

# Initial Care of the Newborn

Module 7

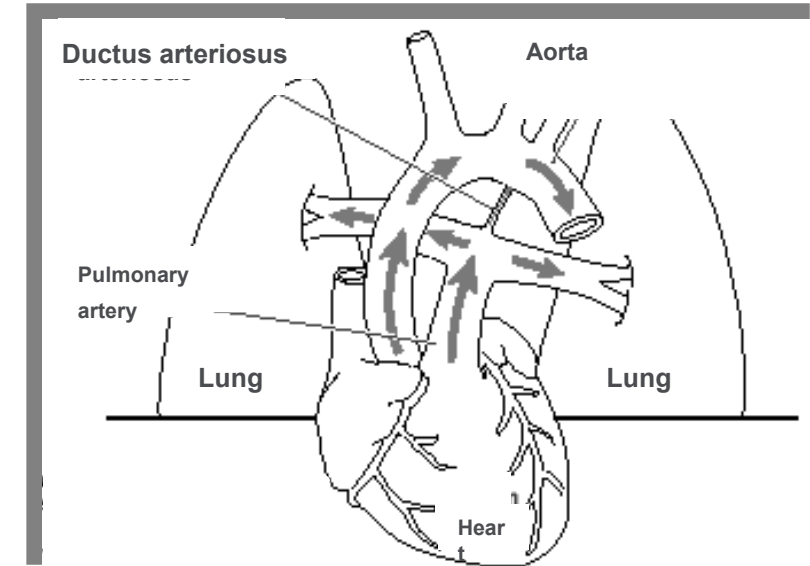
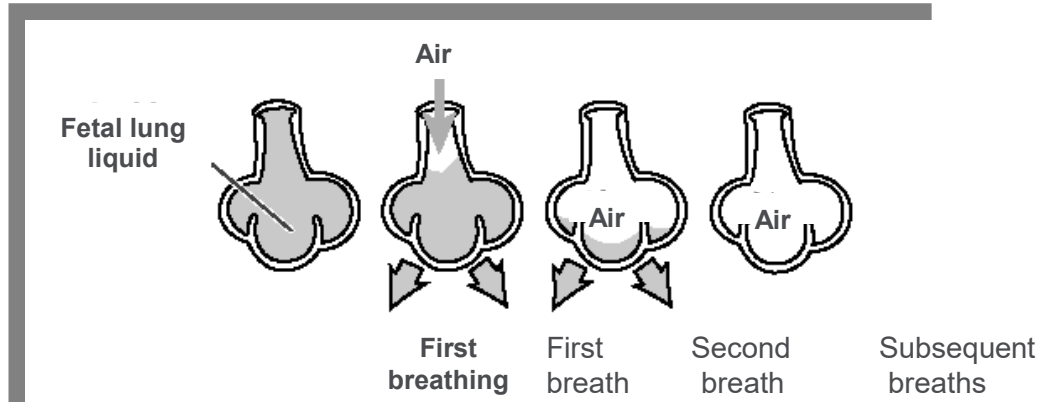
# INITIAL CARE OF THE NEWBORN: OBJECTIVES

1. **Anticipate neonatal resuscitation  
(plan, recognize risks, check equipment)**
2. **Identify the newborn making a normal transition  
immediately after birth**
3. **Identify the newborn requiring resuscitation**
4. **Describe and provide effective neonatal  
resuscitation interventions**

# NEONATAL ASPHYXIA

- **Accounts for over one million deaths per year**
  - Intrapartum stillbirths and neonatal deaths
- **In Latin America  $\approx$  12% of newborns suffer some degree of asphyxia**
- **A major cause of perinatal and neonatal death**
  - Risk increased under disaster circumstances
- **Associated with irreversible neurological long-term complications**

# NORMAL TRANSITION



# SUCCESSFUL RESUSCITATION ANTICIPATION—ORGANIZE PLAN

- **Assume that there will be deliveries in every disaster situation (10% of newborns may require resuscitation)**
- **Identify personnel with skills in neonatal resuscitation- to form a resuscitation team**
- **Review/test equipment, procedures, and teamwork**
- **Plan prompt maternal assessment and identify a referral mechanism (communication and transportation)**

# RISK IDENTIFICATION

- **Before Delivery-** eg. maternal age, maternal illness, preterm gestation, fetal distress
- **During Delivery-** eg. rapid labor, prolonged labor, meconium, excessive bleeding

# EQUIPMENT

- Hand hygiene products (alcohol, soap and water); **clean** gloves
- Cord ties/clamps, razor blade or scissors
- Clean cloths for drying and wrapping the infant (hat)
- Self-inflating ventilation bag, masks (preterm, term)
- Suction device
- Stethoscope
- Endotracheal tubes, laryngoscope, intravenous administration sets
- **A form of identification (e.g. a bracelet)**

# IDENTIFY THE NEED FOR RESUSCITATION

**Three primary questions when assessing any newborn**

**1. Is this a full-term gestation?**

**2. Is the baby breathing or crying? KEY QUESTION!**

**3. Is muscle tone appropriate?**

# NEONATAL RESUSCITATION SEQUENCE

**A (Airway)**

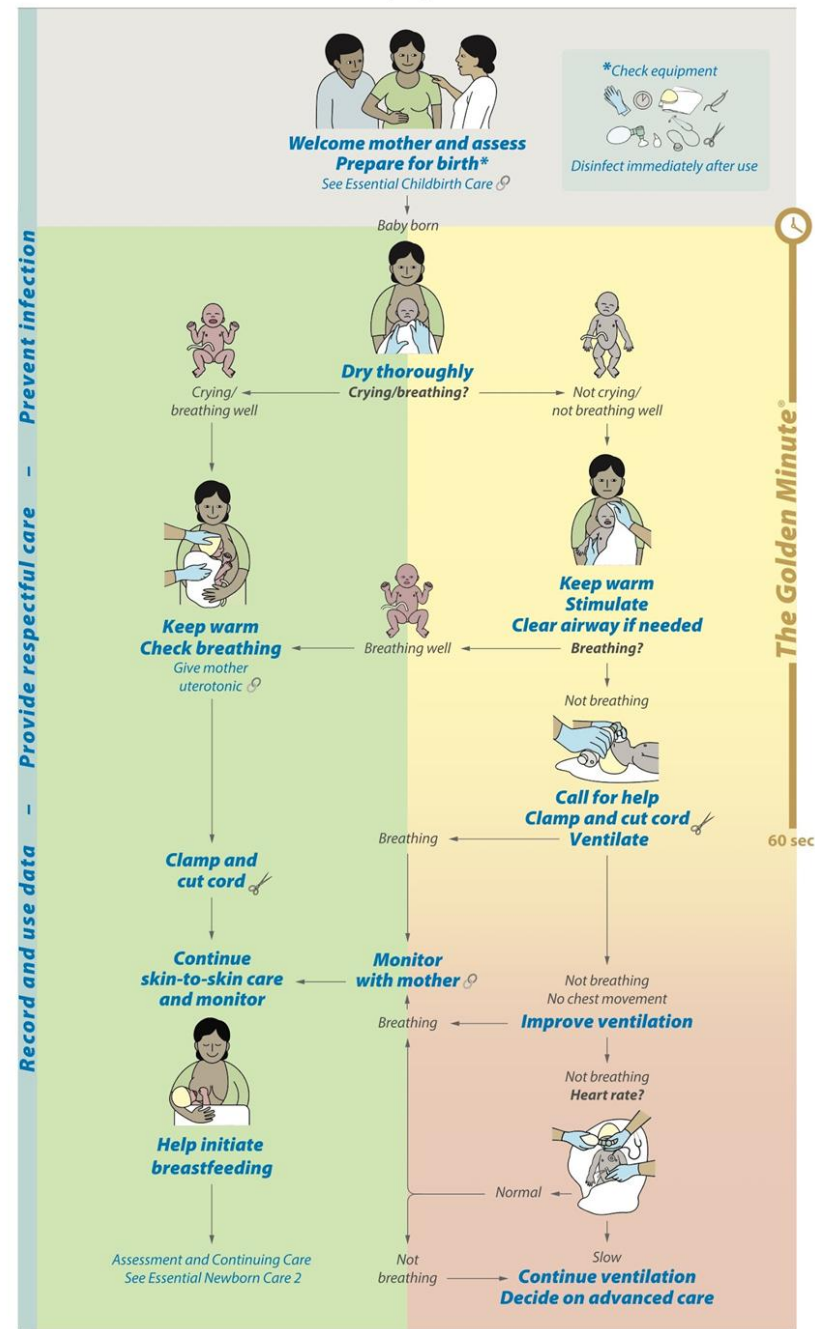
**B (Breathing)**

**C (Circulation)**

**D (Drugs, medications)**

# Essential Newborn Care 1

Immediate Care and Helping Babies Breathe at Birth



# INITIAL NEONATAL RESUSCITATION SEQUENCE

1. Thermal protection - for all
2. Drying - for all
3. Stimulation- as required
4. Positioning to maintain open airway - for all
5. Airway clearing- as required

***Always maintain good hand hygiene and avoid contamination***

# ADDING INITIAL STEPS

- *If not crying or breathing well or poor muscle tone (or preterm), begin the initial steps of resuscitation*
  - **Provide thermal control**
    - Dry thoroughly and place baby skin-to-skin with mother
    - Cover head and body
  - **Position to keep the airway open**
  - **Clear airway (as necessary)**
    - Wipe mouth and nose with a clean cloth/suction
  - **Stimulate to breathe**

# THERMAL PROTECTION

- **Dry thoroughly**
- **Maintain skin-to-skin contact with mother**
- **Cover head**
- **Use radiant heating - if necessary**
- **Avoid direct contact with heating elements**

# PRETERM: PROVIDE A WARM ENVIRONMENT

- Increase temperature of delivery environment (if possible)
- Place skin-to-skin with mother and cover head
- Place a thermal mattress below the towels or sheets
- In newborns <32 weeks, wrap from the neck down in plastic film or plastic bag

# POSITION

- Position the infant on the back with neck extended
- Avoid flexion or hyperextension of the neck

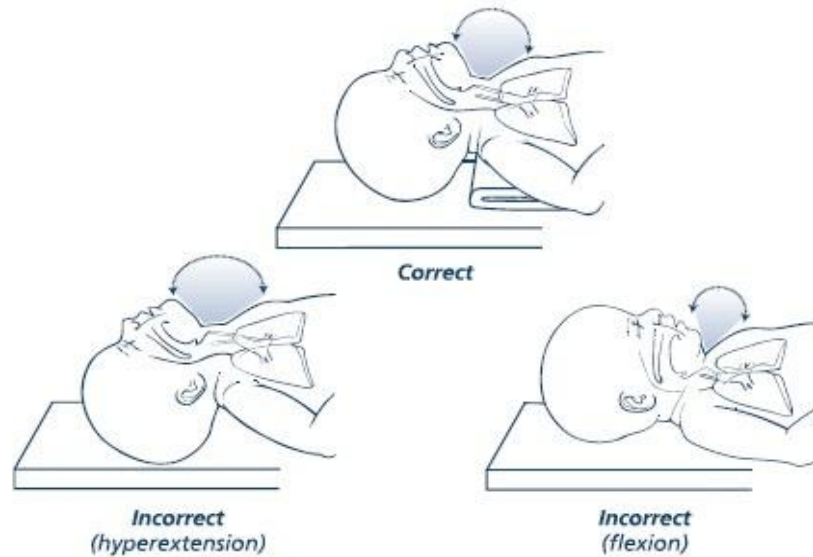


Figure 2.2. Correct and incorrect head positions for resuscitation

# CLEARING AIRWAY

## NOT ALWAYS NECESSARY

Amniotic fluid **clear but secretions obstructive, or meconium stained amniotic fluid and baby not breathing/crying:**

- Gently suction or wipe secretions from mouth and nose if obstructive
- Suction device
  - Bulb or tube/reservoir
- Mechanical suction (100 mm Hg)

***Avoid causing apnea or bradycardia by suctioning too deeply or too long***



# STIMULATION

- Drying and suction might be sufficient stimuli
- Rub the back or flick the soles
- Avoid vigorous stimulation
- Avoid prolonged stimulation

# INAPPROPRIATE STIMULATION

| PROCEDURE                                       | CONSEQUENCE                                                |
|-------------------------------------------------|------------------------------------------------------------|
| Slapping on the back or buttocks                | Contusions                                                 |
| Squeezing the rib cage                          | Fractures, pneumothorax, severe difficult breathing, death |
| Pressing the lower extremities over the abdomen | Liver or spleen rupture                                    |
| Dilating anal sphincter                         | Sphincter lesion                                           |
| Cold or hot compresses or bathing the newborn   | Hyperthermia, hypothermia, burns                           |
| Shaking the newborn                             | Hemorrhages or brain damage                                |

# ASSESSING RESUSCITATION

***Once the initial steps are completed***

(Thermal control, positioning, airway clearing, stimulation)

# EVALUATION

## Breathing

- Observe chest movements, depth of breaths, and respiratory rate

## Heart rate

- Normal heart rate >100 bpm
- Pulse can be felt at the base of the umbilical cord, or heart beats heard with a stethoscope over the left side of the chest

## Color

- The baby should have pink color in the trunk and mucous membranes after 5-10 minutes
- If central cyanosis persists, the child is hypoxemic

# VENTILATION

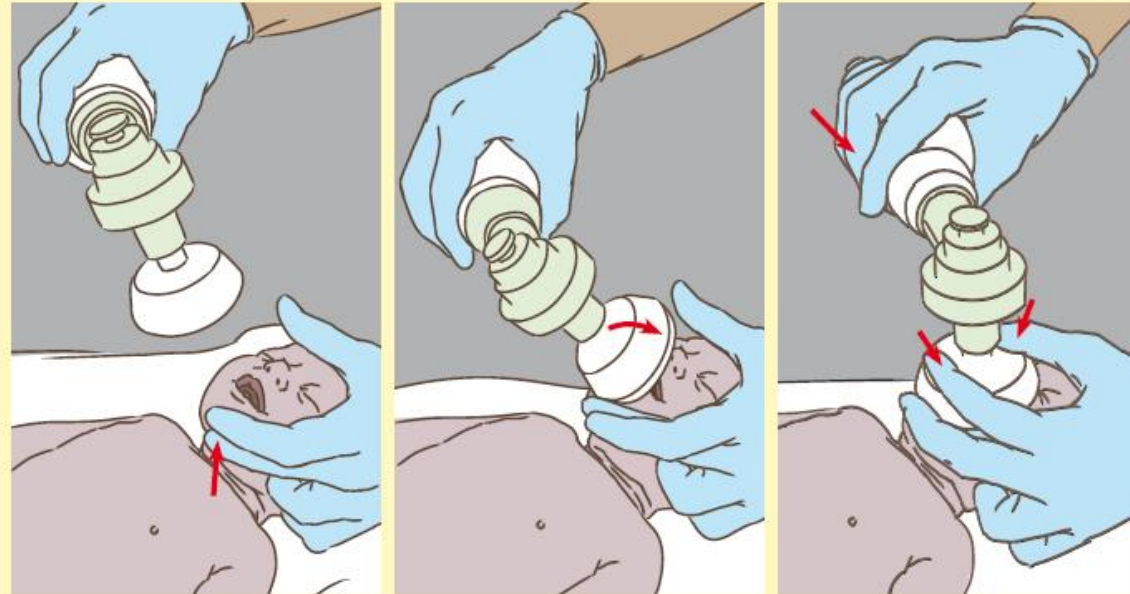
*Begin positive-pressure ventilation if*

- Apnea, gasping, poor respiratory effort
- Heart rate <100 bpm
- Central cyanosis after 5-10 minutes (if no oxygen)

**If the baby is not breathing, begin ventilation.**

**Delaying ventilation prolongs recovery from asphyxia.**

## *How to ventilate with bag and mask*



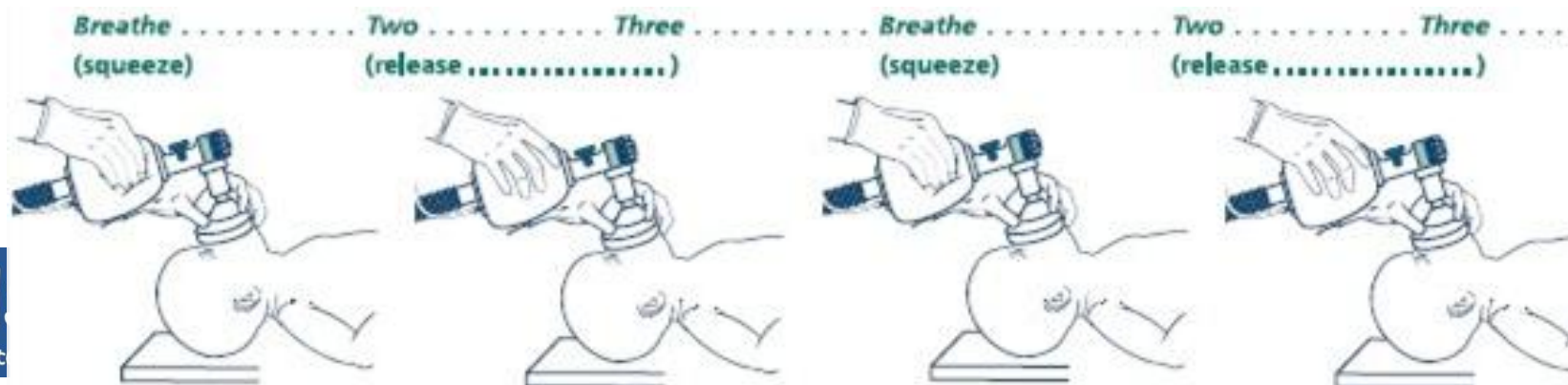
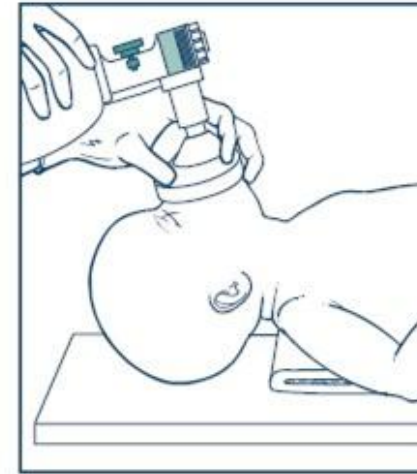
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# EVIDENCE OF EFFECTIVE VENTILATION

- **Rapid improvement in heart rate**
- **Breath sounds heard by auscultation over the chest**
- **Slight rise and fall in the chest (less noticeable)**
- **Improvement in skin color and muscle tone**

# EFFECTIVE USE OF BAG AND MASK

- Ventilate at 40-60 breaths per minute
- Confirm good seal of the mask on the face
- Monitor head position, secretions
- Verify chest movements
- Take steps to improve ventilation



# STEPS TO IMPROVE VENTILATION

- **M**ask – reposition for a better seal
- **R**eposition – the head with neck extended
- **S**uction – if secretions are visible in mouth
- **O**pen – the mouth to move tongue away from posterior pharynx
- **P**ressure – increase ventilation pressure
- **A**lternative – different airway interface (e.g. intubation, laryngeal mask airway)

# THREE KEYS TO NEONATAL RESUSCITATION

- VENTILATION!
- VENTILATION!
- VENTILATION!

# OXYGEN USE IF AVAILABLE

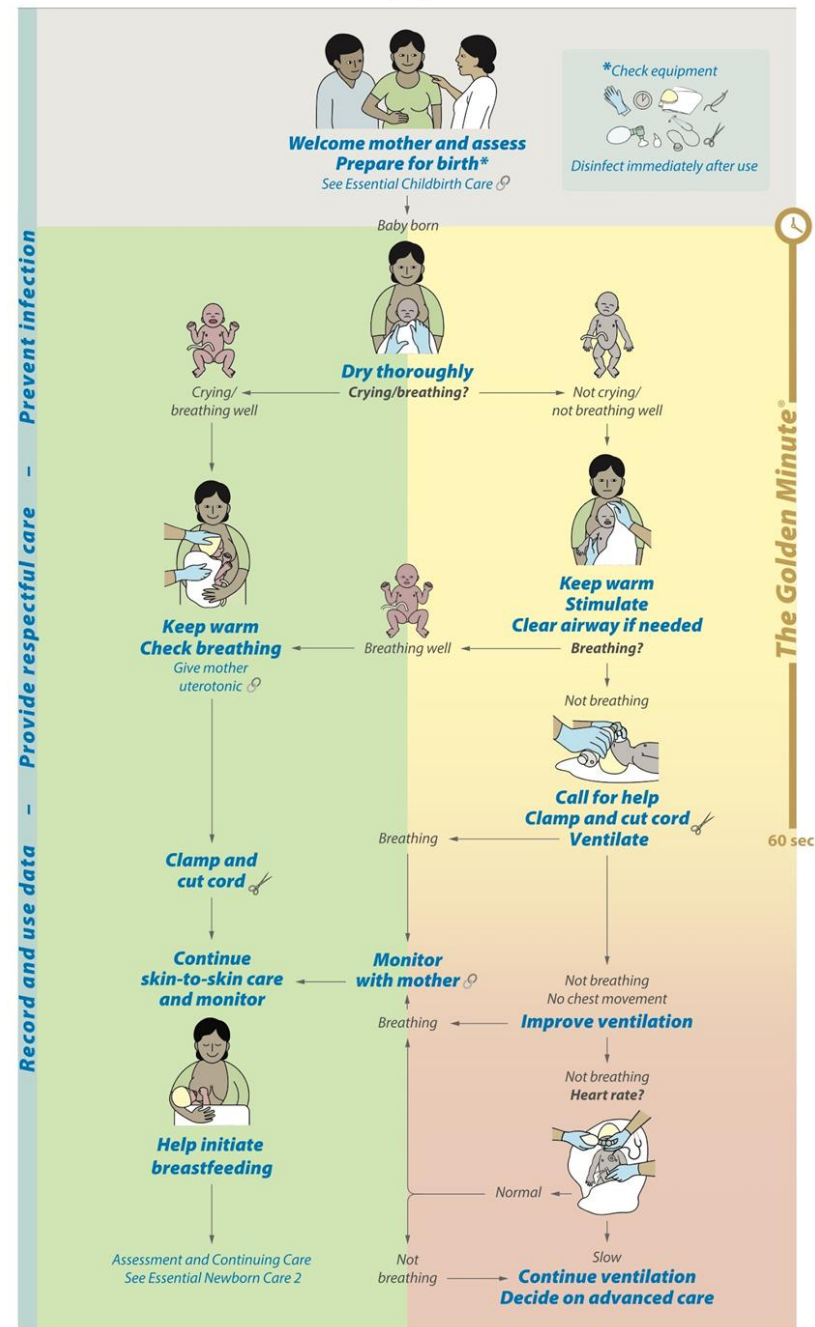
- Ventilation can be started with room air or  $O_2 < 100\%$
- Use  $O_2$  if persistently cyanotic with room air
- If  $O_2$  not available, continue ventilation with room air
- Use free-flow  $O_2$  if baby is breathing spontaneously but persistently cyanotic
  - Self inflating bags do not give free-flow  $O_2$
- Use  $O_2$  blender and pulse oximetry for resuscitations of newborns  $< 32$  weeks (and for all newborns, if available)

# INTENSIVE CARE

- **Birth weight < 1500 g**
- **Difficult breathing**
- **Unstable temperature**
- **Persistent cyanosis**
- **Recurrent apnea**
- **Pallor**
- **Seizures**

# Essential Newborn Care 1

Immediate Care and Helping Babies Breathe at Birth



# What comes next...

- What next to watch for in early newborn period:
  - Jaundice
  - Thermal stability
  - Feeding
  - Infection prevention
  - Recognition of danger signs

# THANK YOU!



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