Handling of histopathology, hematology and cytology specimens of COVID 19 suspected/ positive cases

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IMPORTANT

All specimens collected for laboratory investigations should be regarded as potentially infectious.
Transfer of Pathology Specimen from suspicious/confirmed COVID-19 to the pathology laboratories

- All pathology COVID-19 suspicious/confirmed specimens must be labeled clearly.

- transferred into formalin-filled, properly sealed designated pathology containers with adequate amount of formalin to be added to cover the tissue in the container.
Formalin fixation time

• Change the formalin in the container

• Let it fix for 24 hrs

• Then gross and process it

• The Corona virus gets fixed in 24 hrs with formaldehyde and 48 hrs in glutaraldehyde
Transfer of Pathology Specimen from suspicious/confirmed COVID-19 to the pathology laboratories

• All pathology specimens must be further placed in a secondary container to minimize the potential for breakage or a spill.
  – Small containers are placed in larger secondary containers.
  – All these containers then shall be put in a large plastic box-with biohazard label (COVID-19).
Handling fresh pathology specimen of COVID-19 in pathology laboratories

- Frozen section procedures must not be performed on any specimen from patient with suspected/confirmed COVID-19 infection.

- All fresh or partially fixed specimens must be handled under biosafety cabinet level II.

- External surfaces of specimen containers must be decontaminated using a disinfectant (70% alcohol, 0.1% hypochlorite).

- The fresh or partially fixed specimens must be handled, open if needed and transferred to another formalin filled container for further fixation in order to be grossed as formalin-fixed routine cases.
Handling formalin fixed pathology specimens of COVID-19

• **Follow Standard Precautions** when handling clinical specimens
  – Standard Precautions include hand hygiene and the use of personal protective equipment (PPE), such as disposable gowns, gloves, and eye protection.

• Precautions and *disinfection of the external surface* of the specimens’ containers prior to touch and open them must be taken using the appropriate disinfecting reagents.

• Pathologist /technicians must ensure *proper fixation* of the specimens prior handling them.
Handling cytology & hematology specimens of COVID-19

• Cytotechnicians & hematology technicians processing fresh cytology / hematology samples must wear appropriate **personal protective equipment (PPE)** (i.e., eye protection, N95 mask, a long-sleeved gown, gloves)

• All manipulations of potentially infectious materials, including those that may cause splashes, droplets, or aerosols of infectious materials (e.g. **loading and unloading of sealed centrifuge cups**), blending, vigorous shaking, vortexing or mixing) however, should be performed by trained personnel with demonstrated capability.

• CENTRIFUGING OF CYTOLOGICAL & HEMATOLOGICAL SPECIMEN SHALL NOT BE DONE
DO’S AND DON’T’S FORWARD STAFF WHILE TRANSFERRING SAMPLES

Do not send blood/serum/cytology/pathology samples rolled up in the forms

This is a secondary plastic container where all Corona +ve / suspected samples shall be sent. These boxes are available in AFMC Path Dept.
PPE instruction for pathology lab personnel

• Laboratory staff must wear *personal protective equipment (PPE) when conducting work in the laboratory*. PPE must be removed on leaving the laboratory and hygiene practices including hand washing must be rigorously maintained.

• PPE must include disposable gloves and a laboratory coat or gown as a minimum, and may also *include eye protection* and other equipment, as identified by risk assessment.
Work area and equipment disinfection

• Irrespective of the containment level, work surfaces and equipment must be decontaminated after specimens have been processed.

• Pay attention to all surfaces that may have come into contact with specimens or specimen containers.

• Use a disinfectant solution with proven activity against enveloped RNA viruses including sodium hypochlorite (bleach) (e.g. 1,000 ppm (0.1%) for general surface disinfection and 10,000 ppm (1%) for disinfection of blood spills)

• Contact time - 30 minutes
Waste management

- Infectious material to be disposed in a separate yellow bag labeled COVID
References

• CDC interim laboratory biosafety guidelines for handling and processing specimens associated with corona virus

• WHO- Laboratory biosafety guidance related to the novel coronavirus (2019-nCoV)

• Guidance COVID-19: safe handling and processing for samples in laboratories. Public health England