

Endotracheal Suction

Endotracheal suction to maintain airway patency may be necessary for the care of the intubated neonate and is frequently carried out as a routine nursing practice. Its primary purpose is to remove airway secretions thereby preventing obstruction, atelectasis and decreased lung compliance whilst optimising oxygenation and ventilation. Endotracheal suction may predispose to bacteraemia, hypoxaemia, tachycardia, bradycardia, atelectasis, systemic hypertension and raised intracranial pressure. One trial has shown that routine suctioning has no advantages (1). Suctioning of the endotracheal tube in babies with RDS may be instituted when secretions begin to manifest (often after 48 hours of age). Suctioning as little as 8 hourly can be performed without increasing the risk of secretion related problems (2)(B). Pre-oxygenation may decrease hypoxaemia at the time of suctioning although its effect on other clinically important short and longer term outcomes is unknown (3).

Warming and humidifying inspired gases may help to reduce the problem of tube blockage. This can be achieved by setting the delivered gas temperature to 37°C whereby a minimum of 38mg/L of water (equivalent to 100% relative humidity) results.

Closed systems of suction permit suctioning to take place without the need for discontinuation from the ventilator. The potential benefits may be maintenance of positive pressure ventilation, the stability of PEEP and the continuation of oxygen supply. There is some benefit from performing suctioning without disconnection in terms of reduced hypoxia and reduced fall in heart rate (A). However the longer term effects of this practice have not been assessed (4). To date, deep versus shallow suctioning of endotracheal tubes has not been studied (5).

Physiotherapy

The place of chest physiotherapy in the management of babies with RDS is unknown. There are few studies in the literature to inform clinical practice (6,7). Routine physiotherapy would result in increased handling of the baby and is not recommended in neonatal RDS.

Peri-extubation physiotherapy has been shown to have variable benefit and there is insufficient data on safety of this practice. This therefore also cannot be routinely recommended (8).

Postural physiotherapy once handling is tolerated may prevent contractures in infants who are paralysed.

References

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