

# Management of bronchiolitis

RACP, Paediatrics and Child Health Division

evolve



# Toby

## Patient medical history (PMHx)

- 3-month-old boy
- Born at term
- Feeding and growing well
- Immunisations up to date
- No significant family history

## Symptoms

- 2 days history of coryza and cough
- 1 day of increased work of breathing
- Feeding ~ ½ normal



# Toby

## Examination

- Active
- Well hydrated
- Coryzal
- Afebrile, RR 80, HR 140, SaO<sub>2</sub> 94%
- Moderate work of breathing
- Bilateral wheeze and crackles
- Reduced air entry right lower base

## Tests / Investigations

- Nil so far

## What is the most important investigation for Toby (NON-pandemic times)?

- Nasopharyngeal aspirate
- Blood culture
- Chest xray
- Nothing

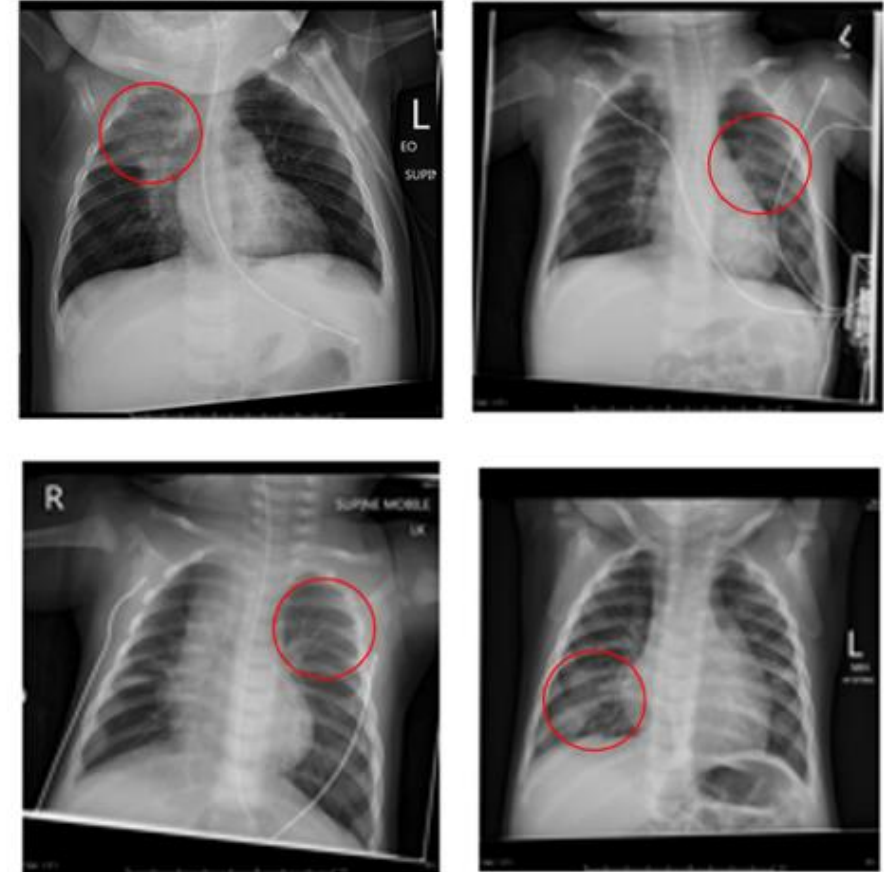
## What is the most important investigation for Toby?

- x Nasopharyngeal aspirate – this should not be done other than during a pandemic. *[In current times, a NPA would be done for SARS-CoV-2]*
- x Blood culture – this child is not septic. A blood culture is likely to return either negative or with a spurious result, resulting in more unnecessary testing
- x Chest xray – these do not discriminate well between bacterial and viral infections and are likely to lead to unnecessary testing

✓ Nothing

# What is best practice?

- Chest X-rays for infants with acute lower respiratory tract infections rarely affect clinical treatments and outcomes.
- Chest X-ray films do not discriminate well between bronchiolitis and other forms of lower respiratory tract infection. The images to the right are ALL bronchiolitis but mimic pneumonia.
- It is estimated that 133 children with typical bronchiolitis would have to undergo radiography to identify 1 radiograph that is suggestive of an alternate diagnosis. In addition, false positives lead to over-use of antibiotics leading to unnecessary side effects and increase the risk of antibiotics resistance.



# So really do nothing?

The most important management tool is clear and effective communication.

Important education points include:

- Bronchiolitis is a viral infection and antibiotics/medications will not help
- When infants are unwell, feeding becomes difficult and therefore supporting oral intake is important – small frequent feeds are best
- If oxygen saturations become low, we can support the infant's breathing – it is safe for infants to have intermittently low saturations and continuous monitoring is not required
- Normally the infant's breathing will become worse on day 3 and then gradually get better, the cough may linger for up to 2 weeks

## What treatment does Toby require?

- Oxygen therapy
- Salbutamol
- Nasogastric feeds
- Nothing



## What treatment does Toby require?

- x Oxygen therapy – Do not delay discharge if saturations are above 90%
- x Salbutamol – risks outweigh benefits
- ✓ **Nasogastric feeds – supplemental feeding is recommended for a child unable to achieve 2/3 normal feeding**
- x Nothing

# What is best practice?

- Salbutamol does not improve any meaningful clinical outcome such as:
  - oxygen saturation
  - hospital admissions
  - duration of hospitalisation
  - time to resolution of illness
- Salbutamol has the following adverse impacts:
  - tachycardia
  - oxygen desaturation
  - tremors

# What is best practice?

- Feeding is often affected in bronchiolitis and fluid supplementation is recommended when oral intake is less than 2/3 normal
- Nasogastric feeds are safer than IV fluids and have the additional benefit of offering nutrition.



# Evolve Recommendation

Do not routinely undertake chest X-rays for the diagnosis of bronchiolitis in children or routinely prescribe salbutamol or systemic corticosteroids to treat bronchiolitis in children

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Evolve is facilitated by the Royal Australasian College of Physicians



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# References

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# How this case study was made

This case study was developed through the RACP Evolve initiative. It was drafted by Dr Joanna Lawrence based on an Evolve recommendation on low-value practices.

This case study was reviewed by the RACP Evolve Policy & Advocacy Interest Group, the RACP Paediatrics and Child Health Division, Thoracic Society of Australia and New Zealand, Australasian Society for Infectious Diseases, Royal Australasian College of General Practitioners, Australian College of Nurse Practitioners, and the Australian Physiotherapy Association.

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Paediatrics and Child  
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# Evaluation

How likely is this Evolve recommendation to change your practice?

1. Not at all
2. Somewhat
3. Significantly

Explain your reasoning

# About Evolve

As part of a global movement, Evolve is a flagship initiative led by physicians, specialties and the Royal Australasian College of Physicians (RACP) to drive high-value, high-quality care in Australia and New Zealand.

Evolve aims to reduce low-value care by supporting physicians to:

- be leaders in changing clinical behaviour for better patient care
- make better decisions, and
- make better use of resources.

## Find out more:

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