

The clinical effectiveness and cost-effectiveness of heated humidified high-flow nasal cannula compared with usual care for preterm infants: systematic review and economic evaluation

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Plain English summary

Effectiveness of HHHFNC compared with usual care for preterm infants

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What was the problem?

Respiratory problems are one of the most common causes of ill health for babies who are born early (preterm infants). Preterm babies are often given mechanical ventilation to assist with breathing. This is an invasive procedure in which a tube is placed down the baby's breathing pipe. Non-invasive devices, where prongs or tubes are placed in or near the baby's nose and mouth, can also be used. One type of non-invasive device known as nasal continuous positive airway pressure (NCPAP) produces pressure to keep lungs open and assist with breathing. Another type of non-invasive device is known as the heated humidified high-flow nasal cannula (HHHFNC) and is believed to generate similar pressure. HHHFNC is also considered to increase comfort for the baby and reduce side effects compared with NCPAP, and it does not require a face mask.

What did we do?

We reviewed the clinical evidence from available studies comparing HHHFNC with usual care. We also assessed the costs and benefits of HHHFNC compared with usual care.

What did we find?

We found no clear evidence that HHHFNC is clinically superior or inferior to other devices. Evidence from one small study suggested that parents of babies may prefer HHHFNC over alternative devices. We calculated that HHHFNC may also cost less, but this depends on the lifespan and associated running costs of equipment.

What does this mean?

On the basis of currently available evidence, there is no reason to suggest that HHHFNC should not be used in clinical practice.

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