

GUIDANCE FOR THE MANAGEMENT OF RESPIRATORY SYNCYTIAL VIRUS (RSV)

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Other (Please specify): Hygiene Code (Health and Social Care Act 2008)
NHSLA Risk Management Standards for Acute Trusts (4.9)

Note: This policy has been assessed for any equality, diversity or human rights implications.

Controlled document

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1 General Information

For most people respiratory syncytial virus (RSV) infection causes a mild respiratory illness. Those who are at risk, for example immunocompromised patients and those with chronic heart and lung conditions, may develop a severe respiratory illness and pneumonia. RSV causes bronchiolitis in infants and it is the commonest cause of hospital admissions due to acute respiratory illness in young children (HPA, 2010). Premature infants and neonates are at particular risk for severe illness and respiratory complications following RSV infection.

RSV is a paramyxovirus, an enveloped RNA virus, which is unstable in the environment. It can remain infectious on surfaces or objects for about 4 to 7 hours, and survives on unwashed hands. Hand hygiene using alcohol hand rubs or, washing with soap and water, removes it effectively.

Epidemics of the virus occur annually and tend to start in November or December and last for 4 to 5 months. It is estimated that over 60% of children have been infected by age one year and 80% by age two. Immunity is short lived and relatively ineffective, therefore recurrent infections with or without symptoms are likely to occur throughout life.

2 Patient Risk Group

Those most at risk of developing severe illness due to RSV are the very young, aged one year and under, and the elderly. Premature neonates or children with underlying cardiac or chronic lung disease are at particular risk.

3 Identification of Infection and Diagnosis

Common symptoms are similar to a cold including coughing, sneezing, nasal congestion, rhinitis and sometimes fever. Bronchiolitis is seen in infants. Children can also develop ear infections and croup.

Diagnosis is based on clinical symptoms. Laboratory confirmation of RSV can be achieved by obtaining a naso-pharyngeal aspirate (NPA) in babies or throat swab, for immunofluorescence and PCR.

4 Prevention and Treatment

There are no vaccines against RSV. Children at high risk from infection may be offered passive immunity with a monoclonal antibody preparation (Palivizumab).

For mild disease no specific treatment is required except that of symptom management. For more severe cases nursing support, oxygen therapy and mechanical ventilation may be required. Ribavirin may be used in life – threatening infection, but evidence of effectiveness is limited.

5 Transmission

The incubation period ranges from 2 to 8 days. However, 4 to 6 days is most common. The period of communicability ranges from 2 days prior to onset of symptoms to 10 days after their resolution. However in young infants viral shedding may continue for as long as 3 to 4 weeks.

The virus is spread from respiratory secretions via close contact with infected individuals or contact with contaminated surfaces or fomites. Infection can occur when the virus comes into contact with the mucous membranes of the eyes, mouth, or nose, and possibly through the inhalation of droplets generated by a sneeze or cough. Aerosol transmission is uncommon (HPA, 2008). Consequently good hand hygiene technique and environmental hygiene is paramount to prevent cross infection.

6 Infection Control Measures

Children with suspected RSV illness should be isolated in a single room and the door kept closed (Refer to Source isolation policy). Diagnostic samples should be taken to confirm infection.

If an adequate number of single rooms are not available, those with a **laboratory confirmed** diagnosis of RSV and no other illness warranting isolation can be cohorted in a single ward.

All children attending the paediatric ward or neonatal unit (NNU) who have had contact with a symptomatic case should be isolated as a precaution. This will apply until either the end of the incubation period is reached or 10 days post resolution of subsequent symptoms.

Aprons and gloves must be used for contact patients and immediate environment. Hand hygiene is essential after contact with a patient or after touching respiratory secretions or the environment potentially contaminated with respiratory secretions whether or not gloves are worn.

Visitors with RSV-infected children must be instructed not to visit other patients or to mix with other visitors within the hospital. Visitors must perform hand hygiene before and after seeing the patient. Visitors with symptoms of respiratory tract infection should be discouraged from visiting, unless essential, and should be excluded from high risk areas such as the high dependency unit and the neonatal unit.

6.1 Outbreaks

Whilst every effort will be made to isolate suspected RSV cases on admission, there is always a possibility that a patient will develop symptoms post admission. If this happens and other patients have potentially been infected, isolation will be necessary for all contacts and the index case. The bay will be closed to admissions and the infection control team must be

informed at the earliest opportunity. The occupants may then be isolated separately or nursed as a cohort.

6.2 Management of RSV on the Neonatal Unit (NNU)

Neonates and premature infants are especially susceptible to severe RSV infection, which can also result in long term respiratory sequelae. RSV infection discovered on the NNU therefore is especially serious and requires rigorous control.

In the event of an outbreak or suspected outbreak of RSV on the NNU, the unit will be closed to admissions. An urgent outbreak control meeting will be convened by the infection control team to confirm control measures including unit closure and the possible use of prophylaxis.

The following precautions will apply unless otherwise determined.

- Visiting to the NNU will be restricted to PARENTS ONLY.
- Parents of symptomatic children must restrict their movement around the NNU and their contact with other parents and children within and outside of the unit to reduce the risk of potential transmission.
- If a symptomatic neonate has siblings on the unit then ensure parents always see non infected baby first.
- All parents should be informed of visiting restriction and the rationale for such actions during NNU closure.

6.3 Single room isolation for suspected and confirmed cases

- Source isolation sign on doors.
- Gloves and apron to be worn for all 'hands on' care and cleaning in cubicle. Parents need only wear aprons. Hand to be decontaminated after removal of gloves and aprons before leaving the cubicle and again after vacating the cubicle. All non essential equipment and stock to be removed from cubicle.
- Inside cubicle
 - Gloves all sizes
 - Disposable aprons available in case a change is required
 - Alcohol hand gel must be available and used
 - Bins with liners for infected linen and clinical waste
 - Sharps bin
 - Thermometer
- Outside cubicle
 - Disposable aprons
 - Alcohol hand gel
 - Notes, folders and charts
 - Baby monitor

- Should equipment be taken into the cubicle, it must be decontaminated upon exit.
- Suspected RSV cases are screened by obtaining NPA samples. Three samples are required at weekly intervals to ensure clearance of positive. Once clearance has been established and the medical staff have determined that no infective cause for symptoms exists, isolation precautions can cease.
- Cleaning of source isolation rooms must be done last, after cleaning in other areas. Where a confirmed case is considered no longer infectious, the cubicle must be terminally cleaned before it can be reused.
- Explain to parents the reason for and details of isolation and where possible its anticipated duration. Parents should be given written information.

7. References

HPA, (2010) Respiratory Syncytial Virus (RSV)

Available at

<http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/RespiratorySyncytialVirus/>

HPA, (2008) Respiratory Viruses QSOP 60 Issued by standards Unit, Evaluations and Standards Laboratory

<http://www.hpa-standardmethods.org.uk/documents/qsop/pdf/qsop60.pdf>