

Engineering World Health

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Newborn Resuscitation

Why Resuscitation?

If an infant is born not breathing, this could mean that the baby has birth asphyxia. This is often mistaken as a stillbirth, but in reality, the baby can be

saved through resuscitation. This website aims at providing simple instructions on how to perform the resuscitation procedure in order to help establish normal breathing and circulation in an asphyxiated newborn.

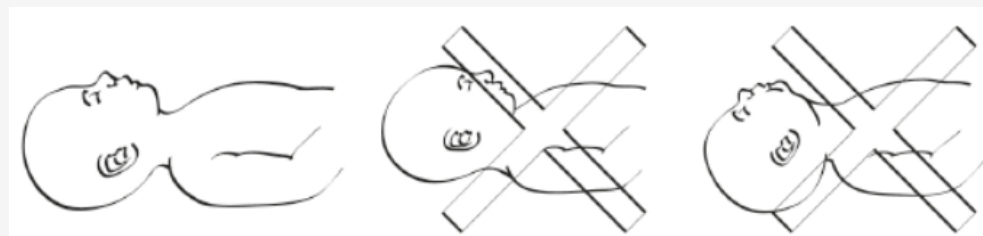
Steps for Resuscitation

1) Stimulate newborn by drying

Provide tactile stimulation by drying and warming the newborn. It is best to warm the infant with a heating pack or perform resuscitation in a warm environment. If the newborn does not begin to breathe or cry, proceed to the next step.

2) Clear the airway

Lay the newborn on its back and ensure the head is straight for an open airway. The head should not be bent towards the chest or overextended.



Only if there is a significant amount of secretion, should light suction be performed on the mouth. In this case, use a suction bulb to suction (not deeply) in the mouth for at most a few seconds.

3) Stimulate the newborn

Thoroughly but also gently rub the baby's back and soles of the feet. After 5 seconds, if the baby is still not properly breathing, move to the next steps.

4) Clamp and cut cord

Make sure to clamp and cut the umbilical cord

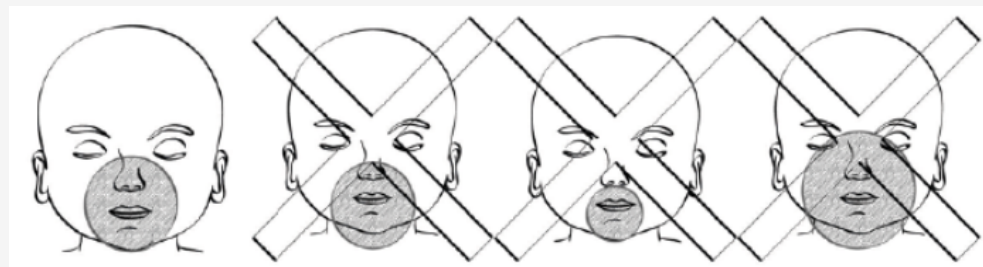
5) Bag-valve-mask ventilation

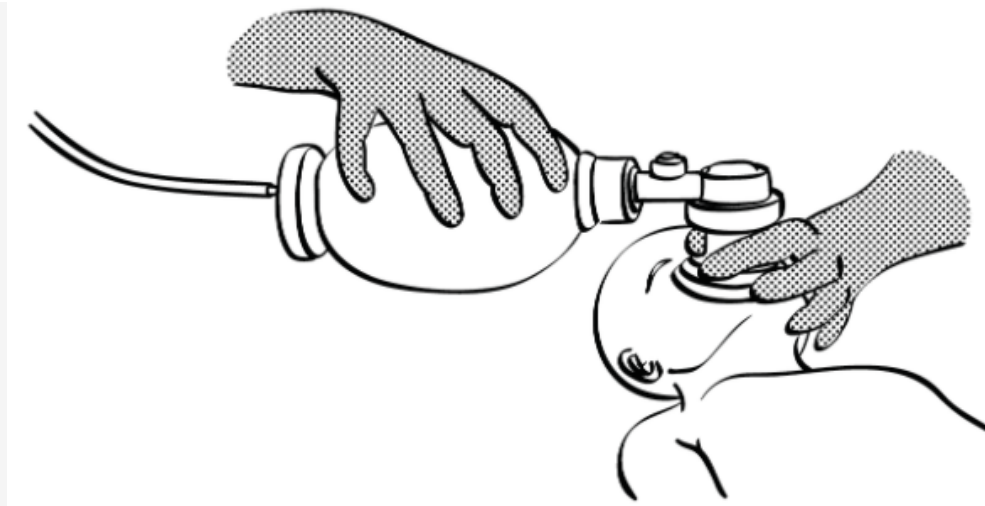
Place the mask on top of the baby's nose and mouth, as seen in the image below. Press the mask properly so that no air leaks. Use one hand to hold the mask, placing the thumb on one side and the index and middle fingers on the other side. Use the other hand to then squeeze the bag at a rate of 40 to 60 breaths per minute for one minute. If the baby's chest rises and falls, then the ventilation is successful.

Warning: do not allow excessive ventilation pressure, this will cause pneumothorax (air will leak into the baby's lungs).

If the baby's chest does not rise and fall after ventilation:

- Make sure bag and mask are connected properly.
- Make sure the mask is placed at the correct position on the face.
- Make sure the baby's head position is correct.





6) After resuscitation

Once ventilation and circulation has been established, the infant should be closely monitored to ensure vitals do not reach dangerous levels. Monitor the infant for ideally 24 hours and check for vitals every 2 hours. The infant should be with the mother and should be breastfed as soon as possible. Additionally, induced cooling therapy for the infant should be provided during this period to reduce likelihood of developing neurological pathologies.