Tracheal gas insufflation for the prevention of morbidity and mortality in mechanically ventilated newborn infants

NICE has developed the Cochrane Quality and Productivity (QP) topics to help the NHS identify practices which could be significantly reduced or stopped completely, releasing cash and/or resources without negatively affecting the quality of NHS care. Each topic has been derived from a Cochrane systematic review that has concluded that the evidence shows that the practice is harmful or ineffective and should not be used, or that there is insufficient evidence to support widespread use of the practice

Summary

NICE summary of review conclusions

Tracheal gas insufflation for the prevention of morbidity and mortality in mechanically ventilated newborn infants is not supported by sufficient good quality evidence. Consideration could be given to using it only within the context of a research or audit project.

Reducing or stopping tracheal gas insufflation for the prevention of morbidity and mortality in mechanically ventilated newborn infants, outside of a research context, is currently likely to improve the quality of patient care in the NHS and result in productivity savings by reducing the use of unproven therapies.

The 'Implications for practice' section of the Cochrane review stated:

'There is evidence from a single small randomised controlled trial that tracheal gas insufflation may reduce the duration of mechanical ventilation in preterm infants – although the data from this single small study does not give sufficient evidence to support the introduction of tracheal gas insufflation into clinical practice. The technical requirements for performing tracheal gas insufflation (as performed in the single included study) are great, and there is no statistically significant reduction in the total duration of respiratory support or hospital stay. Tracheal gas insufflation cannot be recommended for general use at this time.'

Details of Cochrane review

Cochrane review title

Tracheal gas insufflation for the prevention of morbidity and mortality in mechanically ventilated newborn infants

Citation

Davies MW, Woodgate PG. Tracheal gas insufflation for the prevention of morbidity and mortality in mechanically ventilated newborn infants. Cochrane Database of Systematic Reviews 2002, Issue 2. Art. No.: CD002973. DOI: 10.1002/14651858.CD002973

When the review content was assessed as up to date

11/03/2010

QIPP category

Maternity and the newborn

Relevant codes	OPCS	ICD10	HRG
	X568, X569	P28	UZ03, PB02

Programme budget

Conditions of neonates

Evidence

Relevance to the NHS

The Cochrane review found only one randomised clinical trial of tracheal gas insufflation, which showed that it might reduce the length of time babies need mechanical ventilation, but would not necessarily reduce the time on oxygen therapy or stay in hospital. More research is needed to establish if this technology is safe and beneficial.

Relevant NICE guidance

Specialist neonatal care – NICE quality standard

A NICE Quality Standard is currently in development.

Potential productivity savings

Estimate of current NHS use

No information is available on the current levels of NHS usage of tracheal gas insufflation for the prevention of morbidity and mortality in mechanically ventilated newborn infants

Level of productivity savings anticipated

Cannot be quantified at present. More evidence is required to explore whether this intervention could reduce length of time on mechanical ventilation, associated chronic lung problems and related healthcare costs.

Type of saving

Real cash savings may be achieved through reduced expenditure in using the technique, purchase of equipment and skills training

Any costs required to achieve the savings

No additional resources are required

Potential impact on quality of NHS care

Impact on clinical quality

Clinical quality will be improved by reducing the use of unproven therapies

Impact on patient safety

Improved patient safety by reducing the risk of adverse events associated with unproven therapies is anticipated

Impact on patient and carer experience

Not anticipated to have any impact on patient and carer experience

Likely ease of implementation

Time taken to implement

Can be achieved quickly: 0–3 months

Healthcare sectors affected

Affects one department or team

Stakeholder support

Likely to achieve good buy-in from key influencers