Good Microbiological Practices

1. Never mouth a pipette. Avoid hand to mouth or hand to eye contact in the laboratory. Never eat, drink, apply cosmetics or lip balm, handle contact lenses or take medication in the laboratory.
2. Use aseptic techniques. Hand washing is essential after removing gloves and other personal protective equipment (PPE), after handling potentially infectious agents or materials and prior to exiting the laboratory.
3. Weill Cornell Medical College requires that laboratory workers protect their street clothing from contamination by wearing appropriate PPE when working in laboratories (i.e. gloves and lab coats). Additional/specialized PPE may be required for certain work activities (e.g. face shield, goggles, splash shield). Contact EHS for assistance in determining appropriate PPE.
4. When utilizing sharps in the laboratory, workers must follow WCM Bloodborne Pathogens Exposure Control requirements. Needles and syringes or other sharp instruments use should be restricted in laboratories where infectious agents are handled. If you must utilize sharps, consider using safety sharp devices or plastic rather than glassware. Never recap a used needle. Dispose of syringe-needle assemblies in properly labeled, puncture resistant, approved sharps containers.
5. Handle infectious materials as determined by a risk assessment. Airborne transmissible infectious agents should be handled in a certified Biosafety Cabinet (BSC) appropriate to the biosafety level (BSL) and risks for that specific agent.
6. Ensure engineering controls (e.g., BSCs, eyewash units, sinks, safety showers) are functional, properly maintained, and inspected.
7. Never leave materials or contaminated labware open to the environment outside the BSC. Store all biohazardous materials securely in clearly labeled, sealed containers. Storage units, incubators, freezers or refrigerators should be labeled with the Universal Biohazard sign when they house infectious material.
8. Doors of all laboratories handling infectious agents and materials must be posted with a Health and Safety Door Sign. It includes a Universal Biohazard symbol/Biosafety Level, entry requirements (e.g., PPE) and emergency contact information.
9. Avoid the use of aerosol-generating procedures when working with infectious materials. Needle clipping, pipetting mixing, sonication, and centrifugation can produce substantial aerosols. If you must perform an aerosol generating procedure, utilize proper containment devices and good work practice controls to mitigate potential exposures; Tightly cap tubes prior to centriuging or vortexing; Allow aerosols to settle prior to opening tubes, equipment; Open tubes or equipment inside a containment device whenever feasible; Shield instruments or activities that can emit splash or splatter.
10. Use disinfectant traps and in-line filters on vacuum lines to protect vacuum lines from potential contamination. Please refer to the Tissue Culture Waste Guide EHS update for additional information.
11. Follow the WCM Research Biosafety plan for the infectious materials you are working with and use the most suitable decontamination methods for decontaminating the infectious agents you use. Know the laboratory plan for managing an accidental spill of pathogenic materials; please review the WCM Biological Spill and Planning Response manual for guidance. Always keep an appropriate spill kit available in the lab.
12. Clean laboratory work surfaces with an approved disinfectant after working with infectious materials. The laboratory must not be cluttered in order to permit proper floor and work area disinfection.
13. Never allow contaminated, infectious waste materials to leave the laboratory or to be put in the sanitary sewer without being decontaminated (e.g., autoclave or chemical disinfection). Refer to section 7.0 of the WCM Waste Disposal Procedures manual for information regarding biological waste management, including appropriate decontamination procedures. The Tissue Culture Waste Disposal Guide and Autoclave Safety EHS updates are also useful resources for information regarding these decontamination procedures.
14. Training is required for shipping biological material and/or dry ice. When shipping or moving infectious materials to another laboratory, always use Department of Transportation (DOT) approved, leak-proof sealed and properly packed containers (primary and secondary containers). Avoid contaminating the outside of the container and be sure the lid is on tight. Decontaminate the outside of the container before transporting. Ship infectious materials in accordance with federal and international regulations, as detailed in the WCM Biological Material and Dry Ice Shipments manual.
15. Report all accidents, occurrences and unexplained illnesses to your work supervisor and Workforce Health and Safety or Student Health Services, as appropriate. Understand the pathogenesis of the infectious agents you work with.
16. Think safety at all times during laboratory operations. Remember, if you do not understand the proper handling and safety procedures or how to use safety equipment properly, do not work with the infectious agents or materials; seek the advice of the appropriate individuals or contact EHS for guidance (646-962-7233; ehs@med.cornell.edu).

Consult the WCM EHS website to review all EHS documentation (http://weill.cornell.edu/ehs/). Remember, following these principles of good microbiological practices will help protect you, your fellow worker and the public from the infectious agents you use.