

# Endotracheal intubation: indication and preparations

## Slide 1

In this webinar we will learn about indication and preparations required for the endotracheal intubation in a neonate

## Slide 2

The common indications of intubation are

1. ineffective bag and mask ventilation
2. requirement of prolonged positive pressure ventilation and when chest compressions are required during resuscitation.
3. when surfactant administration is indicated
4. diaphragmatic hernia

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The equipments required for intubation are laryngoscope, extra blade, endotracheal tube, stylet (optional), Co2 monitor, suction catheter, tape, , scissor, oral airway, meconium aspirator, stethoscope, self inflating bag or flow inflating bag or T piece resuscitator, pulse oximeter, LMA, and gloves. Pulse oximeter is required for monitoring during intubation. One should always ensure selection of appropriate equipment and ensure their optimal functioning of equipments before intubation.

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The appropriate size blade should be selected for intubation. Blade size 1 is to be used for full term neonates, no 0 for preterm and low birth weight babies and blade no 00 is to be used for extremely preterm neonates. One should always ensure that it is working with adequate light and one extra blade is always there.

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Size 2.5 is appropriate for less than 1000gm or <28 weeks gestation newborn.  
Size 3.0 should be selected for 1000 to 2000 gm newborn and 3.5 size for newborn > 2000 gm or >34 weeks.

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Any additional item like tape or dynaplast for securing the tube must be prepared before and suction equipment must be set at 80-100 mm of mercury suction pressure before the procedure. For ET tube of size 2.5, catheter size of 5F or 6F is appropriate. A simple formula for calculating the actual size of suction catheter is approximately double the endotracheal tube size. Resuscitation bag will help in ventilating the baby as well as to confirm the tube placement by auscultating for equal bilateral air entry.

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Endotracheal tube is fixed at the tip to lip distance of weight in kg + 6. For example in a one kg baby endotracheal tube it is to be fixed at 7cm tip to lip distance and for 2 kg baby it should be fixed at 8cm, for 3kg should be fixed at 9 cm and so on. A recent method for estimating the depth of insertion is estimation using nasotragus length that is the NTL + 1 cm (where in the NTL = distance from nasal septum to ear tragus) The depth of estimation should be confirmed by equal breath sounds on auscultation post intubation.

## Slide 9

So We learnt about indication and accessories required for endotracheal intubation. One should always remember that endotracheal intubation should be a well planned procedure and ensure that all required accessories are available before intubation.

Intubation should be done under monitoring with pulse oximeter  
The size and depth of insertion should be determined before intubation