

LRI Emergency Department and Children's Hospital

Respiratory Viral Illness (Including Flu) Infection Prevention UHL Childrens Guideline

Staff relevant to:	Children's Emergency Department and the Children's Hospital caring for patients with respiratory illness of a known or suspected viral cause.
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1. Introduction and Who Guideline applies to

- 1.1. Seasonal viral respiratory tract infections are very common and are usually acquired and managed in the community. **This guideline focuses on those patients with more severe illness which requires hospital admission and the measures taken to limit spread within the hospital.**
- 1.2. In the event of a seasonal Respiratory Synovial Virus (RSV) or Influenza outbreak, the children's hospital is likely to be working to maximum capacity, even in the absence of 'winter pressures'. The increased demand upon services may be further compounded by staff sickness and the absence of staff caring for members of their family. Lack of staff is likely to impact the number of beds and level of service that the children's hospital can maintain. Therefore it is imperative that there should be contingency plans in place to deal with these eventualities.

- 1.3. The following guideline is to be used for all children with respiratory illness of a known or suspected viral cause. This document is to highlight the precautions used when managing patients with viral respiratory tract infection.
- 1.4. For treatment of influenza in children's please see the Treatment of Children and Young People with Influenza like illness guideline (C7/2018). [Influenza Treatment UHL Childrens Hospital Guideline](#)
- 1.5. Respiratory viruses are most commonly transmitted by airborne droplets or nasal secretions and can lead to a wide spectrum of illness. They can survive on surfaces/objects for several hours.
- 1.6. RSV causes symptoms similar to the common cold, including rhinitis (runny nose, sneezing or nasal congestion), cough and sometimes fever. Ear infections and croup can also occur in children.
- 1.7. For most people, RSV causes a mild illness; it is most associated with bronchiolitis in infants. This is when the small airways become inflamed and filled with mucus making it difficult to breathe. Over 60% of children are affected by their first birthday and 80% by their second. The antibodies produced by early infection do not prevent further infection throughout life. It is unknown how many adults acquire RSV.
- 1.8. This document is not intended to provide advice on episodes of pandemic flu. In the event of a pandemic (defined as a higher than normal level of influenza activity in the population of Leicester/shire), a UHL pandemic outbreak group will be convened.

2. Guideline Standards and Procedures

The fundamental principles of managing children with respiratory viral illnesses are the meticulous use of infection prevention precautions, isolation and cohort nursing including stringent attention to hand and respiratory hygiene. The use of surgical masks and respirators has a role to protect staff, provided they are used correctly in conjunction with other infection prevention measures.

Identifying Children who have respiratory viral illnesses:

Does the child have Flu like illness for <48hrs?
Fever >38 C and 2 or more:

- Cough, sore throat, coryzal symptoms, joint / limb pain and headache

If yes follow the flow chart below:

Managing confirmed and suspected respiratory viruses flow chart

Once a child is identified as being symptomatic for a respiratory viral illness, the child requires source isolation in a cubicle.

Early detection of RSV and influenza can be undertaken by point of care testing the testing which is available in the Emergency Department (ED) in the hot lab. The staff in ED are aware of how to operate the testing kits. Approval to complete the test will be following discussion with ST4 or above. It is only to be used for patients who are in ED to be admitted to the children's ward

The current point of care testing uses the same naso-/oro-pharyngeal (NPA) sample or nasal/throat swab as the normal lab test. A small volume of the fluid into which the swab is taken can be used on the Point of Care Testing machines (Cepheid machine). The testing takes 20minutes. The test results will identify RSV A or B and influenza A or B

NB. When mixing the sample NPA with saline use 5ml or less-more than this potentially dilutes the sample. At the point of testing, pipette the sample directly into the wheelie bin shaped container to test.

All results from the POCT should be recorded in the patient's notes. Document RSV / Flu positive or negative as appropriate and sign to complete the documentation.

The NPA or swab should be labelled and sent to the lab as usual to test for the extended spectrum of respiratory viruses (for example parainfluenza, adenoviruses, rhinovirus).

Isolate in cubicle with door closed. Use the source isolation poster (see appendix 1)

Inform Infection Prevention on ICE Complete Source Isolation Risk Assessment.

If no cubicles are available keep the patient in the bay and where possible the patient should wear a mask. To reduce the risk of transmission curtains to be drawn between the adjoining patients leaving the front open.

Where isolation into a cubicle is not possible complete a Datix report.

When all the cubicles are full consider cohort nursing in a bay, all the children must have the same respiratory illness identified. It is usual for the cohort bay to be a RSV bay as this is the most common respiratory viral illness identified in babies. The bay is usually identified as the "bronch bay". (see appendix 2)

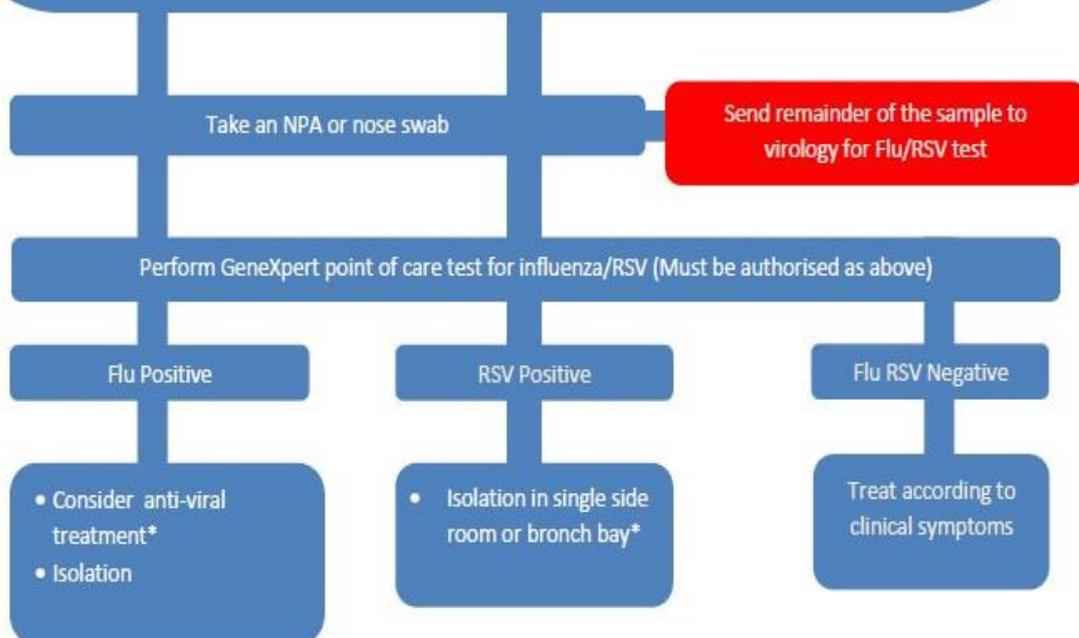
Patients with confirmed or suspected respiratory viruses must not visit communal parts of the ward

Visitors entering the area should clean their hands before leaving the area. The use of a mask is dependent upon the level of contact with the patient and should be advised by staff.

Point of Care Respiratory Viral testing in Children's ED

Criteria for POCT:

- **Symptomatic with a respiratory viral illness**
 - Flu like illness < 48 hours
 - Temperature > 38c
 - AND 2 or more of the following symptoms :**
 - Cough
 - Sore throat
 - Runny nose
 - Malaise
 - Headache
 - Myalgia/arthritis
 - Acute exacerbation of chronic lung diseases e.g. Asthma
 - Signs and symptoms of **severe** lower respiratory tract infection e.g. dyspnoea, hypoxia, lung infiltrates
- AND**
- Following discussion with doctor in charge of CED (ST4 and above)
- AND**
- The child is in CED and is being admitted to a ward in children's hospital



**Guidelines: Children's Respiratory Viral Illness Infection Prevention Guidelines for the Emergency Department and the Children's Hospital*

Speciality management of cubicles:

- On the medical and surgical wards RSV and flu positive patients are nursed in source isolation and prioritised for the cubicles.
- On the respiratory High Dependency Unit adenovirus should also be source isolated due to the risk of Bronchiolitis obliterans organizing pneumonia (BOOP), in the long term ventilated patients.
- Children's oncology, Children's intensive care and cardiac wards all patients with respiratory viral infections must be source isolated in cubicles.

Point of Care Testing (POCT); who to test:

- POCT will be undertaken in ED for children who are to be admitted to the children's wards only. It is not for children who are going to be discharged.
- Prior to undertaking POCT seek agreement in ED from ST4 or above.
- If children become symptomatic on the children's wards they need a NPA or a nose / throat swab to be sent to the virology lab for testing.
- Under 2's to be admitted to base wards in hospital have RSV and Flu POCT testing. Then send sample to the virology lab for full respiratory virology screening.
- Over 2's with evidence of a flu like illness in a risk group to have flu POCT then send the sample to the virology lab for full respiratory virology screening

Aerosol generating procedures:

Aerosol generating procedures produce droplets less than 5 microns in size which may cause infection if they are inhaled. These small droplets containing pathogens can remain in the air, travel over distances and still be infectious.

Aerosol generating procedures include:

- Intubation, extubation and related procedures e.g. manual ventilation
- Suctioning
- Chest physiotherapy
- Cardiopulmonary resuscitation
- Bronchoscopy
- Surgery and post mortem procedures in which high-speed devices are used
- Dental procedures
- Non-invasive ventilation
- High frequency oscillatory ventilation

Although PHE guidance has suggested that aerosol generating procedures currently do not include nebulisation of medication or administration of pressurised humidified oxygen, evidence is accumulating that there is a potential risk from this. Please draw the side curtains around such patients during the use of these devices wherever possible. The curtains can be opened once the use of these masks has finished.

Aerosol generating procedures should take place in a well-ventilated single room with the doors shut.

Fans should not be used in affected areas, windows can be opened, and curtains drawn at the side of beds in cohort areas where possible to reduce the risk of aerosol transmission.

Criteria for ceasing source isolation:

Respiratory illnesses not influenza

- Once a child is asymptomatic for 24 hours source isolation can cease

Influenza

- Children should have had 5 consecutive days of antiviral treatment and be asymptomatic for 48 hours then source isolation precautions can cease.

For those patients who remain symptomatic, discuss with the infection prevention team before ceasing source isolation.

When isolation is ceased the affected area requires an AMBER clean, which includes a thorough environmental clean of the affected area, equipment and a curtain change by the domestic teams.

3. **Education and Training**

Training to use POCT testing kits will be undertaken by Cepheid in October 2019

4. **Monitoring Compliance**

What will be measured to monitor compliance	How will compliance be monitored	Monitoring Lead	Frequency	Reporting arrangements
Bronch Bay	Audit the bronch bay when in place to ensure compliance, on cohort nursing audit tool	Infection prevention team	Weekly	Feedback at the time of the audit. Send to the managers of the area. Discussion at CMG infection prevention meeting
Datix monitored	Review of the datix related to noncompliance with the policy	Infection prevention team	Quarterly	Discussion at the CMG infection prevention meeting

5. **Supporting References**

CDC. December 2008. Infection Control Guidance for the Prevention and Control of Influenza in Acute-Care Facilities

PHLS. 2001. Prevention and treatment of Respiratory Syncytial Virus (RSV)

[UHL -Managing increased Incidence and Outbreaks of Infection in Hospitals Policy B11/2006](#)

6. Key Words

Bronch bay, Flu, Influenza, Point of Care Testing (POCT), Respiratory viruses, RSV,

The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.

As part of its development, this policy and its impact on equality have been reviewed and no detriment was identified.

CONTACT AND REVIEW DETAILS	
Guideline Lead (Name and Title) E Hoyle – Infection Prevention Nurse	Executive Lead Chief Nurse
Details of Changes made during review: (changes in bold) Changed from- category C to category D joint Children’s & Children’s ED guideline Added- link to Influenza like guideline <u>Managing confirmed and suspected respiratory viruses flow chart amended:</u> Added- reference to hot lab Removed- reference to CSSU Added- Approval to complete the test will be following discussion with ST4 or above. It is only to be used for patients who are in ED to be admitted to the children's ward Removed reference to- BD Veritor test – amended to Cepheid machine Testing duration changed from 3-5 minutes to 20 minutes Added- NB. When mixing the sample NPA with saline use 5ml or less-more than this potentially dilutes the sample. At the point of testing, pipette the sample directly into the wheelie bin shaped container to test Removed – repetition of confirm the point of care results and to obtain the full subtypes, amended to – test for extended respiratory viruses Added- ED management flow chart Changed heading- Near patient testing to Point of Care Testing Added information- <ul style="list-style-type: none">• POCT will be undertaken in ED for children who are to be admitted to the children’s wards only. It is not for children who are going to be discharged.• Prior to undertaking POCT seek agreement in ED from ST4 or above.• If children become symptomatic on the children’s wards they need a NPA or a nose / throat swab to be sent to the virology lab for testing. Removed- Over 2’s with evidence of flu like illness and not at risk have throat swab sent to the lab for full virology screening Added – Education & Training	

Appendix 1

SOURCE ISOLATION

Staff

Before entering an isolation area you **MUST**:

-  Clean hands
-  Put on a clean apron
-  Consider a mask and eye protection if there is a risk of exposure to blood or body fluids or other risk factors to the face

- **Surgical masks:** For non-aerosol generating activities
- **FFP3:** For aerosol generating activities including: Chest physiotherapy, suctioning, NIPPY CPAP, Bronchoscopies, CPR
- Risk assess the need for a long sleeve gown

-  Put on clean gloves

Visitors

Please see nurse in charge before entering this isolation area

Clean your hands before and after contact with the patient and before leaving the isolation area

Wear gloves and apron if providing personal care

For further information please ask nursing staff for a copy of the isolation precautions leaflet

Before leaving the isolation area you **MUST**:

- Remove protective clothing
- Wash hands with soap and water
- Once outside the area, use sanitiser

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Appendix 2

Standard for setting up the Bronchiolitis Bay:

Setting up the bay	Be Aware-
Is there a need to set up a bronch bay? Consider: <ul style="list-style-type: none"> Cubicle shortage across the floor Are cubicles being used appropriately across the floor 	Decision need to be made by: <ul style="list-style-type: none"> Bleep Holder Consultant (On Call if at night) <p>Inform the Infection Prevention Team x5448. Complete ICE referrals and SIRA stickers as usual.</p>
Is there an area to create a bronch bay?	<ul style="list-style-type: none"> Inform ward staff of need of bay Will need help creating this bay Re-allocating all patients will need support Bay <u>must have</u> a hand wash sink in the bay At LRI the preferred bay Badger on ward 11
Green clean of non- infected cubicles/bays. Amber clean of infected cubicles/bays.	<ul style="list-style-type: none"> Inform domestics of this ASAP to ensure quick service Inform domestics of the location of the infected bay and which will require additional cleaning.
Install 6 cots in bay- 1 per bed space	<ul style="list-style-type: none"> Ensure all bed space checks are complete Ensure cots in working order- (Tilt and emergency function)
Have a saturation monitor in every bed space	<ul style="list-style-type: none"> Ensure theses are working and plugged in Have appropriate sized probes
Check bed spaces at least every shift changeover	<ul style="list-style-type: none"> Ensure emergency/nurse call bell are in working order Ensure all O2/suction points are equipped and working.
Ensure each bed space is being treated with appropriate Source isolation precautions	<ul style="list-style-type: none"> Consider PPE per bed space (Gloves/Apron) Alcohol Sanitizer per bed space Follow 5-MOMENTS for hand hygiene Have a small container of Chlor-clean in the bay area with wipes for cleaning equipment Stethoscope per bed space
Stock up bed space only with appropriate and necessary equipment to prevent waste	<ul style="list-style-type: none"> NG Feeds O2- NP/FM Aqua-pack and adapter for O2 Nappies/conti-sheets
At entrance to the bay	<ul style="list-style-type: none"> Red alginate bags for linen disposal at bay entrance NPA pots and 0.9% Sodium hyperchloride NG Tubes, tegaderm, duoderm, pH testing strips NG syringes sizes: 5ml, 10ml, 20ml, 60ml Oral syringes sizes: 2.5ml, 5ml, 10ml Kangaroo giving sets Mouth and eye care equipment: pink sponges, sterile water, yellow soft paraffin, small gauze, normasol Selection of infant formula milk Sterile water Head boxes, humidifiers, O2 connections, elephant tubing and analysers, aqua-packs Cardboard patient care trays Conti-wipes Small supply of linen, towels, and Conti-sheets Ensure access to gloves and aprons at least at the entrance of the bay Sharps bin in the bay area- Consider one per bed space if on NG feeds
Staffing and Visiting:	
<ul style="list-style-type: none"> Minimum of 1 x trained and 1 x HCA (or student) Suggested minimal visiting- preferably no siblings 	

- All visitors to wash and gel hands on entering and exiting bay
- Visitors will be reminded not to have contact with other children in the bay