Management of Children Presenting to 1° care with Viral Lower Respiratory Tract Infections (Bronchiolitis and Viral induced wheeze)

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Aim of this document:

- This document sets out to provide guidance for 1° care staff on the assessment and management of children presenting with viral LRTIs (bronchiolitis and viral induced wheeze), including criteria for when to refer a child to secondary care.
- It promotes a consistent approach for clinicians working across the urgent care pathway.
- It aims to enhance parent education and empowerment by providing clear information about when to seek healthcare consultations. This can be sent by GP practices to parents/carers via MJOG and/or ACCURX (https://what0-18.nhs.uk/worried-your-baby-unwell-under-3-months-2/worried-about-your-baby / https://what0-18.nhs.uk/parentscarers/worried-your-child-unwell) .

- **The content of this document has also been made available on a free webinar – click here**

Approach:

- It is suggested that 1° care clinicians use the approach described in the Healthier Together clinical pathways for bronchiolitis and viral induced wheeze. If in doubt about the diagnosis please use the clinical pathway for Cough & Breathlessness in children <2 years.
- It is recommended that 1° care clinicians are able to accurately measure oxygen saturations using paediatric saturation probes as part of a full respiratory assessment. In general, sats of <92% should generate a discussion or referral to secondary care. Although most children with moderately severe disease (amber features) can be managed at home with clear safety netting information, there should be a low threshold for referring babies under 6 weeks or those with significant comorbidities (see below). For information on how to use the Rad-G paediatric oxygen sats monitors provided by NHSE, click here.
- Viral LRTIs generally present with cough and difficulty breathing. The child may be coryzal, febrile and have difficulty feeding or drinking.
- Traditionally, bronchiolitis has been viewed as a condition affecting those under 1 in the UK. However this year we are expecting more children 1-2 to present with a more 'bronchiolitic' phenotype than traditional wheeze.
- The main reason to differentiate between the conditions is to provide timely bronchodilator therapy to those wheezers who will benefit while NOT administering this to younger babies with more classical bronchiolitis.

Here is a table to help differentiate the assessment and treatment of Bronchiolitis and Viral Induced Wheeze:

	Bronchiolitis	**Viral Induced Wheeze**
Age	Most commonly <1 year. Can be up to 2	1+
History	Often starts with coryza leading to cough and breathlessness	Often starts with coryza leading to cough and breathlessness
Examination	May have tachypnoea and respiratory distress Course bilateral scattered crackles	May have tachypnoea and respiratory distress Bilateral wheeze or crackles heard only on expiration May have reduced air entry
Worrying features in history	Early on in illness (often gets worse over 3-4 days) Under 6 weeks Co-morbidities (congenital heart disease, immunocompromised, chronic lung disease, age <6 weeks, Prematurity, Neuromuscular weakness)	Previous episodes requiring HDU/ITU care Previous episodes requiring IV therapy
Treatment in 1° care	Supportive Establish feed plan little and often	Salbutamol up to 10 puffs up to 4 hourly Prednisolone 1mg/kg OD for 3 days or Dexamethasone 0.3mg/kg x 1 if history of atopy
Safety netting advice sheet	Bronchiolitis :: Healthier Together (what0-18.nhs.uk)	Viral induced wheeze :: Healthier Together (what0-18.nhs.uk)
Referral details for your local hospital	Hospital advice/referral contact details :: Healthier Together (what0-18.nhs.uk)	Hospital advice/referral contact details :: Healthier Together (what0-18.nhs.uk)

Acute community paediatric nursing services are available in North Hampshire and Portsmouth, SE Hants and Fareham & Gosport – referral may be considered for amber patients being managed at home (click here for contact details).

Assessment and Treatment of Severe disease:

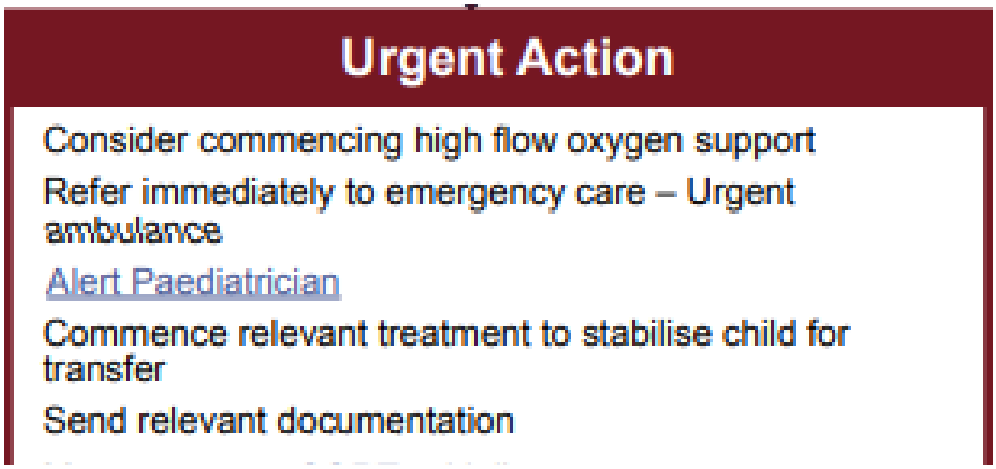
Bronchiolitis

This is taken from the Healthier Together Bronchiolitis pathway – the full version is here

ASSESSMENT FEATURES: ANY of the following

Clinical Findings	Red – high risk
Behaviour	**Unable to rouse** **No response to social cues** **Wakes only with prolonged stimulation** **Week or continuous cry** **Appears ill to a healthcare professional**
Skin	**CRT > 3 seconds** **Cyanosis** **Grey/Mottled**
Respiratory Rate	**>70 breaths /minute** **Apnoeas**
Oxygen sats in air	
Chest recession	**Severe**
Nasal Flaring	**Present**
Grunting	**Present**
Feeding/Hydration	**<50% fluid over 2-3 feeds/12 hours** **Appears dehydrated** **Significantly reduced urine output**
Other	

ACTIONS



Assessment and Treatment of Severe disease:

Viral Induced Wheeze

This is taken from the Healthier Together Wheeze pathway – the full version is here

ASSESSMENT FEATURES: ANY of the following

ASSESSMENT	High Risk SEVERE - RED	IMMEDIATELY LIFE-THREATENING - PURPLE
Behaviour	May be agitated; Unable to talk freely or feed	Can only speak in single words; Confusion or drowsy; Coma
O2 Sat in air	< 92%; Pale	< 92%; Cyanosis; Grey
Heart Rate	Under 5yr >140/min Over 5 yr >125/min	Under 5yr >140/min Over 5 yr >125/min Maybe bradycardic
Respiratory Peak Flow° (only for children > 6yrs with established technique)	Under 5 yr >40 breaths/min Over 5 yr >30 breaths/min **Moderate** Respiratory distress: moderate recession & clear accessory muscle use PEFR <50% l/min best/predicted	**Severe** Respiratory distress Poor respiratory effort: Silent chest Marked use of accessory muscles and recession PEFR <33% l/min best/predicted or too breathless to do PEFR

ACTIONS:

URGENT ACTION	ACTION IF LIFE THREATENING
Refer immediately to emergency care by 999 Alert Paediatrician • **Oxygen to maintain O_2 Sat > 94%, using paediatric nasal cannula if available** • **Salbutamol 100 mcg x 10 'puffs' via inhaler & spacer** **OR** Salbutamol 2.5 – 5 mg Nebulised - Repeat every 20 minutes whilst awaiting transfer - If not responding add Ipratropium 20mcg/dose - 8 puffs or 250 micrograms/dose nebulised mixed with the salbutamol. - Oral Prednisolone start immediately: 2-5 years 20 mg/day Over 5 years 30-40 mg/day • Paramedics to give nebulised Salbutamol, driven by O_2, according to protocol • Stabilise child for transfer and stay with child whilst waiting • Send relevant documentation	**Repeat Salbutamol 2.5 - 5 mg via Oxygen-driven nebuliser whilst arranging immediate hospital admission - 999**

- **Nebulised salbutamol should be reserved for severe / life threatening wheeze and given pending transfer to hospital. Nebulisation is not an aerosol generating procedure (AGP) and therefore does not require you to wear full PPE or an FP3 mask.**

Assessment and Treatment of Moderate disease:

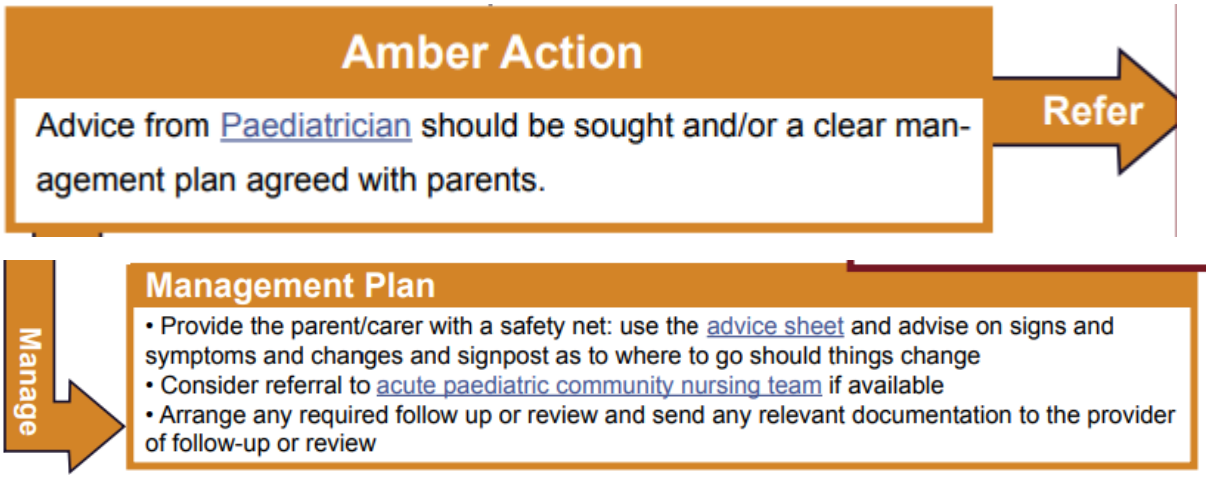
Bronchiolitis

This is taken from the Healthier Together Bronchiolitis pathway – the full version is here

ASSESSMENT FEATURES: ANY of the following

Clinical Findings	Amber – Intermediate risk	
Behaviour	**Irritable** **Decreased activity** **Reduced response to social cues** **No smile**	
Skin	**CRT 2-3 seconds** **Cool peripheries** **Pale**	
Respiratory Rate	**50-70 breaths / minute**	
Oxygen sats in air	**<92%**	
Chest recession	**Moderate**	
Nasal Flaring	**May be present**	
Grunting	**Absent**	
Feeding/Hydration	**50-75% fluid intake over 3-4 feeds** **Reduced urine output**	
Other	**Pre-existing lung condition** **Immunocompromised** **Congenital heart disease** **Additional parent/carer support needed**	**Age < 6 weeks** **Prematurity** **Re-attendance** **Neuromuscular weakness**

ACTIONS:



Assessment and Treatment of Moderate disease:

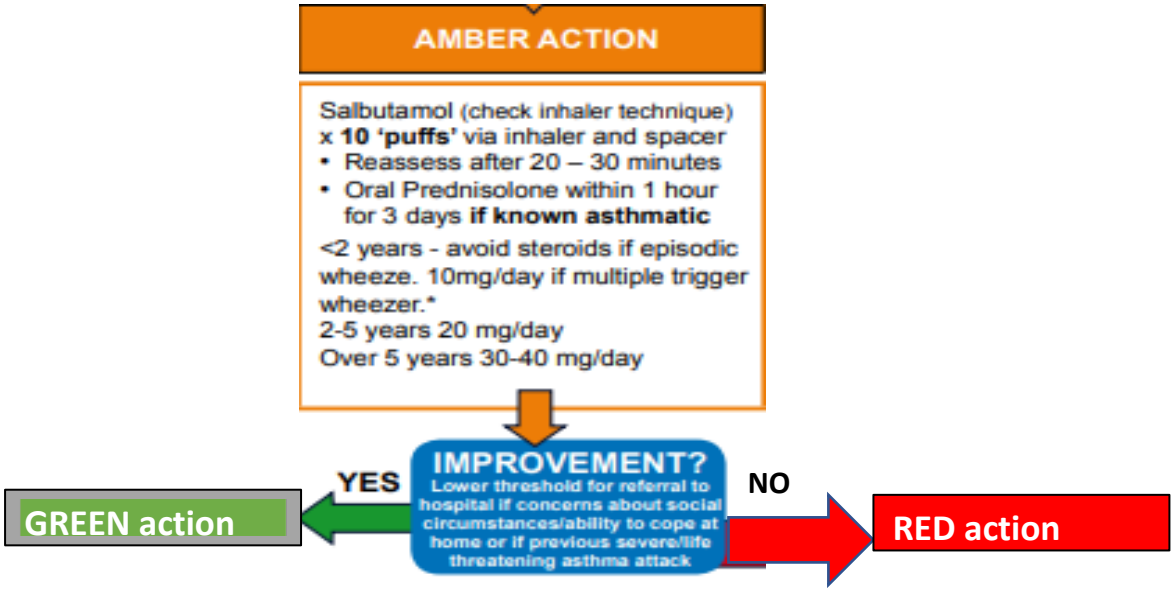
Viral Induced Wheeze

This is taken from the Healthier Together Bronchiolitis pathway – the full version is here

ASSESSMENT FEATURES: ANY of the following

Clinical Findings	Amber – Intermediate risk
Behaviour	**Alert** **Some increased work of breathing**
Oxygen sats in air	**92-94%** **Pink**
Heart Rate	**Under 5: <140** **Over 5: <125**
Respiratory Rate	**Under 5: <40 breaths / minute** **Over 5: <30 breaths / minutes**
Respiratory Distress	**Mild (including mild recession and some accessory muscle use)**
Peak Flow (6y+)	**50-75% l/min best / predicted**

ACTIONS:



Assessment and Treatment of Mild disease:

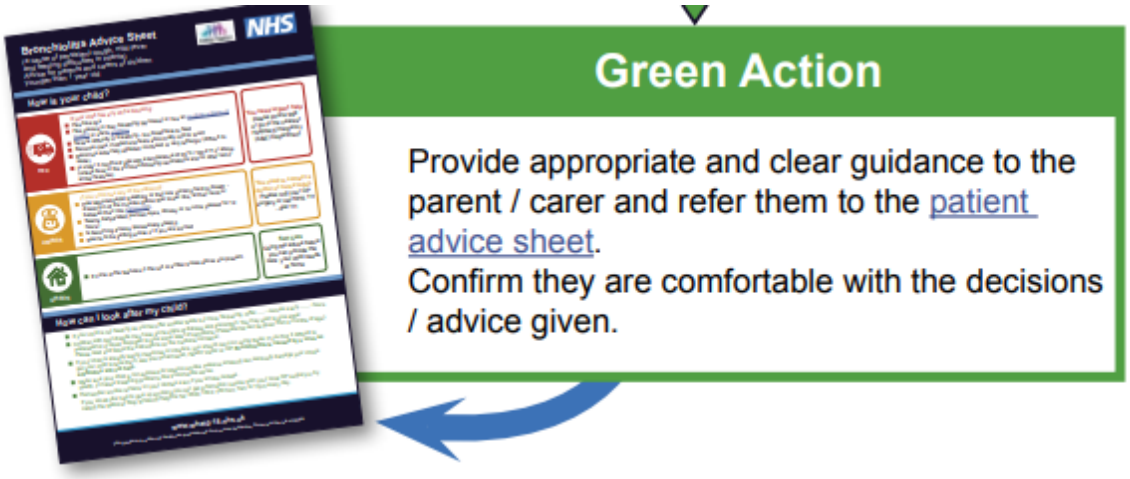
Bronchiolitis

This is taken from the Healthier Together Bronchiolitis pathway – the full version is here

ASSESSMENT FEATURES:

Clinical Findings	Green – Low risk
Behaviour	**Alert** **Normal**
Skin	**CRT<2 seconds** **Normal colour skin, lips and tongue** **Moist mucous membranes**
Respiratory Rate	**<50 breaths / minute**
Oxygen sats in air	**92% or above**
Chest recession	**Mild**
Nasal Flaring	**Absent**
Grunting	**Absent**
Feeding/Hydration	**Normal – 75% or more fluid intake** **Occasional cough induced vomiting**
Other	

ACTIONS:



Assessment and Treatment of Mild disease:

Viral Induced Wheeze

This is taken from the Healthier Together Bronchiolitis pathway – the full version is here

ASSESSMENT FEATURES:

Clinical Findings	Green – Low risk
Behaviour	**Alert** **No increased work of breathing**
Oxygen sats in air	**>95%** **Pink**
Heart Rate	**Under 5: <140** **Over 5: <125**
Respiratory Rate	**Under 5: <40 breaths / minute** **Over 5: <30 breaths / minutes**
Respiratory Distress	**None** **Normal respiratory effort**
Peak Flow (6y+)	**>75% l/min best / predicted**