



NRP Basics
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What is NRP

- Neonatal Resuscitation Program
- Provides guidelines for resuscitation
- Algorithm for team to follow

NRP: Lessons

- Lesson 1: Foundations of Neonatal Resuscitation
- Lesson 2: Preparing for Resuscitation
- Lesson 3: Initial Steps of Resuscitation
- Lesson 4: Positive-Pressure Ventilation
- Lesson 5: Alternative Airways
- Lesson 6: Chest Compressions
- Lesson 7: Medications
- Lesson 8: Post-resuscitation care
- Lesson 9: Resuscitation and Stabilization of Babies Born Preterm
- Lesson 10: Special Considerations
- Lesson 11: Ethics and Care at the End of Life

Why is it important?

- ~10% of all babies need some resuscitation at delivery
- <1% of babies will need extensive resuscitation
- Lack of resuscitation or poor resuscitation can lead to long term complications and death

Why do newborns need resuscitation ?

- Most newborns have a healthy heart
- Prior to birth: placenta respiratory function may fail
- After birth: baby fails to initiate or cannot maintain effective gas exchange
- PRIMARY PROBLEM?
 - Inadequate gas exchange
- Treatment?
 - Ventilation of baby's lungs

Babies at Risk: Antepartum

- Gestational age < 36.0 wks
- Gestational age ≥ 41 wks
- Preeclampsia/Eclampsia
- Maternal hypertension
- Multiple gestation
- Fetal anemia
- polyhydramnios
- Oligohydramnios
- Fetal hydrops
- Fetal Macrosomia
- Intrauterine growth restrictions
- Significant fetal malformations or congenital anomalies
- No prenatal Care

Babies at Risk: Intrapartum

- Emergency C/S
- Forceps/vacuum delivery
- Breech/abnormal present.
- Category II or III FHR pattern
- Maternal general anesthesia
- Maternal magnesium therapy
- Placental abruption
- Intrapartum bleeding
- Chorioamnionitis
- Narcotics admin to mother ≤ 4 hrs of delivery
- Shoulder dystocia
- Meconium-stained amniotic fluid
- Prolapsed umbilical cord

ALWAYS BE PREPARED!!

- ANY BABY can end up needing resuscitation!
 - No risk factors!
 - Category 1 fetal monitoring strip!
 - Uncomplicated delivery!

<https://youtu.be/tJ34R2LBkBE>

[NRP 7th edition unprepared and unorganized - YouTube](#)

Team Work and Communication

- Can be the difference between a good outcome and a poor outcome
- Pre-resuscitation Briefing
- Important tools for Teamwork
 - Leadership and delegation
 - Efficient and effective communication
 - Coordination of effort
 - Professional behavior

Prepare your Environment

- Check your supplies
- Prepare equipment prior to delivery
- Check your equipment for functionality

Determining Need for Resuscitation

- Was the baby born at term?
 - Respiratory issues
 - Temperature regulation issues
- Is the baby breathing or crying?
 - Gasping =
 - Apnea =
- Is there good muscle tone?
 - Sick or preterm babies will have decreased tone

APGARS

Sign	0	1	2
Color	Blue or Pale	Acrocyanotic	Completely Pink
Heart Rate	Absent	<100	>100
Reflex Irritability	No Response	Grimace	Cry or Active Withdrawal
Muscle Tone	Limp	Some Flexion	Active Motion
Respiration	Absent	Weak Cry, Hypoventilation	Good, Crying

Positive Pressure Ventilation

- Bag/Mask
- T-Piece Resuscitator
- Effective ventilations =
- Pulse oximetry used when PPV or supplemental oxygen is used, or cyanosis is present
<https://youtu.be/XaQkvY1xuc>

MR SOPA

- M-mask adjustment
Recheck ventilation
- R-reposition airway
Recheck ventilation
- S-suction mouth and nose
Recheck ventilation
- O-open mouth
Recheck ventilation
- P-increase pressure
Recheck ventilation
- A-alternate airway
Recheck ventilation

Targeted Preductal SpO2 After Birth

1 minute	60-65%
2 minutes	65-70%
3 minutes	70-75%
4 minutes	75-80%
5 minutes	80-85%
10 minutes	85-95%

Term Infant:
 *PPV at 21% oxygen increase/decrease at small increments to remain within the targeted SpO2
 *Initiate flow-by at 25-30% and increase/decrease at small increments to remain within the targeted SpO2 above

Preterm Infant:
 *PPV at 21% or slightly higher depending on gestational age and clinical situation surrounding birth and increase/decrease at small increments to remain within targeted SpO2 above

***If doing chest compressions, oxygen should be at 100%

What happens next?

- Epinephrine
- Umbilical vein catheter
- Volume replacement when appropriate

Let's Put It Together

- [NRP 7th edition Putting it all together - YouTube](#)

Post-Resuscitation Care

- May be able to receive routine care
- May need to be transferred to transition nsy/Level II nsy/NICU
 - Cardiorespiratory monitoring
 - Blood sugars
 - Frequent vital signs
 - Temperature maintenance
 - Ongoing support with oxygen
