

# Preventing risk of infection in medical biology laboratories

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- Remind readers of recommendations concerning good medical biology laboratory hygiene practices.
- Protect staff members from risk of viral exposure in laboratories.

## RISK ASSESSMENT

- Standard precautions should be taken when handling all biological samples.
- Preventative measures should be adapted to the means of exposure and transmission of pathogenic agents.
- The routes of contamination concerning infectious agents may be:
  - via skin/mucus membranes: cutaneous wounds, contact with injured skin, projection onto mucus membranes.
  - via the digestive tract (from ingestion).
  - via aerosols: airborne transmission of particles under 5 µm, transmission by droplets for particles over 5 µm.
- Hands being contaminated is one source of secondary aerial or digestive contamination.

## RECOMMENDATIONS

- Follow basic hygiene rules: do not eat or drink in the laboratory and do not hold pipettes in your mouth.
- Wear a long sleeve gown, change gowns every day as well as immediately if the gown gets soiled by biological liquids. If you have long hair, this should be pulled back.
- Cover all wounds with waterproof dressing.
- Keep nails short and do not wear polish or fake nails. Do not wear jewellery (rings, bracelets, watches).
- Follow standard precautions:
  - Disinfect your hands with an alcohol-based rubbing solution after each activity as well as after removing gloves.
  - Wear gloves in the event you are at risk of coming into contact with blood or any other biological liquids (e.g. whenever handling sample tubes or soiled materials or documents). Gloves should be removed after the work sequence (or in the event of an interruption, such as having to answer the phone or type on a keyboard). Immediately after removing your gloves you should wash your hands with an alcohol-based rubbing solution.
  - Whenever samples are not processed using completely sealed off units, opening tubes and transferring content should be performed behind a protective screen or at microbiological security stations (type I or II).
  - For instances of handling specifically exposing the handler to a risk of spray or contact with aerosols (eg. where a tube is filled to the brim and spray occurs when removing the stopper) wear medical-grade mask and protective eyewear (or a mask with visor) or perform handling in a microbiological security station.
  - Do not place lids back on needles or otherwise manually bend them. Dispose of all punctured materials in a hazardous materials bin. This container should be kept very close to where activities are being performed. Ensure fill levels are complied with.
  - Surfaces soiled with blood or any other biological liquid should be cleaned and disinfected as soon as possible per current applicable procedures for the laboratory.

## REFERENCE TEXTS

- Directive 2000/54/EC of the European Parliament and of the Council of 18 September 2000 on the protection of workers from risks related to exposure to biological agents at work.
- French Decree of 26 November 1999 on the proper execution of medical biology analyses - NOR: MESP9923609A - consolidated version of 26 April 2002.
- Preventing risk of infection in medical biology analysis laboratories - SF2H 2007.
- Standard precautions, update. SF2H - June 2017