Precautions to Prevent Transmission of Infection in the Clinical Laboratory

1. Access to the laboratory is to be restricted to authorized persons.

Apparel

2. Always use personal protective equipment to handle potentially infectious materials.
3. Remove personal protective equipment before leaving the work area, and decontaminate reusable items after each use.
4. Remove gloves when contaminated, after each session and before handling uncontaminated items such as telephones, paperwork.

Personal hygiene

5. Wash hands with liquid soap and water after removing gloves or before leaving the laboratory.
6. Cover all skin lesions with waterproof dressings.
7. Keep hands and other items away from face, nose, eyes and mouth.
8. Long hair must be secured and held back away from eyes, Bunsen burners and equipment.
9. Do not take personal clothing and belongings into the laboratory.
10. Do not wear sandals, slippers or high-heeled shoes in the laboratory.
11. Eating, drinking, smoking and the application of cosmetics are strictly prohibited in the laboratory.

Work practices

12. Keep laboratory doors closed.
13. Keep all work areas clean and tidy at all times.
14. Wipe laboratory bench tops with an approved disinfectant solution at the end of each working day.
15. Always use automatic pipettes or pipetting devices. No mouth pipetting is permitted.
16. When working with pathogens, perform aerosol generating procedures in a biological safety cabinet (BSC).
17. Keep the use of hypodermic needles to a minimum. Avoid re-capping needles after use. Where re-capping is unavoidable, use needle re-capping device. Discard needles into

sharps box or designated container.

18. Discard sharps, broken glass and glass slides into sharps box or designated container.
19. Decontaminate all potentially contaminated materials before disposal or processing for re-use.
20. Dispose clinical waste in accordance with the Code of Practice published by the Environmental Protection Department.
21. Decontaminate equipment before mechanical and electrical servicing.
22. Perform preventive maintenance for all equipment at appropriate intervals.
23. Label all containers in the laboratory clearly with their contents and appropriate warning labels.
24. Use trolley to transport potentially infectious load of heavy weight.
25. Ensure guidelines for handling spillage of infectious materials in the laboratory are available.

Transport of clinical specimens

26. Place the specimen container in a plastic bag with the request form outside the bag, then place the specimens in a rigid container, and keep specimens upright to minimize the possibility of spillage.

Occupational health

27. Report accidents and incidents promptly to the responsible person. These include spillage of infectious materials and chemicals, breakage of tubes during centrifugation, cuts, burns and contamination of non-intact skin or mucous membrane by potentially hazardous materials.
28. All injuries must be treated immediately.
29. All staff are advised to have hepatitis B vaccination if they are negative for both hepatitis B surface antigen and antibody.
30. All staff are advised to keep their basal serum for future reference.

Additional Precautions for Handling Clinical Specimens Potentially Containing SARS Coronavirus in the Laboratory

The followings are supplementary to existing standard laboratory safety precautions appropriate to the biological containment level of your laboratory setting.[1] Recommendations are based on latest available information on infection control precautions of the SARS coronavirus.[2,3]

1. Procedures that carry minimal risk of aerosol generation may be handled using good microbiological techniques in biosafety level 2 (BSL-2) laboratories with appropriate BSL-2 work practices, such as:
    a. Routine diagnostic testing of serum, blood and urine specimens;
    b. Routine staining and microscopic analysis of fixed smears;
    c. Routine examination of bacterial cultures;
    d. Pathological examination and processing of formalin-fixed/inactivated tissues;
    e. Molecular analysis of extracted nucleic acid preparations.
2. Procedures that carry an increased risk of aerosol generation should be performed in a biological safety cabinet where practicable.
3. Where a biological safety cabinet is not available, then appropriate combinations of personal protective equipment (e.g. disposable gloves, solid front gown with cuffed sleeves, eye protection, surgical mask or full-face shield, respirator) and physical containment should be used according to the risk of aerosol generation and exposure.
4. Viral cell culture and initial characterization of viral agents recovered in cultures of SARS specimens require BSL-3 facilities and BSL-3 work practices.
5. Potentially SARS-infected materials should be kept in a secure location with appropriate documentation.
6. When a laboratory worker suffers from an illness that may be consistent with SARS, he/she should seek medical attention immediately and report to the laboratory supervisor.

Department of Health
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References

1. **World Health Oraganization.** Laboratory biosafety manual. 2nd edition (revised). Interim guidelines. 17 January 2003. WHO/CDS/CSR/LYO/2003.4. http://www.who.int/csr/resources/publications/biosafety/who_cds_csr_lyo_20034/en/ (Last accessed 20 September 2003)
2. **World Health Oraganization.** Biosafety guidelines for handling of SARS specimens. 25 April 2003. http://www.who.int/csr/sars/biosafety2003_04_25/en/ (Last accessed 20 September 2003)
3. **Centers for Disease Control and Prevention.** Interim Laboratory Biosafety Guidelines for Handling and Processing Specimens Associated with Severe Acute Respiratory Syndrome (SARS). 18 August 2003 http://www.cdc.gov/ncidod/sars/sarslabguide.htm (Last accessed 20 September 2003)