

Strengthening laboratory practices in the face of COVID 19

GUIDELINE FOR PROCESSING SPUTUM SAMPLES IN CLINICAL LABORATORIES

April 20, 2020

V1.0



Sri Lanka College of Microbiologists

Reference ; SLCM/COVID/04

Prepared by:Sri Lanka College ofMicrobiologists

The respiratory specimens of patients could harbor COVID 19 virus. Therefore, the processing of respiratory specimens should be done with caution. Wrong practices in handling specimens can contribute to transmission of the virus. This guideline is aimed at strengthening existing practices on processing of sputum samples and should be used by all laboratory personnel.

General instructions

- Wear appropriate PPE- surgical mask, gloves, gown and goggles/face shields.
- Be ready with all necessary items for processing, cleaning and waste disposal before you start work.
- Keep the sputum samples separately in a covered container until the processing is carried out.
- Personally attend to the waste disposal /supervise thoroughly the disposal process. Do not give the responsibility to the cleaning staff only.

Reception of samples

- All laboratories should have a dedicated place for reception of all samples.
- Formulate a line of communication to accept samples after discussion with the consultant.
- Receive the specimens to a dedicated container (tray/box with a closing device or lid). Ask the person who brings the samples to wear a pair of gloves and keep it inside the dedicated container kept for sputum samples.
- Do not accept any request forms contaminated by samples and instruct staff not to keep the sample on top of the request form when it is delivered to the laboratory.
- It is best if the sample container is cleaned with an alcohol swab (use alcohol based on availability) at the reception. If this is not possible, the containers should be cleaned with alcohol on the bench, before starting to handle the samples.

Processing of samples

- Process all samples batch wise. This is best done together, once a day. If specimens other than sputum have to be processed, attend them first and perform processing of sputum last.
- Samples should be processed preferably in a Class II biosafety cabinet. If a biosafety cabinet is not available, process sputum samples at the end of the day, wearing a surgical mask and a face shield and working near the Bunsen burner. Ensure that only the essential number of staff stay inside the laboratory at the time of processing of sputum, if performed outside the biosafety cabinet.
- Make sure your biosafety cabinet is functioning properly. Adhere to safety guidelines on use of the cabinet. The cabinet should be divided into 3 areas (draw 3 lines from front to back separating the areas).

- Clean area-if you are a right hander this area is at right hand corner when you face the cabinet.
- Processing area - in the middle.
- Dirty area- at your left hand corner.

Keep all clean items, fresh plates and slides in the clean area only. Keep the samples in the middle processing area towards back of the cabinet. Keep the plates to be read in the same area. Keep the yellow bags, discard jars in the dirty area. Used samples should also be kept in the dirty area.

- DO NOT cover the front grill of the biosafety cabinet with anything, as it disturbs the whole safety mechanism of the cabinet.
- Use disposable wire loops for processing depending on the availability and discard them directly to a yellow bag. If Nicrome loops are used, be very careful not to generate aerosols when heating (hypochlorite sand bath can be used to minimize the sputum remaining in the loop). If the electric burners are available, these should be used instead of open Bunsen burners.
- First, read sputum culture plates of the previous day and then start processing sputum samples. Plate on culture media, prepare Gram stain /other smears and fix the slides. Fix the slides inside the biosafety cabinet if a heat block is available, if not let the slides dry completely and fix outside.
- If the sample is mixed with sputalysin and beads, use screw-capped sterile containers, swirl slowly to mix, to minimize possibility of aerosol generation, and keep for a while without opening after mixing.
- Discard remains of the samples and already read plates in to a yellow bag and tie the bag.
- Take the yellow bag out of biosafety cabinet and put in to a second yellow bag kept outside.
- Clean safety cabinet with 70% alcohol. Discard all waste in to the second yellow bag.
- Switch off the UV lamp in the safety cabinet.
- Remove PPE according to standard procedure and discard to the second yellow bag. Carefully remove goggles/face shield by holding only the bands, and dip in to a previously prepared soap/shampoo solution.
- **WASH HANDS WITH SOAP AND WATER**
- The second yellow bag should be tied and collected by a person wearing gloves and a mask and send for autoclaving before discarding or as biohazard waste according to institutional guidelines.
- If pyrex plates are used, they can be reused following autoclaving, cleaning and then, re-autoclaving as practiced routinely.
- Clean laboratory floor and the benches with 0.1% sodium hypochlorite twice a day.
- Alternatively, laboratories that do not have a biosafety cabinet may decide to send sputum samples to a central lab for the duration of the outbreak.