Respiratory Viruses in Adults

This sections describes the infection prevention precautions that should be taken to reduce the risk of transmission of suspected and confirmed respiratory viral infections

Group 1 Severe: Suspected or confirmed – isolate patient in a negative pressure single room required at Royal Stoke Hospital Isolation ward.						
Organism / Disease	Symptoms if causing infection	Route of transmission	Incubation period if known	Period of infectivity to others	Isolation required?	Type of isolation / Personal protective equipment/Comments
Coronavirus Middle East Respiratory Syndrome (**MERS**)	Affects the respiratory system. Severe acute respiratory illness with symptoms of fever, cough and shortness of breath. In some cases, a diarrheal illness has been the first symptom to appear.	Respiratory droplets, airborne transmission is thought to have occurred from aerosolised respiratory secretions and faecal matter. Direct and indirect contact with infected secretions. Detected in blood faeces and urine.	Approximately 5 days (range 2-14 days).	Variable, depending on host immunity	Yes-negative pressure room.	Based on Travel history and presentation Uncommon in the UK. Reported cases have been linked to countries in and near the Arabian Peninsula. **PPE standard precautions plus airborne** FFP3 masks required, eye protection, apron, gloves and fluid resistant long sleeve gown. Negative pressure room (standard precautions plus airborne precautions). If confirmed MERS-Co: all contacts to be vigilant for respiratory symptoms in the 14 days since last contact with the case and not come to work if they have a fever or cough. Contact Consultant Microbiologist immediately and Infection Prevention Team.

For patients with suspected influenza or common respiratory viral infection, viral swabs should be taken. Isolate the patient in a single room; wear disposable apron and gloves for contact with the patient and their immediate environment. Surgical mask if working with in 1 metre of patient or on entering single room. FFP3 masks, eye protection and long sleeved gowns should be worn for aerosol generating procedures only.

Group 2: Common causes of hospital outbreaks – isolate patient in a single room.

In an outbreak situation, cohort patients with the proven same single virus in a designated bay where possible.

Organism / Disease	Symptoms if causing infection	Route of transmission	Incubation period if known	Period of infectivity to others	Isolation required?	Type of isolation / Personal protective equipment/Comments
Seasonal Influenza A/B	High temperature above 38ºC, fever, sore throat, joint pain, headache, diarrhoea	Airborne respiratory droplets, contact with secretions	Is most likely to be between 2-3 days, can be up to 7 days	Whilst symptomatic	Yes until resolution of fever and respiratory symptoms *	Annual vaccination of healthcare worker in October for seasonal influenza recommended. **PPE Standard plus Droplet precautions** Gloves and apron, surgical mask if working within 1 metre of patient or on entering single room. FFP3 masks, eye protection and long sleeved gowns for aerosol generating procedures** Hand hygiene is a key infection prevention precaution.

Organism / Disease	Symptoms if causing infection	Route of transmission	Incubation period if known	Period of infectivity to others	Isolation required?	Type of isolation / Personal protective equipment/Comments
Respiratory syncytial virus (RSV)	Respiratory syncytial virus, or RSV, is a respiratory virus that infects the lungs and breathing passages. Healthy people usually experience mild, cold-like symptoms and recover in a week or two. But RSV can be serious, especially for infants and older adults.	By direct contact with respiratory secretions or droplets	Approx. 3-6 days	People infected with RSV are usually contagious for 3 to 8 days. However, some infants and people with weakened immune systems can be contagious for as long as 4 weeks.	Yes until resolution of fever and respiratory symptoms *	Highly transmissible on paediatric wards RSV causes respiratory infection. It is the commonest cause of severe respiratory illness such as bronchiolitis (inflammation of the bronchioles) in young children aged less than 2 years. **Standard precautions plus droplet.** Gloves and apron, surgical mask if working within 1 metre or on entering single room FFP3 masks, eye protection and long sleeved gowns for aerosol generating procedures** Hand hygiene is a key infection prevention precaution.
Human Metapneumovirus (HMV)	Mild upper respiratory tract infection symptoms to severe pneumonia. Symptoms include Cough, dyspnea, sore throat, fever. HMPV is usually mild and self-limiting, but in frail, elderly and immunocompromised patients with CPOD, is associated with severe infection.	By direct contact with respiratory secretions or droplets	Approx.- 4-6 day	Whilst symptomatic	Yes until resolution of fever and respiratory symptoms *	**Standard plus Droplet precautions** Gloves, disposable apron and surgical masks FFP3 masks, eye protection and long sleeved gowns for aerosol generating procedures** Hand hygiene is a key infection prevention precaution.

* Immunosuppressed patients may remain infectious for a longer period. In immunosuppressed patients with prolonged illness, testing for persistence of respiratory virus may be considered.

Group 3: Risk of transmission, hospital outbreaks uncommon.

RISK ASSESSMENT will be required if single rooms are in short supply, prioritise patients in Group 1 and Group 2 and patients with C.difficile, Recurrent clostridium difficile, CPE/CARB.

To aid decision on isolation assess patient's symptoms: is sneezing and coughing a significant feature, also assess the type of ward.
Wards where isolation of patient in a single room is recommended include:

- **Critical Care Unit**

Wards where the main specialty is:

- **Heamatology**
- **Oncology**
- **Renal transplant**

For most people, a respiratory illness is generally mild, however a small number of people are at risk of more severe respiratory disease.

In routine practice healthcare workers do not commonly wear masks when dealing with patients presenting with common cold, however in the context of widespread respiratory virus activity or in a suspected or confirmed outbreak the need for appropriate respiratory and facial protection to be considered as group 2.

Organism / Disease	Symptoms if causing infection	Route of transmission	Incubation period if known	Period of infectivity to others	Isolation required?	Type of isolation / Personal protective equipment/Comments
Common coronavirus (229E/Nl63/OC43)	The symptoms of most coronaviruses are similar to any other upper-respiratory infection, including runny nose, coughing, sore throat, and sometimes a fever	Direct and indirect contact Droplet transmission	Between 12 hours and 5 days	Whilst symptomatic	Yes until resolution of fever and respiratory symptoms	**Standard precautions –** Apron and gloves Hand hygiene is key infection prevention precaution. FFP3 masks, eye protection and long sleeved gowns for aerosol generating procedures**

Organism / Disease	Symptoms if causing infection	Route of transmission	Incubation period if known	Period of infectivity to others	Isolation required?	Type of isolation / Personal protective equipment/Comments
Rhinovirus (A/B/C)	Upper respiratory tract infection Cough, sneezing, non-specific symptoms such as headache and malaise	Transmission of viral particle viral direct contact or through fomite, typically hand to eye or nose. Droplet transmission	2 days	Symptoms usually 7-10 days	Yes until resolution of fever and respiratory symptoms	**Standard precautions –** Apron and gloves Hand hygiene is key infection prevention precaution. FFP3 masks, eye protection and long sleeved gowns for aerosol generating procedures**
Bocavirus(1-4)	Lower respiratory tract infection. (also termed RTIs, acute respiratory tract infections), especially in infants and children Cough, wheezing, fever Cyanosis (bluish or grayish tint to skin due to lack of oxygen) Rhinorrhea (runny nose), Diarrhea, vomiting	Respiratory secretions, can be found in stool	unknown	Whilst symptomatic	Yes until resolution of fever and respiratory symptoms	**Standard precautions –** Apron and gloves Hand hygiene is a key infection prevention precaution. FFP3 masks, eye protection and long sleeved gowns for aerosol generating procedures** Bocavirus is often found in infants and children who are hospitalized with pneumonia or diarrheal symptoms

Organism / Disease	Symptoms if causing infection	Route of transmission	Incubation period if known	Period of infectivity to others	Isolation required?	Type of isolation / Personal protective equipment/Comments
Adenovirus	Respiratory tract infection. Illnesses can range from the common cold to pneumonia, croup, and bronchitis. Depending on the type of virus, Adenovirus can cause other illness such as gastroenteritis, conjunctivitis, cystitis and less commonly neurological disease.	Droplet transmission	Usually 5-8 days but can range from 2-14 days	Whilst symptomatic	Yes until resolution of fever and respiratory symptoms	**Standard precautions –** Apron and gloves Hand hygiene is a key infection prevention precaution. FFP3 masks, eye protection and long sleeved gowns for aerosol generating procedures**
Enterovirus	Symptoms and signs of enterovirus infection include flu-like symptoms (such as fever, cough, body aches and/or muscle aches, runny nose, and sneezing) that may become more severe and include difficulty breathing and/or wheezing.	Contact Droplet Faecal	3-10 days	Whilst symptomatic	Yes until resolution of fever and respiratory symptoms	**Standard precautions –** Apron and gloves Hand hygiene is a key infection prevention precaution. FFP3 masks, eye protection and long sleeved gowns for aerosol generating procedures**
Para influenza virus	Respiratory tract infection	Droplet transmission	2-6 days	Whilst symptomatic	Yes until resolution of fever and respiratory symptoms	**Standard precautions –** Apron and gloves Hand hygiene is a key infection prevention precaution. FFP3 masks, eye protection and long sleeved gowns for aerosol generating procedures**

Organism / Disease	Symptoms if causing infection	Route of transmission	Incubation period if known	Period of infectivity to others	Isolation required?	Type of isolation / Personal protective equipment/Comments
Any respiratory virus other than above	Variable	Droplet transmission. Contact transmission may be direct or indirect such as on hands or contaminated surface/object that an infected person may have coughed or sneezed on.	unknown	Whilst symptomatic	Yes until resolution of fever and respiratory symptoms	**PPE Standard plus Droplet precautions** Gloves and apron, surgical mask if working within 1 metre or on entering single room. FFP3 masks, eye protection and long sleeved gowns for aerosol generating procedures** Hand hygiene is a key infection prevention precaution.