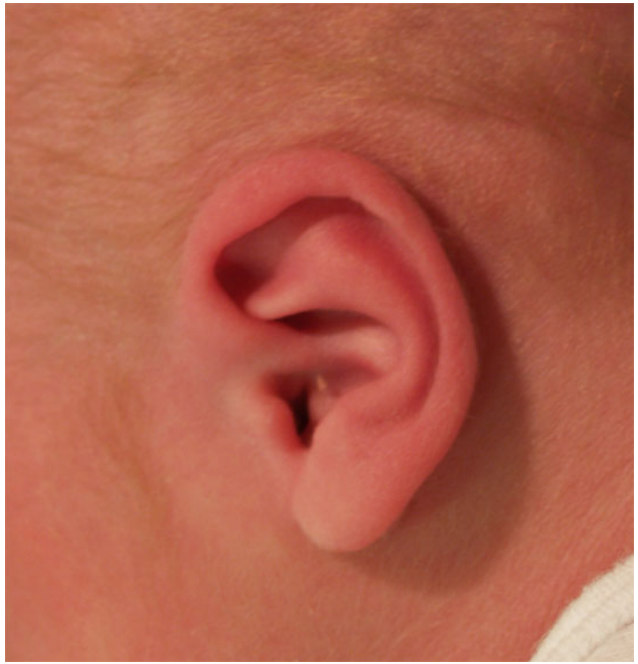
It results from the breakage of small vessels during the pressure of delivery.

The red area may be large or small but is always confined to the limits of the sclera.

Mouth


Healthy Anatomy
Gumline (Alveolus)
Hard palate
Soft palate
Uvula

Ears

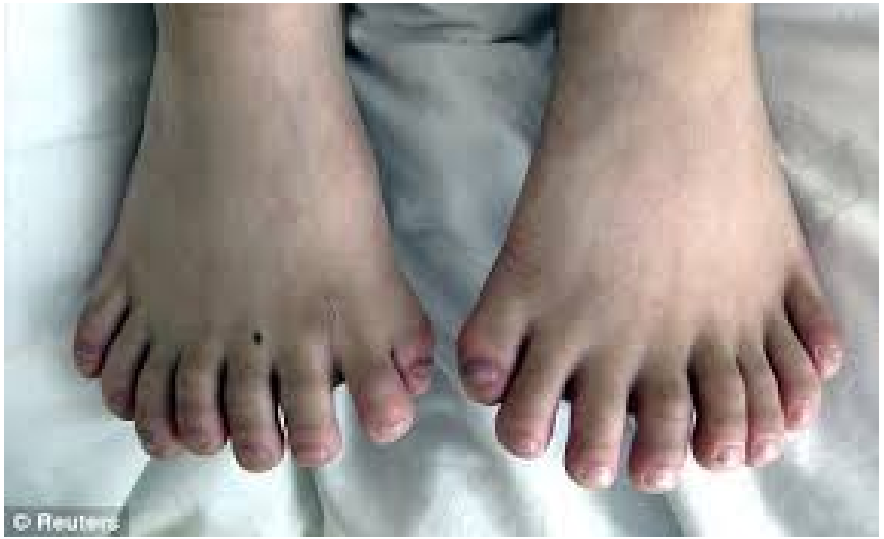


- The normal eat is one in which all the structures are all present and well formed.
- Notable: low set, skin tags, microtia

www.stanford.edu

Fingers and Toes

Polydactyly



Lungs, Heart, Bowels

- As in any patient you would want to listen to the lungs, heart, and bowels.
- It is not unusual for the lungs to sound wet or rough. Wipe off the infant, stimulate to cry.
- Normal heart rate for a newborn is 110-160bpm. You may hear a little murmur in the first few minutes. That is the ductus arteriosus still open. It usually closes within the first hour. Some infants take up to a day.
- Bowel sounds should be heard in all four (4) quadrants.

Flexion

- Full hip range of motion can be assessed by the primary provider
- Initially, good to note if the hips appear hyper flexed
- You will see this with babies that lay breech for a long time and turn at the last minute

Reflexes

Root reflex

- This reflex begins when the corner of the baby's mouth is stroked or touched. The baby will turn his or her head and open his or her mouth to follow and "root" in the direction of the stroking. This helps the baby find the breast or bottle to begin feeding. This reflex lasts about 4 months.

Suck reflex

- Rooting helps the baby become ready to suck. When the roof of the baby's mouth is touched, the baby will begin to suck. This reflex does not begin until about the 32nd week of pregnancy and is not fully developed until about 36 weeks. Premature babies may have a weak or immature sucking ability because of this. Babies also have a hand-to-mouth reflex that goes with rooting and sucking and may suck on fingers or hands.

Moro reflex

- The Moro reflex is often called a startle reflex because it usually occurs when a baby is startled by a loud sound or movement. In response to the sound, the baby throws back his or her head, extends out the arms and legs, cries, then pulls the arms and legs back in. A baby's own cry can startle him or her and trigger this reflex. This reflex lasts until the baby is about 5 to 6 months old.

Reflexes

Tonic neck reflex

- When a baby's head is turned to one side, the arm on that side stretches out and the opposite arm bends up at the elbow. This is often called the "fencing" position. This reflex lasts until the baby is about 5 to 6 months old.

Grasp reflex

- Stroking the palm of a baby's hand causes the baby to close his or her fingers in a grasp. The grasp reflex lasts until the baby is about 5 to 6 months old.

Babinski reflex

- When the sole of the foot is firmly stroked, the big toe bends back toward the top of the foot and the other toes fan out. This normal reflex lasts until the child is about 2 years of age.

Step reflex

- This reflex is also called the walking or dance reflex because a baby appears to take steps or dance when held upright with his or her feet touching a solid surface. This reflex lasts about 2 months.

www.urmc.rochester.edu/Encyclopedia/Content.aspx?ContentTypeID=90&ContentID=P02630

Genitalia

- Good to Note: Girl, Boy or Ambiguous
- Girls – labia minor and majora
- Boys – hypospadias, testes descended

Overall

- Is the infant pink?
- Crying? Can the infant be soothed?
- Rooting?
- Attentive at the breast?
- Lusty cry?
- Any birth marks or Mongolian spots noted?

Spine

- Look at the spin and sacrum.
- Many babies have a dimple at the sacrum. You may see it open or closed
- You may not be able to tell for sure.
  - If in doubt, order an ultrasound to ensure there is no occult spina bifida.

Q&A

References

www.stanford.edu

www.urmc.rochester.edu/Encyclopedia/Content.aspx?ContentTypeID=90&ContentID=P02630

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Thank You!

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