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## Management of bronchiolitis in infants and children

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### Record Status

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### Authors' objectives

This systematic review seeks to clarify the existing knowledge base for the management of bronchiolitis and offers directions for future research. Specifically, the review addresses the effectiveness of appropriate diagnostic tools, the effectiveness of pharmaceutical therapies for treating bronchiolitis, the role of prophylactic therapy for prevention of bronchiolitis, and the cost-effectiveness of such prophylactic therapy.

### Authors' conclusions

The diagnosis of bronchiolitis is primarily clinical; therefore, only limited literature is available on effectiveness of diagnostic tools for diagnosing bronchiolitis in infants and children. Only one study supported the clinical usefulness of diagnostic testing. Thus, the existing data do not support routine laboratory, radiologic, or other types of testing over purely clinical criteria to diagnose bronchiolitis.

The volume of literature is much greater for effectiveness of treatments. Trials included tested 15 classes of interventions (e.g., bronchodilators, steroids, antibiotics). However, the strength of evidence was limited by trials that were underpowered and outcomes that were not comparable across studies. At present, evidence is insufficient to recommend any of the treatments studied over good supportive care of affected infants and children. However, several interventions did show some potential for being efficacious and should be subjected to rigorously designed, adequately sized trials.

This review of the literature on respiratory syncytial virus immunoglobulin (RSVIG) suggests that it is effective for prophylaxis in high-risk infants and children who have underlying bronchopulmonary dysplasia (BPD) or have been born prematurely and are less than 6 months of age. Use of prophylaxis in at-risk groups that were excluded from prior studies would need to be studied or reported before these agents can be recommended more broadly for other groups of infants and children at increased risk of more severe bronchiolitis. When all costs of prophylaxis are adjusted to 2002 dollars, previous studies report incremental costs of prophylactic therapy for infants from 32 through 35 weeks' estimated gestational age (EGA) ranging from saving of \$46,400 to costs of \$535,400. Given these variations, evidence is insufficient at the present time to calculate the cost-effectiveness of administration of a prophylaxis for bronchiolitis in infants in this age group or who are premature with comorbidities.

### Project page URL

<http://www.ahrq.gov/clinic/tp/bronctp.htm>

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