Need for 2.0 mm Endotracheal Tube in Extremely Low Birth Weight Infants and Need for Special Suction Catheter and Stylet.

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Background and Aims

- NRP 2016 guidelines recommend noninitiation of resuscitation for preterm infants with a confirmed gestational age (GA) of <22 weeks. Some parents may opt for full resuscitation of babies born between 22^{0/7} and 22^{6/7} weeks. It may not be possible to insert a 2.5 mm endotracheal tube (ETT) without causing injury to the upper airway. NRP guidelines do not mention use of a 2.0 ETT.

Methods

- To describe appropriate suction catheters and stylets to use when inserting 2.0 ETT in these tiny patients.

Results

- For intubation with 2.0 mm ETT, one may use the stylet which is used for 2.5 mm ETT, but, the plastic sheath of the stylet for 2.5 mm ETT needs to be removed, so that, it can pass through 2.0 mm ETT. For suctioning, Halyard 2.0 mm (5F or 6F) suction catheters are available. When Halyard suction catheter of 2.0 mm size is not available, one may use 3.5 mm (5F) single lumen umbilical catheters for suctioning through a 2.0 mm ETT. We have used this system in 3 extremely preterm infants with birth weights <300g. One of the authors (RR) had a 270g birth weight baby intubated with a 2.5 mm ETT and subsequently discharged home. This baby is doing well with no upper airway problems at 7 years of age. Author DB also had an infant weighing 270g at birth and was intubated with 2.0 mm ETT. This infant has no evidence of airway problems at 26 months of age.

Conclusions

- With revised guidelines for offering resuscitation of infants born between 22^{0/7} and 22^{6/7} weeks GA on parental request, it may be time to consider having a 2.0 mm ETT and appropriate suction catheters as well as stylet in the delivery room and in the NICU.
- Use of 2.0 mm ETT is also likely to be beneficial in patients with advanced GA, but, with a birth weight < 300g or 400g.

Haylard Suction catheter (5F)