

**Welcome to
the Neonatal
Resuscitation
Program**

Focus on Teamwork

Resuscitation Team

Member A:

- 1. Assess infant.**
- 2. Manage airway and intubate the trachea if indicated.**
- 3. Provide PPV.**
- 4. Secure ET tube.**

Resuscitation Team

Member B:

1. Listen for heart rate, give chest compression if needed.
2. Auscultate chest to be sure the ET tube is in proper position and gas exchange is good.
3. Catheterize umbilical vessels.

cont'd

Resuscitation Team

Member B:

- 4. Assess perfusion, and sample blood for ABG analysis.**
- 5. Administer fluids and drugs.**
- 6. Continue assessment of infant.**

Resuscitation Team

Member C:

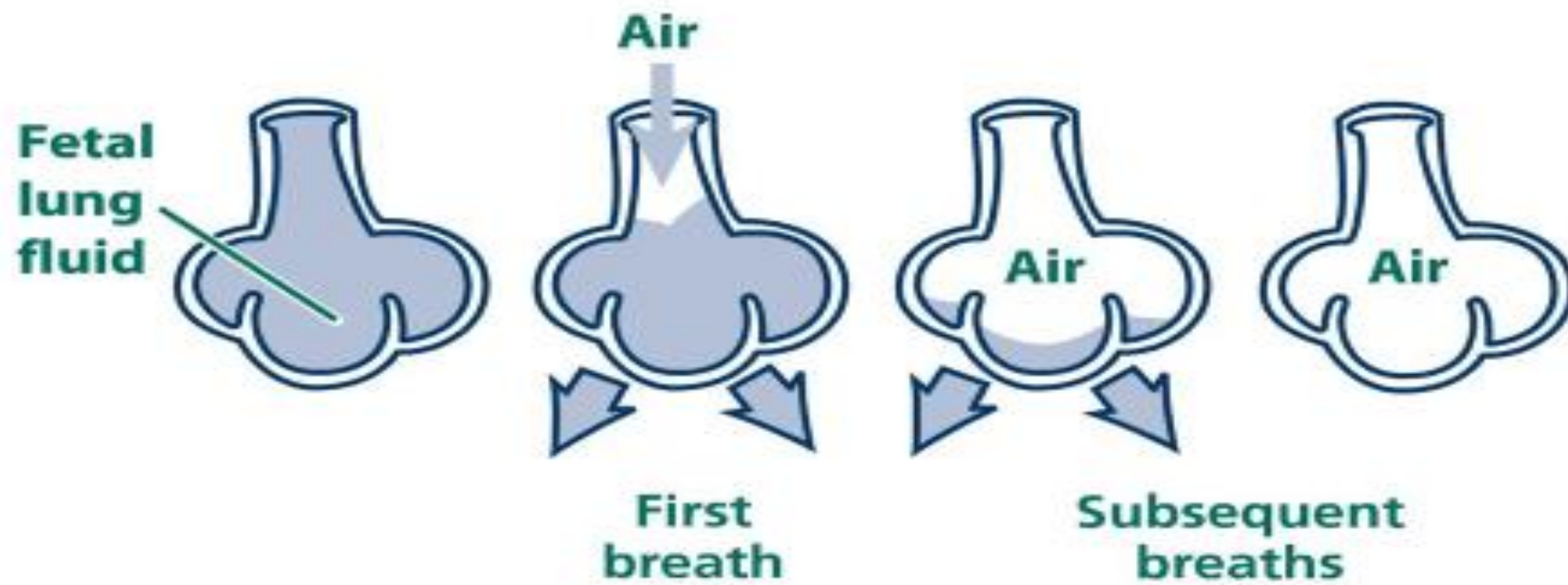
1. Blot baby dry, apply pulse oximeter electrodes.
2. Keep timed, written record of resuscitation, vital signs, and Apgar scores.

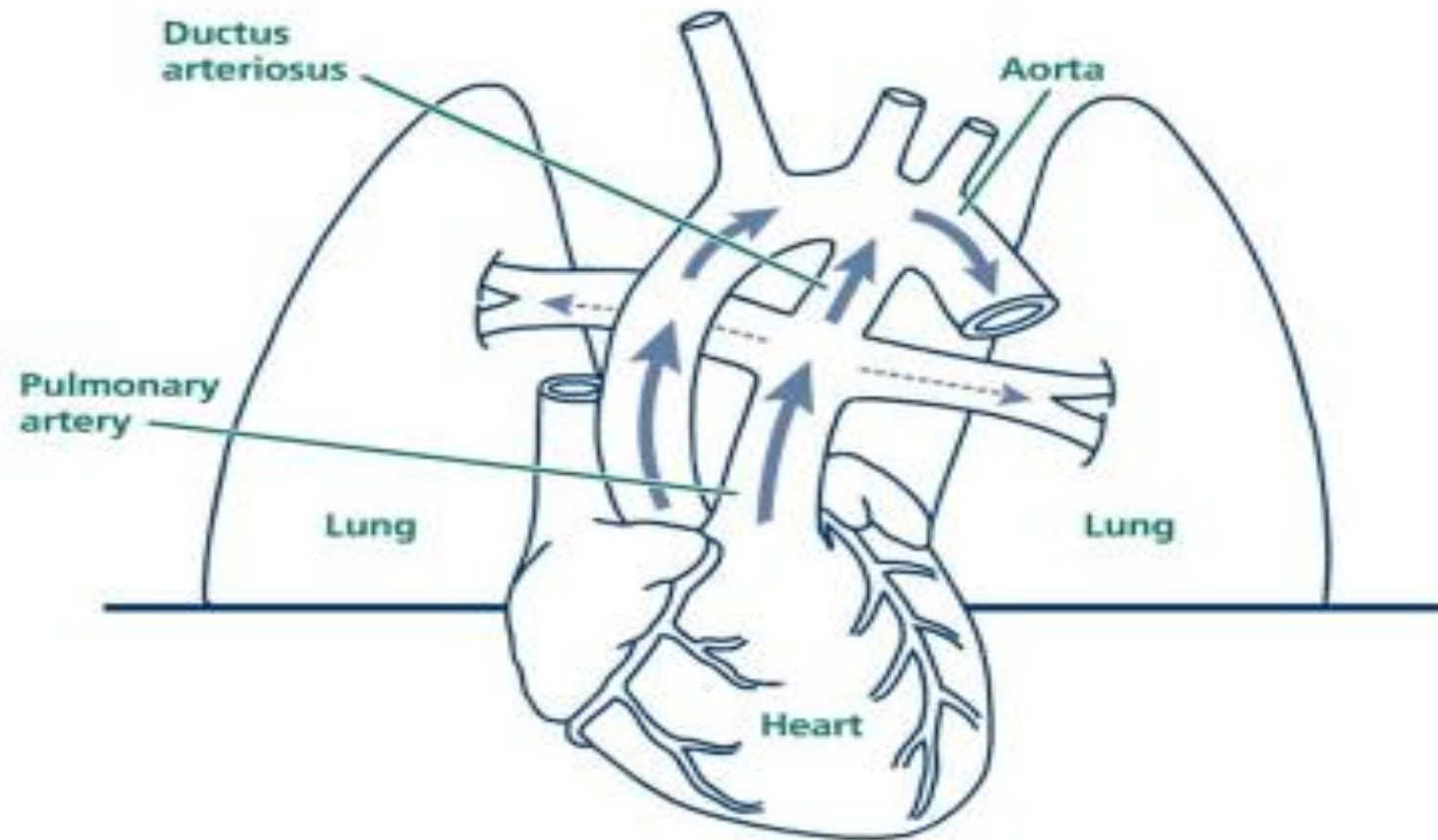
cont'd

Normal Transition

The following major changes take place within seconds after birth:

- **Fluid in alveoli absorbed.**
- **Umbilical arteries and vein constrict thus increasing blood pressure.**
- **Blood vessels in lung relax.**





Targeted Pre-ductal Spo₂ 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%

Antenatal Counselling


Ask 4 pre-birth questions:

- What is the expected gestational age?
- Is the amniotic fluid clear?
- How many babies are expected?
- Are there additional risk factors?

Equipment Check

- **Prepare necessary equipment:**
 - **Turn on radiant warmer**
 - **Check resuscitation equipment**

Initial Steps of Newborn Care

- Provide warmth. 
- Position the head and neck.
- Clear secretions if needed.
- Dry.
- Stimulate.

These steps may be initiated during the interval between birth and umbilical cord clamping and should be completed within approximately 30 seconds of birth.

Provide Warmth



Dry, Stimulate to Breathe, Reposition

Dry thoroughly




Remove wet linen



Reposition the head



Initial Steps of Newborn Care

- **Provide warmth.**
- **Position the head and neck.** 
- **Clear secretions if needed.**
- **Dry.**
- **Stimulate.**

These steps may be initiated during the interval between birth and umbilical cord clamping and should be completed within approximately 30 seconds of birth.

Position the Head and Neck



Correct

Clear Secretions



Mouth first...



then nose

Tactile Stimulation

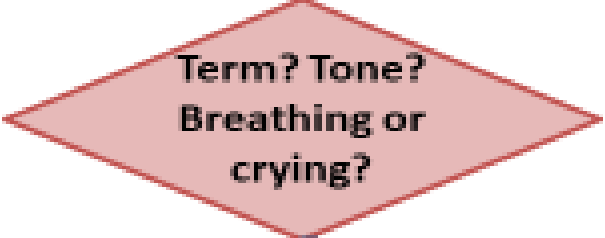


Evaluate Respiration, and Heart Rate



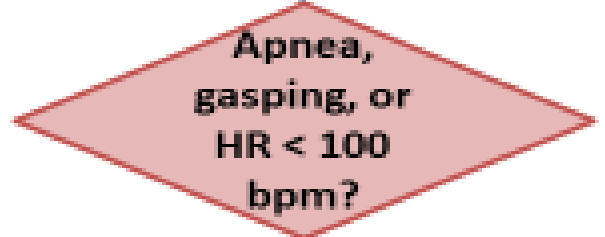
Figure 2.12. Determining heart rate by palpating base of cord and listening with a stethoscope

Birth



No

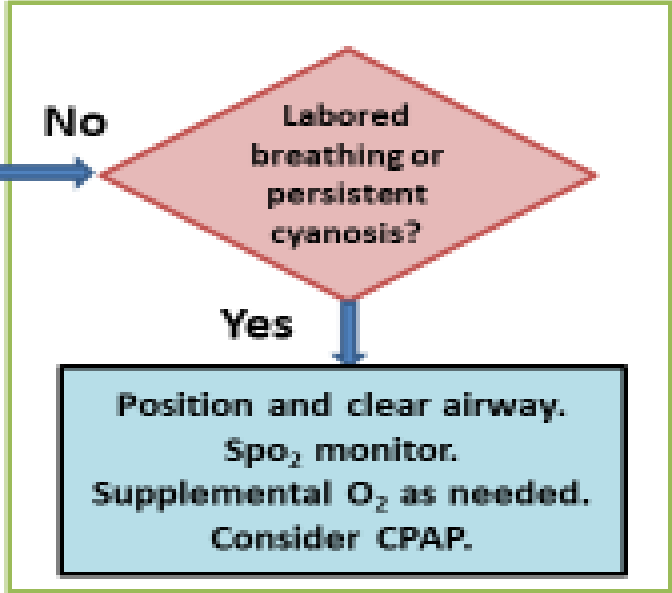
Warm, clear airway if
necessary, dry, stimulate.



Yes

PPV.
Spo₂ monitor.
Consider ECG monitor.

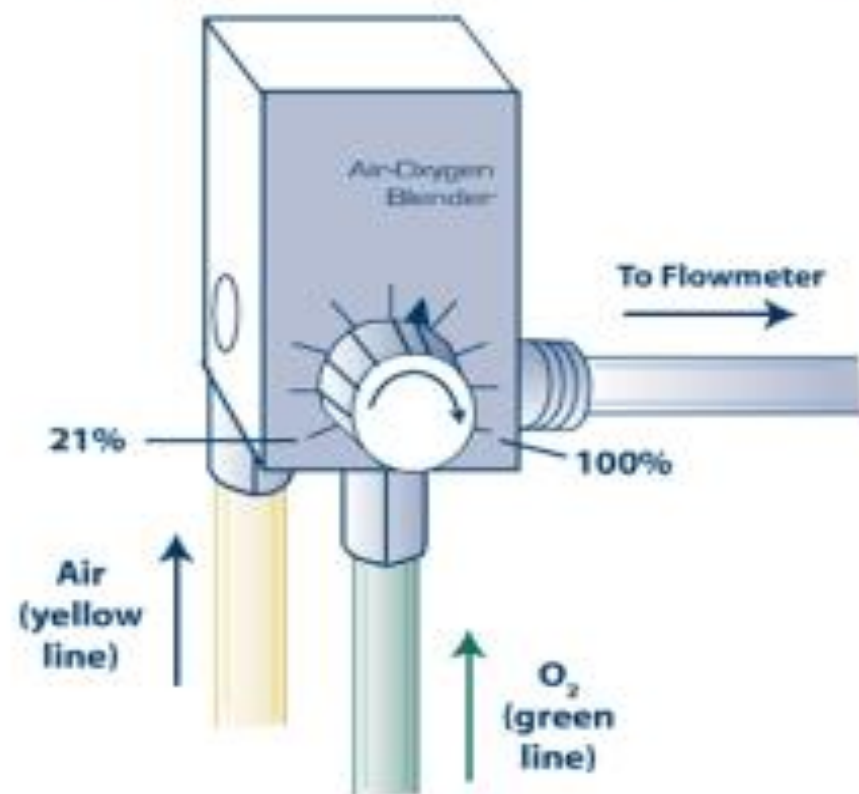
No



Yes

Position and clear airway.
Spo₂ monitor.
Supplemental O₂ as needed.
Consider CPAP.

Use a Blender to Give Different Concentrations of Oxygen



➤ **No respiratory distress**

but

➤ **Low Spo₂ or cyanotic**



Supplemental O₂ as necessary

Free-flow Oxygen Given Via Oxygen Mask



Free-flow Oxygen Given Via Oxygen Tubing



➤ **Labored breathing**

OR

➤ **↓ Spo₂ (persistent cyanosis)
particularly if preterm**

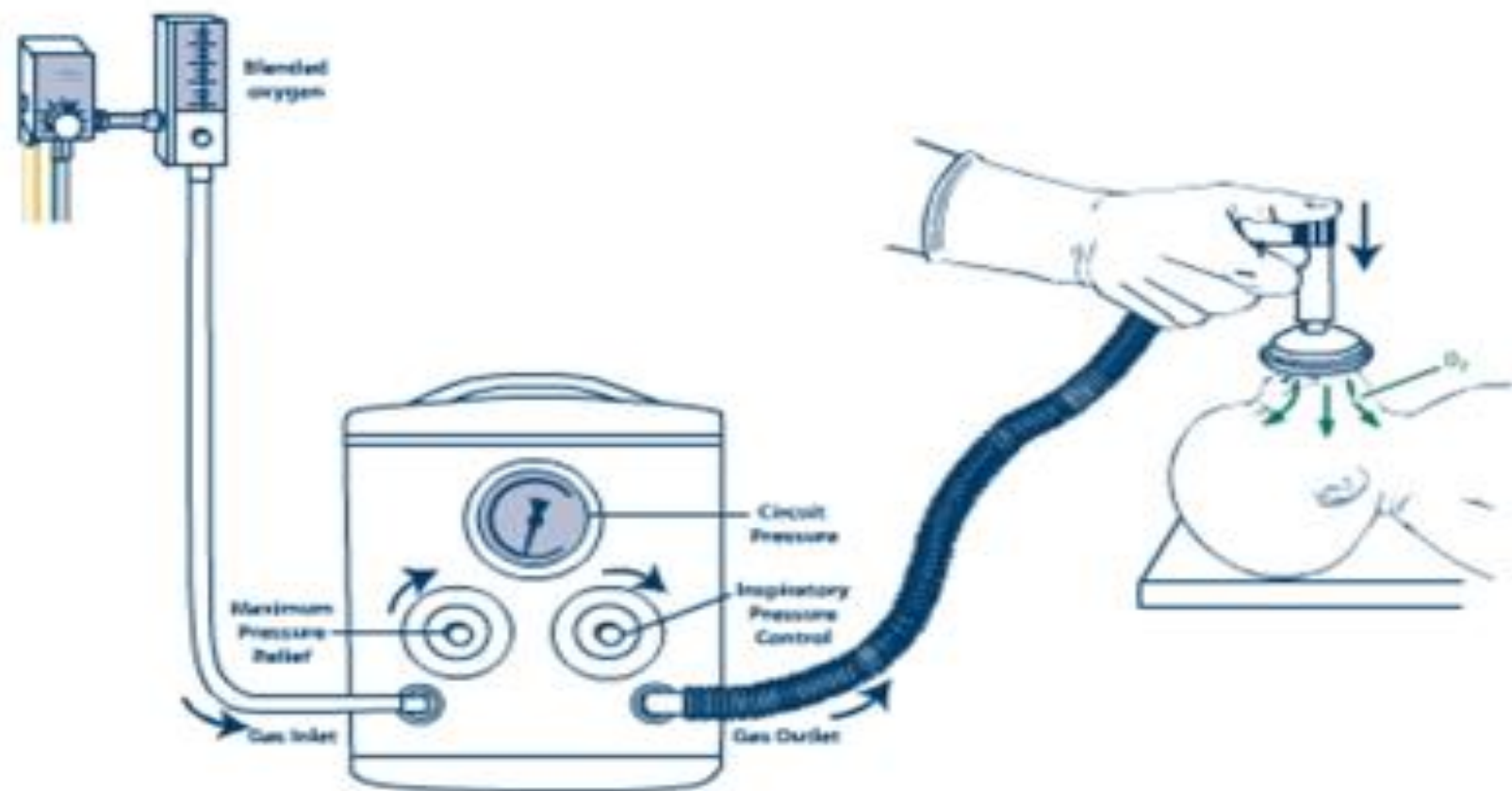


CPAP by mask or PPV

+

Supplemental O₂ as necessary

Free-flow Oxygen Given By T-piece Resuscitator



Position Yourself at the Baby's Head



**Round
shaped**



**Anatomically
shaped**



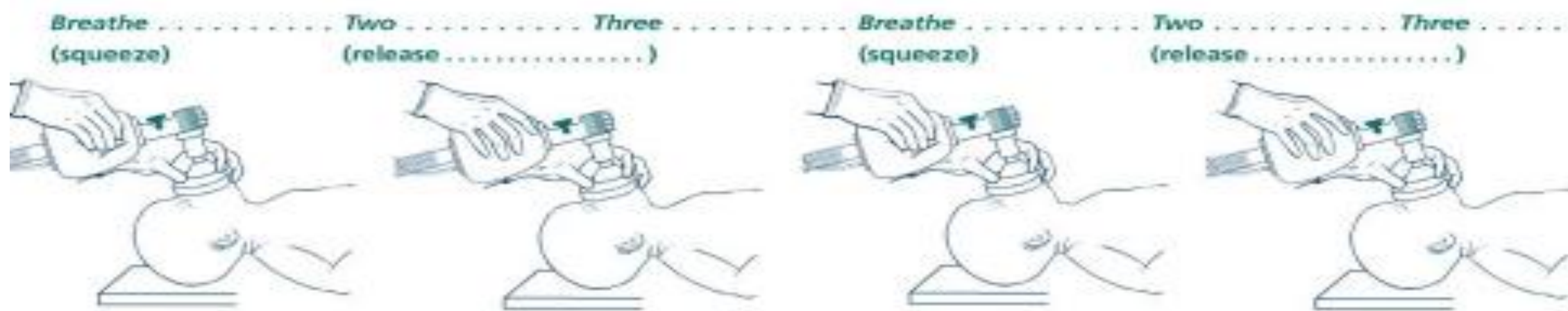
Ineffective Ventilation

Reapply mask to face.



Ventilation Rate

40-60 breaths per minute



**How to evaluate the
baby's response to
PPV?**

Baby's response to PPV

- The most important indicator of successful PPV is a rising heart rate.
- An assistant will monitor the heart rate response with a **stethoscope, pulse oximeter, or an ECG monitor.**
- You will make 2 separate assessments of the heart rate response to PPV.

First Assessment HR after 15 sec. of PPV

Heart rate is increasing

- **Announce HR is increasing.**
- **Continue PPV.**
- **Second HR assessment after another 15 sec of PPV.**

Second Assessment

HR after 30 sec. of PPV That Moves the Chest

Heart rate at least 100 bpm

- **Continue PPV 40-60 breaths/min until spontaneous effort.**
- **When HR is consistently > 100 bpm, gradually reduce the rate and pressure of PPV, observe the baby and stimulate to breathe.**
- **After PPV is stopped, continue to monitor SpO₂ and breathing. Then, use free-flow oxygen or CPAP as necessary to maintain the oxygen saturation within the target range.**

First Assessment HR after 15 sec. of PPV

Heart rate not increasing-Chest IS moving

- **Announce HR NOT increasing, chest IS moving.**
- **Continue PPV that moves the chest.**
- **Second HR assessment after another 15 sec of PPV that moves the chest.**

Second Assessment

HR after 30 sec. of PPV That Moves the Chest

Heart rate 60-99 bpm

- **Reassess ventilation.**
- **Ventilation corrective steps if necessary.**
- **Consider inserting an orogastric tube if ventilation continues.**
- **Consider pneumothorax and hypovolemia.**

The 6 Ventilation Corrective Steps: MR. SOPA

	Corrective Steps	Action
M	Mask adjustment	Reapply the mask. Consider the 2-hand technique.
R.	Reposition airway	Place head neutral or slightly extended (sniffing position).
Try PPV and reassess chest movement.		
S	Suction mouth and nose	Use a bulb syringe or suction catheter.
O	Open mouth.	Open the mouth and lift the jaw forward.
Try PPV and reassess chest movement.		
P	Pressure increase	Increase pressure in 5 to 10 cm H ₂ O increment, max. 40 cm H ₂ O.
Try PPV and reassess chest movement.		
A	Alternative airway	Place an ETT or LM.
Try PPV and assess chest movement and breath sounds.		

First Assessment HR after 15 sec. of PPV

Heart rate not increasing-Chest is NOT moving

- **Announce HR NOT increasing, chest is NOT moving.**
- **Ventilation corrective steps until chest movement with PPV.**
- **Intubate or LM if necessary.**
- **Announce when chest is moving.**
- **Continue PPV that moves the chest.**
- **Second HR assessment after another 30 sec of PPV that moves the chest.**

Second Assessment

HR after 30 sec. of PPV That Moves the Chest

Heart rate < 60 bpm

- **Reassess ventilation.**
- **Ventilation corrective steps if necessary.**
- **Insert an alternative airway.**
- **If no improvement, 100% oxygen and chest compressions.**

How to Maintain Neonatal Resuscitation Skills

- **Practice, practice, practice- regularly.**
- **Create a workstation.**
- **Created scenarios facilitate practice and correction of errors.**
- **Post reminders in work areas:
(ONLY YOU CAN SAVE A NEWBORN- visit our NRP workstation.**