INTRODUCTION:

Human or non-human primate primary cells, cell lines, organ cultures and body fluids may contain adventitious viruses and/or other opportunistic pathogens or zoonotic agents. Since it is extremely difficult to screen for every pathogen, all of the above materials must be handled with Universal Precautions and treated as though they are contaminated with HIV, HBV, HCV, or other bloodborne pathogens by utilizing Biosafety Level 2 (BSL-2) practices and procedures.

TRAINING REQUIREMENTS:

The following training programs must be completed in order to work with materials listed above:

- Biosafety (EHS-1500 or as part of EHS-4875 – Life Sciences Research Laboratory Safety Training)
- Bloodborne pathogens (EHS-1600) and the annual refresher (EHS-1601)
- Exposure Control Plan – Tier III training in conjunction with your PI

See the Stanford University Training Advisor for information on additional required trainings for working in your area.

PRACTICES AND PROCEDURES:

To minimize potential exposure to pathogens, use a combination of engineering controls, work practice controls and personal protective equipment (PPE):

Engineering Controls

- Use a Biosafety Cabinet when possible for all aerosol-generating procedures
- Use additional physical containment devices during procedures with high potential to create aerosols (e.g. centrifugation, blending, homogenization etc.)
- Use a needleless system or engineered sharps
- Use HEPA filtered vacuum lines

Work Practice Controls

- Post biohazard universal precautions signs on doors and equipment
- Wash hands after completion of work and before leaving laboratory
- Decontaminate equipment daily and following any spill
- Eating, drinking, applying lip balm or contact lenses only permitted in approved non-research areas
- No mouth pipetting

Personal Protective Equipment (PPE)

- Wear appropriate street clothing - long pants and closed toed shoes
- Wear lab coat, gloves (nitrile or latex), safety glasses (or goggles) and face shield where splash potential exists

SHARPS:

- Engineered sharps: commonly used sharps (e.g. scalpels, syringes, needles, glass pipets) that have physical attributes or mechanisms that decrease the risk of injury
- Cal/OSHA requires any laboratory using human or primate blood, blood products, cell lines, tissues or other potentially infectious materials to use needleless systems and/or engineered sharps
- If a PI/supervisor decides that a non-compliant sharp is necessary for a certain procedure, the reason must be documented; additional information can be found in the BBP exposure control plan

RESOURCES:

These requirements are based on the Division of Occupational Safety and Health (Cal/OSHA) Bloodborne Pathogens Standard (T8 CCR 5193) and the CDC publication, Biosafety in Microbiological and Biomedical Laboratories (BMBL) 5th Edition.

For information on the types and use of Biosafety cabinets, including what not to do, see Biosafety Cabinet Use and Safety.

Additional information, including videos on how to work in a Biosafety cabinet, can be found on the Biosafety web page under Equipment, Biosafety Cabinets.

Contact Biosafety at Stanford University EH&S with questions (723-0448)