

Respiratory

Disclaimer: The recommendations contained in this guideline do not indicate an exclusive course of action, or serve as a standard of medical care. Variations, taking individual circumstances into account, may be appropriate. The authors of these guidelines have made considerable efforts to ensure the information on which they are based is accurate and up to date. The authors accept no responsibility for any inaccuracies, information perceived as misleading, or the success of any treatment regimen detailed in the guidelines.

Emergency Management of Croup

Recognising Croup

Usually caused by viral infection

Presents with:

- Acute stridor
- Acute onset of barking seal-like cough
- Hoarse voice
- Low-grade fever

Key Questions for differential diagnosis

1. Is the child toxic or ill looking? Is there a high fever? Is the child drooling?
if "yes", suggests bacterial tracheitis. If suspected urgent admission
2. Has the child been immunised with HIB/DTP
Virtually excludes epiglottitis or diphtheria
3. Any risk of inhaled foreign body?
Was the child playing with small objects or eating nuts?
Was the onset sudden with no prodromal illness?
4. Any possibility of allergic reaction or anaphylaxis?
Bee stings, known allergens e.g. penicillin, and foods
5. Any history of exposure to physical irritants?
e.g. heat or smoke in house fire

Recommended treatment for ALL children with Croup

A single dose of oral steroid should be given, even if referring to hospital.

| Dexamethasone | |
|---------------|-----------|
| Weight (kg) | Dose (mg) |
| 5-10 | 1.5 |
| 10-15 | 2 |
| 15-20 | 3 |
| >20 | 4 |

OR

Prednisolone

Under 2 years - 10mg

Over 2 years - 20mg

Home or Hospital?

Most Croup is self limiting and will settle in 3 - 4 days. Oral steroids reduce clinical signs of croup within 2 hours.

Always refer if:

- Child is under one year of age
- Child is tracheal, or sternal, or subcostal indrawing at rest
- The child is toxic, or cyanosed, or dehydrated, or exhausted
- Family circumstances make home care inappropriate
- Uncertainty about diagnosis

If severe airway obstruction, while awaiting ambulance or during transfer give 5ml of 1/1000 Adrenaline by nebuliser preferably driven by high – flow oxygen

What is not helpful?

Antibiotics: Most croup is viral

Antibiotics are of no benefit

Humidity: No evidence for benefit from steam

No evidence for benefit from humidity

Risk of scalding

Bronchiolitis

Facts and figures

- Bronchiolitis mainly affects infants during their first winter (peak age 2-6 months).
- Viral-induced inflammation of the bronchioles, causing symptoms and signs of airway obstruction.
- Respiratory Syncytial Virus (RSV) is the principal cause (75%)
- Other viruses (parainfluenza, influenza, adenovirus) can cause a similar clinical picture.
- Clinical severity varies from mild to severe with around 3% of infants admitted to hospital each year.
- Mortality in hospitalised infants is very low (~1%) and focused on those with background high-risk clinical problems.

What are the typical clinical features?

After a few days of coryzal symptoms, a baby becomes unwell with fever, cough, rapid breathing and wheeze. The illness lasts around 10 days. Young infants may present with apnoea alone. Difficulty feeding and drowsiness suggest more severe disease.

What are the significant examination findings?

- Check for signs of respiratory distress
 - respiratory rate (>60)
 - tachycardia
 - nasal flaring
 - subcostal recession
- Noisy breath sounds with fine crackles and/or wheeze
- The liver may be displaced downwards by chest hyperinflation.
- Pulse oximetry (if available) can be useful– if SaO₂ < 95% the infant needs oxygen therapy. Cyanosis or pallor indicates severe disease.

What investigations are useful?

Bronchiolitis is a clinical diagnosis. No investigation is indicated in primary care.

Which children should be referred to hospital?

In the bronchiolitis season, the history and examination usually make the diagnosis easy.

- **Manage at home** - the pink well-perfused child not in significant respiratory distress who is feeding well
- **Admit** - infants with apnoeic episodes, cyanosis, exhaustion, poor feeding with risk of dehydration, worsening respiratory distress or if pulse oximetry shows SaO₂ <95%.
- Have a **low threshold to refer** high-risk infants – home oxygen therapy, cyanotic congenital heart disease, chronic lung disease or immune deficiency, premature or very young infants (<6 weeks). Take into account significant psycho-social factors.

What treatments are helpful?

- There is no proven specific treatment for bronchiolitis.
- Antibiotics and steroid therapy are generally unhelpful and should be avoided.
- Feeding smaller volumes more often may allow feeds to be better tolerated.
- Advise parents when to seek help if the infant's condition worsens.

Outcome

RSV is not thought to predispose to asthma. However after bronchiolitis some infants have recurrent bouts of cough and wheeze which can last for many months.