

# **Bronchiolitis of Infancy Discharge Study (BIDS): a multicentre, parallel-group, double-blind, randomised controlled, equivalence trial with economic evaluation**

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**Declared competing interests of authors:** Dr Steve Cunningham has the following potential competing interests: (1) current chair of the National Institute for Health and Care Excellence Bronchiolitis Guideline Group; (2) past chair of the Scottish Intercollegiate Guideline Network Bronchiolitis Guideline Group; (3) principal investigator for Alios Pharmaceuticals Phase 1 investigational medicine for treatment of infants with bronchiolitis; and (4) consultancy work on behalf of NHS Lothian for Ablynx Pharmaceuticals Phase 1 product development for treatment of infants with bronchiolitis.

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## Plain English summary

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## Plain English summary

**B**ronchiolitis is a viral infection of the lung that most often affects infants. It can be treated with oxygen, but it is not known when it is best to start using oxygen or how much to use. Experts who contributed to two recent guidelines on the treatment of bronchiolitis have different opinions on what blood oxygen level should be used. We compared these two recommended blood oxygen levels (low and normal) in a trial assessing clinical effectiveness and cost-effectiveness. We used blood oxygen monitors that looked identical, but half displayed a value that was higher than the true value.

The infants in both groups had had a cough for the same length of time. Those who received the lower oxygen level appeared to start feeding sooner, and their parents thought that they returned to normal sooner – but these differences were small. There were no safety concerns about using lower oxygen levels; in particular, fewer infants experienced serious adverse events (24 infants) than in the normal oxygen group (32 infants). As expected, infants who received lower oxygen levels received oxygen for a shorter time and went home sooner, but parents were not more anxious and the infants did not need to return to health care more frequently. Parents got back to usual activities more quickly in the lower than normal oxygen group. It was £290 cheaper to treat infants in the lower oxygen group than in the normal oxygen group.

Overall, managing infants with bronchiolitis using a lower oxygen level seems to be just as clinically effective as using a higher oxygen level. It also seems safe and cheaper.

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