

# Neonatal resuscitation

5th year lecture

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# Learning objectives

*By the end of this lecture you should be able to.....*

- Assess a newborn baby to decide whether resuscitation is required
- Correctly position the airway
- Correctly give bag and mask ventilation
- Know when to start CPR
- Correctly give chest compressions

# Lesson plan

- Brief overview of changes at birth
  - How to assess a baby
  - How to resuscitate a baby
  - Practice
- 
- Practice on Chatinkha

# Changes at birth

## In utero

- Warm environment
- Baby dependent on placenta
- Lungs are full of fluid

## After birth

- Cold environment and baby is wet
- Cord is clamped
- Changes to fetal circulation
- Baby needs to open up alveoli and clear lung fluid
- Role of surfactant

# What do you need?

- Warm environment
- Suction
- Bag and mask
- Oxygen
- Other?

# Resuscitation

- Dry and cover
- Assessment
- Airway
- Breathing
- Circulation

# Assessment

- Colour
  - Pink, blue, white
- Breathing
  - Regular, irregular, none
- Heart rate
  - $>100$ ,  $<60$
- Tone
  - active, floppy

# Airway

- Correct position
  - Neutral
- Loss of pharyngeal tone
  - Tongue falls back
- Mechanical obstruction
  - Meconium, blood, mucus



# Breathing

IF THE BABY IS NOT BREATHING.....

5 **effective** inflation breaths each lasting ~2s

To clear lung fluid

Are they effective?

- Watch the chest move
- Reassess
- If you are struggling...?
  - Reposition, jaw thrust, 2<sup>nd</sup> person, guedel

# Breathing

IF THE BABY IS STILL NOT BREATHING.....

- Continue with ventilation breaths
- 30 breaths/minute

# Circulation

IF THE HEART RATE IS <60 DESPITE EFFECTIVE INFLATION BREATHS.....

- Start CPR
- Just below line joining nipples
- Compress 1/3 depth of chest
- Encircling technique is best
- Ratio - 3 compressions: 1 breath
- Reassess every 30 s

Dry and wrap  
Assess baby

Blue,  
floppy,  
HR<60, not  
breathing

Position airway  
Give 5 inflation  
breaths  
Reassess

Blue,  
floppy,  
HR>100,  
not  
breathing

Continue  
ventilation  
breaths  
Reassess

Pink,  
floppy,  
HR>100,  
breathing

Give to mother

Dry and wrap  
Assess baby

Blue,  
floppy,  
HR<60, not  
breathing

Position airway  
Give 5 inflation  
breaths  
Reassess

Blue/pink,  
floppy,  
HR>100,  
breathing

Give to mother

Dry and wrap  
Assess baby

White,  
floppy,  
HR<60, not  
breathing

Position airway  
Give 5 inflation  
breaths  
Reassess

White,  
floppy,  
HR<60, not  
breathing

Were my  
inflation  
breaths  
effective?

Do I need  
help?  
YES!

Start CPR  
Reassess

Blue,  
floppy,  
HR>100,  
not  
breathing

Continue  
ventilation  
breaths

# What you must be able to do...

- Assess baby
- Correctly position airway
- Correctly give bag and mask ventilation
- Know when to start CPR
- Correctly give chest compressions
  
- If you are struggling, reassess and go back to airway.....

# Reading

- Neonatal resuscitation p43 – 45  
WHO pocket book of hospital care for children