NRP 2010

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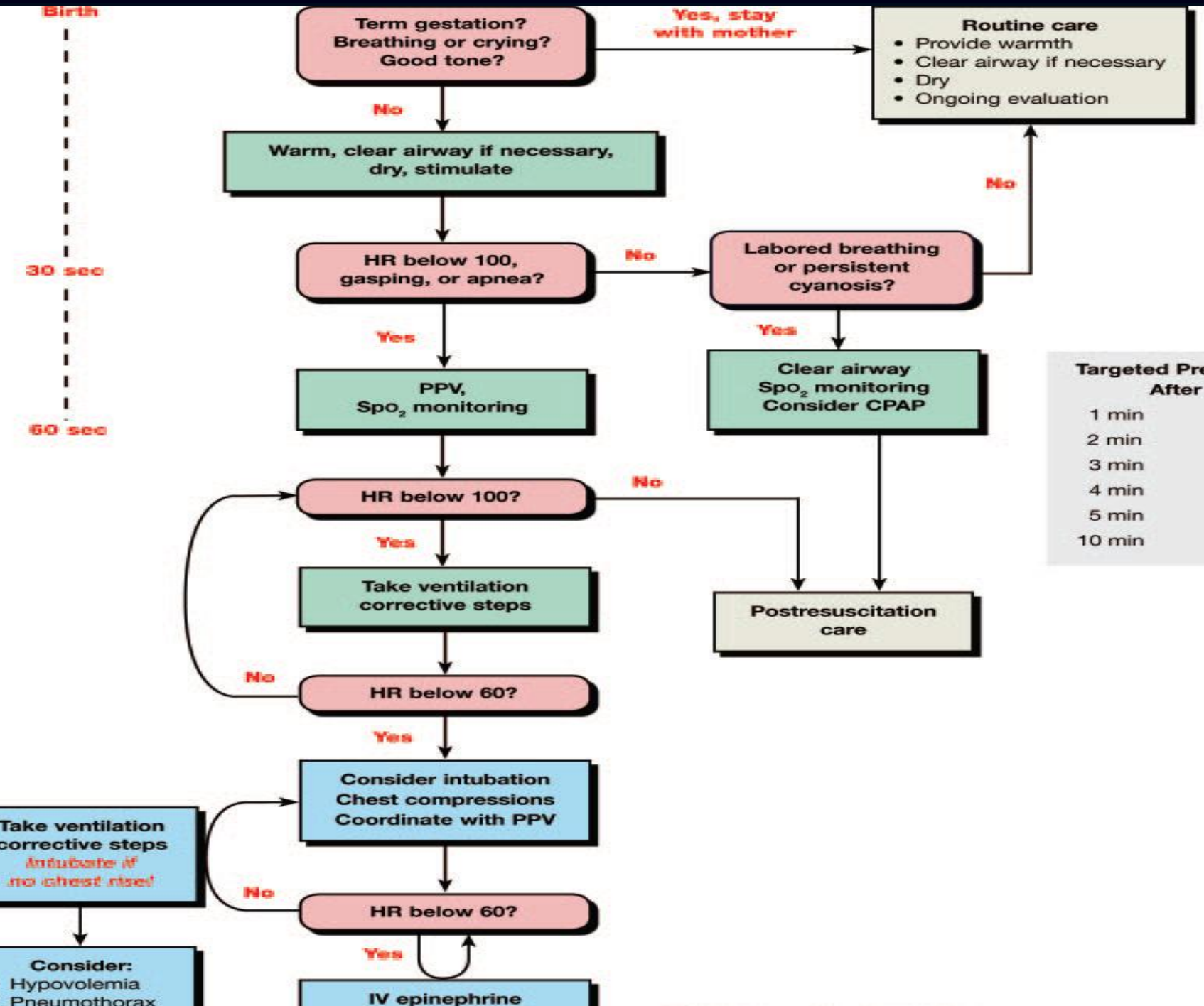
CONTRA COSTA REGIONAL MEDICAL CENTER
NOON CONFERENCE SERIES

DISCLOSURE OF CONFLICT OF INTEREST

- Speaker has nothing to disclose



Targeted Preductal Spo_2 After Birth	
1 min	60%-65%
2 min	65%-70%
3 min	70%-75%
4 min	75%-80%
5 min	80%-85%
10 min	85%-95%

Amniotic Fluid

- Suctioning of the nasopharynx can create bradycardia.
- Yet, if there is secretions suctioning can decrease respiratory resistance
- No evidence in healthy term infants that it provides any benefit and may cause harm.
- No evidence to support or refute it's use in depressed infants

Amniotic Fluid

- **New guidelines**: Suctioning post birth (including with a bulb syringe) should only be for babies requiring PPV or with obvious obstruction.

Meconium Stained Fluid

- Routine oropharyngeal suction before delivery of the shoulders not recommended. (Changed in 2005)
- Infants born in meconium stained fluid are at increased risk for MAS
- Use of endotracheal suctioning has not decreased the incidence or mortality from MAS.

Meconium Stained Fluid

- At this point still recommended to intubate depressed infant with meconium stained fluid
- **But** if unsuccessful or prolonged intubation attempt especially if there is bradycardia consider proceeding to PPV.

Assessment of Oxygenation

- Use of color is a poor indicator of oxygenation status
- Both hypoxia and hyperoxia can be harmful with significant long term complications
- **New Recommendation**: Use Pulse oxymeter if:
  - resuscitation is anticipated
  - PPV for more then a few breaths is given
  - persistent cyanosis
  - need for supplemental O2.

Pulse Ox

- Place pre-ductally (right wrist)
- Machine on, probe not attached
- Once probe on patient, attach to machine
- Use posey (not in guidelines)

Normal SpO2 Per NRP

These are based on healthy vaginal deliveries at sea level.

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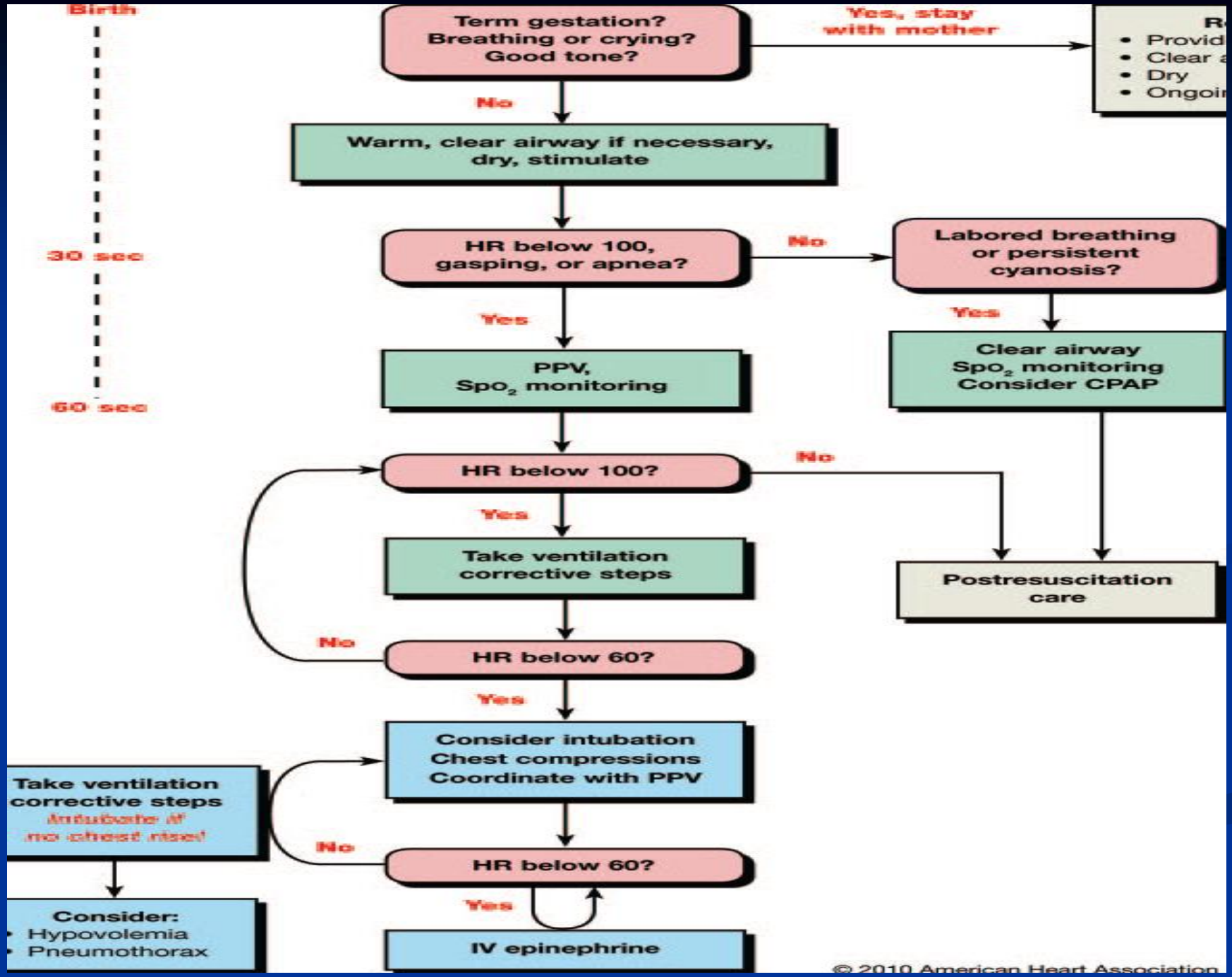
Oxygen Anyone????

- Increased survival in term infants resuscitated with room air.
- Goal is to adjust FiO2 to be within range in table.
- Guideline states to start at room air or blended oxygen and titrate based on above saturation goals. (If blended O2 not available then suggest RA)
- **If baby is bradycardic (HR<60) after 90 seconds of resuscitation with lower O2 concentration then should be increased to 100% until normal HR recovery.** (Then wean back based on sats –this not in guideline recommended at SPR)

If PPV needed

- If apnea or HR<100 after initial steps start PPV
- Adequate ventilation noted by improved HR
- Initial pressure is unclear- want pressures that improve heart rate.
  - 20cmH2O may be fine, may need >30-40cmH2O
  - 40-60 breaths per minute
  - Use of CO2 detectors may help identify airway obstruction during PPV


Birth
30 sec
60 sec
Term gestation?
Breathing or crying?
Good tone?
Yes, stay with mother
No
Warm, clear airway if necessary, dry, stimulate
HR below 100, gasping, or apnea?
No
Labored breathing or persistent cyanosis?
Yes
Clear airway
Spo2 monitoring
Consider CPAP
Yes
PPV,
Spo2 monitoring
HR below 100?
No
Yes
Take ventilation corrective steps
Postresuscitation care
No
HR below 60?
Yes
Consider intubation
Chest compressions
Coordinate with PPV
Take ventilation corrective steps
Intubate if no chest rise!
No
HR below 60?
Yes
Consider:
Hypovolemia
Pneumothorax
IV epinephrine
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CPAP and Bag Type

- New guidelines basically say can use CPAP or intubation in preterm infants.
- Can use PEEP when providing PPV if have device that will do that.

LMA

- Can be considered in infants >34 weeks, >2kg

CPR

- If HR <60 despite adequate ventilation and oxygenation for 30 seconds.
- 2 thumb technique may generate higher peak systolic and coronary perfusion pressures so should be used as first choice unless umbilical access is necessary.
- 3:1 on ratio unless arrest felt to be cardiac etiology then 15:2 ratio
- Epi: 1:10,000 (0.1mg/ml) give IV 0.01-0.03mg/kg. If needed via ETT give 0.05-0.1mg/kg

Temperature Control

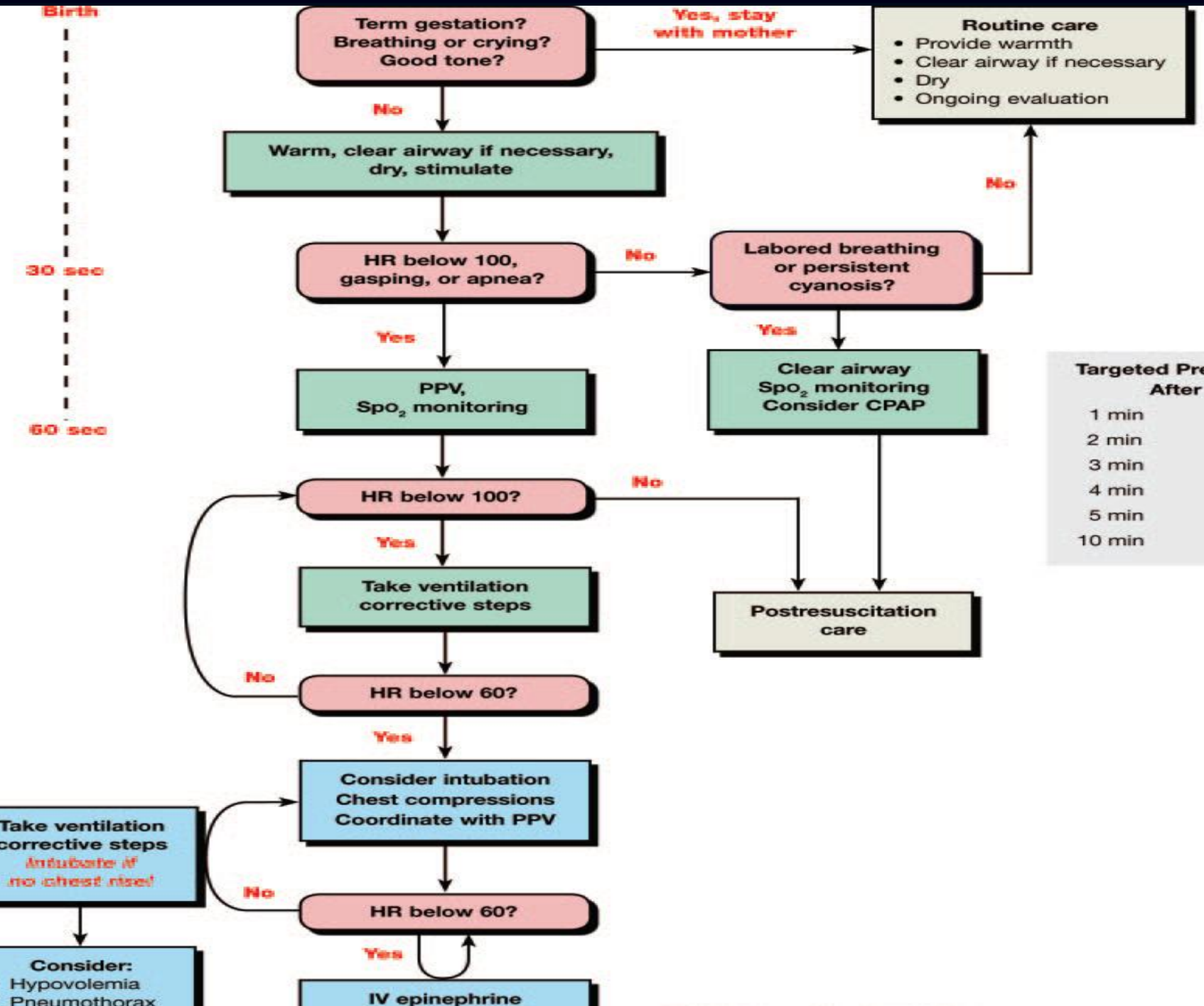
- <1500 grams increased risk for hypothermia
- Suggestions:
  - Pre-warming DR to 26°C (78.8° F)
  - Cover in plastic wrap prior to drying.
  - Placing on exothermic mattress
  - Place under radiant heat
  - Try to avoid hyperthermia

NRP 2010

- If survival highly unlikely no resuscitation or discontinuing resuscitation is supported: including <23 weeks, <400g.
- High survival resuscitation is nearly always indicated (gestation >25 weeks)
- If infant born with no detectable HR after 10 minutes of resuscitation efforts consider discontinuing support

NRP 2010

- NRP should adopt simulation for education and maintenance of skills.



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ILCOR 2010 Differences from NRP

- Term infants should be resuscitated with RA
- Cord clamping should be delayed for at least 1 minute in babies who do not require resuscitation.
- Ascultate HR, as palpation at umbilical cord may underestimate HR.
- For preterm infants if no blended O2 available it should be started in RA.

ILCOR 2010 and differences from NRP

- Routine intrapartum oropharyngeal and nasopharyngeal suction for infants born in clear or mec stained fluids is not recommended
- Current evidences does not support or refute routine endotracheal suctioning of depressed infants born through meconium stained amniotic fluid.

ILCOR 2010 and differences from NRP

- Consider intraosseous access if unable to obtain intravenous access.
- Uncomplicated term delivery: Delay cord clamping for minimum of 1 min this can lead to improve iron stores
- Simulation should be used as a method in resuscitation education.