

5 minute Masterclass

BRONCHIOLITIS

Bronchiolitis is a common lower respiratory tract illness in children under 2 years.

Bronchiolitis can be caused by a variety of different viruses, but the most common cause is respiratory syncytial virus (RSV). In older children and adults, the same viruses that cause bronchiolitis lead to the 'common cold'.

Regular hand washing, as well as staying away from people who are ill when the child is very young, can be helpful but may not always prevent infection as respiratory viruses are very common.

- The natural course of bronchiolitis lasts 7-10 days, with day 2-3 being the most severe.
- Symptoms peak around day 5 and the cough may last up to 6wks.
- Be aware of the risk factors for severe bronchiolitis.

If the clinical picture & course doesn't 'fit the script', reconsider the diagnosis.

Consider a broad range of differential diagnoses in a child presenting with increased work of breathing and fever.

Be aware of the 'overlap' between bronchiolitis/viral-induced wheeze and asthma.

Risk Factors for Severe Infection:

- Age <1 yr old, especially less than 6 weeks
- Congenital heart disease
- Neurological conditions
- Chronic respiratory illness
- Pulmonary hypertension

- Premature births
- Trisomy 21
- Cystic fibrosis
- Immunodeficiency
- A previous severe bronchiolitis illness requiring CPAP or PICU admission
- Congenital heart disease

Children at risk of severe infection and mild symptoms should be admitted and observed.

When to admit

Measure oxygen saturation using pulse oximetry in every child presenting to secondary care with clinical evidence of bronchiolitis.

When assessing a child in a secondary care setting, admit them to hospital if they have any of the following:

- apnoea (observed or reported)
- persistent oxygen saturation of less than 92% when breathing air
- inadequate oral fluid intake (50–75% of usual volume, taking account of risk factors and using clinical judgement)
- persisting severe respiratory distress, for example grunting, marked chest recession, or a respiratory rate of over 70 breaths/minute.

What treatments are effective?

- **Salbutamol**- no benefit in using this in infants (and some evidence of adverse effects)
- **Nebulised adrenaline**- no benefit
- **Glucocorticoids**- no benefit
- **Antibiotics**- not recommended

- **Saline drops**- not routinely recommended but a trial with feeds may help
 - **Oxygen**- no evidence of benefit in infants with no hypoxia
 - Commence oxygen therapy if O₂ levels are less than 92% and refer to Paeds

When deciding what factors that might affect a carer's ability to look after a child with bronchiolitis, for example:

- social circumstances
- the skill and confidence of the carer in looking after a child with bronchiolitis at home
- confidence in being able to spot red flag symptoms (see recommendation 1.6.1)
- distance to healthcare in case of deterioration.

Key 'red flag' information for parents/guardians:

- reduced fluid intake
- worsening respiratory symptoms: grunting, recession
- signs of apnoea or cyanosis
- signs of exhaustion
- People should not smoke in the child's home because it increases the risk of more severe symptoms in bronchiolitis
- how to get immediate help from an appropriate professional if any red flag symptoms develop
- arrangements for follow-up if necessary.

REFERENCES

<https://dontforgetthebubbles.com/bronchiolitis/>

American Academy of Pediatrics Subcommittee on Diagnosis and Management of Bronchiolitis. Diagnosis and management of bronchiolitis. Pediatrics 2006; 118: 1774–93.

Ricci V, Delgado Nunes V, Murphy MS, Cunningham S; on behalf of the Guideline Development Group and Technical Team. Bronchiolitis in children: Summary of NICE guidance. BMJ 2015; 350: h2305.

