

GUIDELINES FOR COVID-19 SUSPECTED OR POSITIVE CASES SAMPLE HANDLING IN BLOOD CENTRE

Pathogenic potential and transmission risks for the novel coronavirus (SARS-CoV-2) and the associated disease it causes, is still being understood. This interim guidance is based on current knowledge of the virus and other coronaviruses.

SARS-CoV-2 is considered as a respiratory virus. It spreads mainly by droplets, produced by coughing and sneezing by COVID-19 infected patients. Still, theoretical risk of transmission through labile blood products due to viral shedding in blood could be there. SARS-CoV-2 can also be detected in blood, faeces, urine, and cerebrospinal fluid (CSF). Till date, Blood centre-acquired infection through known COVID sample processing has not been reported for SARS-CoV-2.

It is possible that Blood centre workers could become infected if appropriate precautions are not taken when handling biological samples from patients with COVID-19. Since samples of a patient with suspected COVID-19 may be received for Blood Grouping at a blood centre, it is important that centre takes appropriate measures to contain potentially infectious materials and prevent secondary infections and onward transmission.

Good laboratory practice, including the use of standard biological safety precautions, regular training of staff, and the use of standard operating procedures, will help minimise potential risks. Furthermore, local risk-assessments are required with regard to aerosol generation and containment, as described below. It aims to minimise risks for blood centre staff handling specimens from patients with possible or laboratory-confirmed COVID-19.

Process -

A. Sample receiving - point of entry

While receiving suspected/confirmed COVID-19 patient's sample, accept with a label as COVID-19 at blood centre sample receiving counter.

- Samples should then be transferred into designated close container (LABELLED COVID) by designated staff wearing PPE(double gloves one latex and one disposable, triple layered face mask, face shield and cap).
- Prior to processing, sample tubes should be wiped out with 1% hypochlorite from out side using tissue paper, which should be discarded in yellow bin.
- Then all samples and form should be checked for any discrepancy. After checking, Put samples in the closed box and form in a plastic cover folder designated for COVID 19 samples.
- Same person will complete the rest of the procedure for the sample.

- Transport the box into blood group and Crossmatch serology lab and process at designated COVID area.

B. Blood group and Crossmatch serology lab

- Process all the COVID samples at a particular time if not urgent.
- If available, use designated separate equipment and disposable materials for all tests (e.g. Centrifuge, incubator, discard container, washing and disposable pipettes) If not, then disinfect all equipment after using them for COVID samples.
- All tests should be performed by a trained skilled technician. Follow the Standard Universal Precaution during handling of the specimen. Minimum PPE needed such as mask (preferably N95), disposable apron/gowns, double gloves, and face shield/eye protection.
- Perform work on disposable filter paper/mat.
- Centrifugation may cause splashes, droplets or aerosols of infectious material. Hence use centrifuge with close lid and all tests must be performed in a plastic tube with a cap to close it, to prevent the possibility of infectious material contact through air. Before opening the lid of centrifuge, wait for at least 10 minutes after stopping the centrifuge.
- Decapping and recapping of samples should be done carefully at site of testing and keeping the tube away from body.
- In Gel card cross match, cover the well with adhesive tape while incubation and centrifugation.
- Pay attention to all surfaces that may have come in contact with the sample container.
- Crossmatched samples must be stored for 7 days in a closed airtight container or within double zipped bags in the same or different refrigerator.
- All racks, work surface, pipettes and equipments should be disinfected (preferably with minimum 70% alcohol based disinfectant) every four hours or as and when required irrespective of containment level.
- PPE must be removed and disposed off on leaving the work station and hygiene practice like 7 steps hand wash etc. must be rigorously maintained.
- All discarded infectious material to be disposed off in a separate double yellow bag labelled as COVID.

Very few studies published and conclude that absence of risk of COVID-19 through blood or its product cannot be assured hence all the possible safety measures must be practiced.

References:

1. COVID-19: safe handling and processing for samples in laboratories - GOV.UK
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4. guidelines on rational use of Personal Protective Equipment
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5. CDC - Interim Laboratory Bio safety Guidelines for Handling and Processing Specimens Associated with Coronavirus Disease 2019
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