**General**

* Great care must be exercised to ensure the safety of staff and others when dealing with novel respiratory pathogens where little is known about transmissibility and/or virulence. Strict adherence to sample collection, handling and biosafety protocols is essential.
* Well-established protocols can be used to handle samples from patents with suspected or confirmed pathogens of interest (currently novel coronavirus MERS-CoV and influenza A/H7N9 A/H5N1).
* Trusts should follow the usual sources of advice regarding laboratory containment of these pathogens. In an emerging infection this may include information from ACDP and PHE, which would support a local risk assessment and SOP covering the handling of such samples.
* All samples need to be processed as soon as they are received in the lab
* All samples should have been received marked with a minimum data set of name, date of birth, date of sample and sample type. Please ensure this data is present and then recorded on the ISARIC laboratory record form.
* Red ISARIC RESEARCH labels, if provided, should be attached to all samples and secondary packaging before forwarding to PHE Colindale, PHE Porton Down, or the HPRUs in Liverpool or London. When labels are not available please ensure secondary containers are distinctly marked “ISARIC RESEARCH” preferably using a thick red marker pen.
* In laboratories where handling capacity is limited, samples should simply be packed in secondary containers, marked distinctly as above and frozen at -80°C (or at -20°C if a -80°C freezer is not available) prior to being forwarded to PHE or HPRU labs.

**Expected pathogen samples on a serial sampling day**

* Endotracheal aspirate (ETA) *OR* nasopharyngeal aspirate (NPA) in a sealed suction trap
* Urine in a universal container
* Faeces in a stool pot

**Additional samples that may be collected on a serial sampling day**

* Sputum in a universal container
* Flocked nasopharyngeal/nose-and-throat swab in universal transport medium (UTM)
* A plain rayon swab or a flocked swab in UTM from an infected/inflamed site

**ETA or NPA**

* Label aliquots with name, dob and sample date.
* Check sealed container is intact with no evidence of leak. In a BSL3 hood mix the contents of the sealed container using a vortex mixer.
* Open samples in a BSL3 hood and in that hood, using a pipette with disposable wide bore sterile tip (or a disposable pipette with a wide bore tip), make 3 aliquots of approximate equal volume.
* It is expected that a maximum of 3 x 500ul ETA or NPA aliquots can be made
* Each aliquot should be in an individual, screw-top (with silicone o-ring) Cryovial
* Do not overfill the vials and ensure that the lids are completely screwed down
* Ensure secondary containers for these aliquots clearly identifies patient’s name, dob and sample date and sample type as **ETA** or **NPA** and ISARIC RESEARCH, as once made and frozen they are indistinguishable from other samples.
* Freeze all aliquots at -80°C (or at -20°C if a -80°C freezer is not available)
* Dispose of the original container and any remaining contents

**Urine**

* Label aliquots with name, dob and sample date.
* Check sealed container is intact with no evidence of leak. In a BSL3 hood mix the contents of the sealed container using a vortex mixer.
* Open samples in a BSL3 hood and in that hood, using a pipette with disposable sterile tips, make 3 aliquots of approximate equal volume.
* It is expected that a maximum of 3 x 2ml urine aliquots can be made
* Each aliquot should be in an individual, screw-top (with silicone o-ring) Cryovial
* Do not overfill the vials and ensure that the lids are completely screwed down
* Ensure secondary containers for these aliquots clearly identifies patient’s name, dob and sample date and sample type as **URINE** and ISARIC RESEARCH, as once made and frozen they are indistinguishable from other samples.
* Freeze all aliquots at -80°C (or at -20°C if a -80°C freezer is not available)
* Dispose of the original container and any remaining contents

**Faeces**

* Ensure the sample has been labelled at source
* Freeze the sample (original container) at -80°C (or at -20°C if a -80°C freezer is not available)
* Ensure secondary containers for these aliquots clearly identifies patient’s name, dob and sample date and sample type as **FAECES** and ISARIC RESEARCH, as once made and frozen they are indistinguishable from other samples.

**Sputum**

* Ensure the sample has been labelled at source
* Freeze the sample (original container) at -80°C (or at -20°C if a -80°C freezer is not available)
* Ensure secondary containers for these aliquots clearly identifies patient’s name, dob and sample date and sample type as **SPUTUM** and ISARIC RESEARCH, as once made and frozen they are indistinguishable from other samples.

**Flocked swab in UTM**

* Ensure the sample has been labelled at source
* Freeze the sample (original container) at -80°C (or at -20°C if a -80°C freezer is not available)
* Ensure secondary containers for these aliquots clearly identifies patient’s name, dob and sample date and sample type as **THROAT SWAB** and **ISARIC RESEARCH**, as once made and frozen they are indistinguishable from other samples.

**Infected site swab (plain swab in container, or flocked swab in UTM)**

* Ensure the sample has been labelled at source
* Freeze the sample (original container) at -80°C (or at -20°C if a -80°C freezer is not available)
* Ensure secondary containers for these aliquots clearly identifies patient’s name, dob and sample date and sample type as **WOUND SWAB** and ISARIC RESEARCH, as once made and frozen they are indistinguishable from other samples.