

Research With Human Materials

Use of human materials in research activities may be subject to the provisions of the Occupational Safety and Health Administration (OSHA) Occupational Exposure to Bloodborne Pathogens regulation as adopted by the Illinois Department of Labor (IDOL). Laboratory directors currently using or anticipating use of these materials should be aware of the following University of Illinois at Urbana-Champaign (UIUC) requirements for work with human materials. Additional information and any documentation specified are available from the Biological Safety Section, Division of Research Safety, (333-2755 or [via e-mail at bss@illinois.edu](mailto:bss@illinois.edu)).

Occupational Exposure to Bloodborne Pathogens

The possibility that human materials contain bloodborne pathogens such as the hepatitis B virus (HBV) or the human immunodeficiency virus (HIV) prompted OSHA and IDOL to publish regulations to protect workers. Any laboratory director whose employees have a reasonably anticipated exposure to human blood or other potentially infectious materials (any human body fluid containing visible blood; semen; vaginal secretions; fluids surrounding internal organs, the joints, or a fetus; any unfixed human organs or tissues; any cultures containing HIV or HBV) is required to provide training in protective and preventive measures as well as offer a vaccination series against hepatitis B virus. The UIUC Bloodborne Pathogen Exposure Control Plan outlines policies and guidance for compliance with the IDOL regulations.

Use of human materials in a research project requires registration of the project with the Institutional Biosafety Committee. Committee review ensures consideration of all biosafety issues as well as compliance with the Occupational Exposure to Bloodborne Pathogens standard. Registration forms are available from the Biological Safety Section (333-2755 or [via e-mail at bss@illinois.edu](mailto:bss@illinois.edu)).

Human Cell Lines

Research utilizing established, immortalized human cell lines that are characterized to be free of contamination from human hepatitis viruses, human immunodeficiency viruses, and other recognized bloodborne pathogens is exempted from compliance with the Occupational Exposure to Bloodborne Pathogens standard. However, documentation that the cell lines meet these exemption requirements must be provided when registering the use of these materials with the Institutional Biosafety Committee.

Products Made from Human Source Material

Many products used in research laboratories contain human source material (e.g., human transferrin, blood factor concentrates, albumin, serum, etc.). The human source material used in these products may be screened to determine if bloodborne and other pathogens are present and/or processed to inactivate bloodborne and other pathogens (e.g., heat pasteurization, cold ethanol fractionation, etc.). However, no known screening or processing method can offer complete assurance that infectious agents are absent. Therefore, laboratories utilizing human source materials must comply with the Occupational Exposure to Bloodborne Pathogens and the UIUC Bloodborne Pathogen Exposure Control Plan.

On a case-by-case basis, laboratories may be granted an exemption from certain provisions of the regulations (e.g., hepatitis B vaccination) if the manufacturer provides documentation that certifies that the product has been found to be free of contamination. Copies of this documentation must be provided to the Biological Safety Section. This certification is only valid for the product batch that it accompanies. No laboratory will be granted an exemption from the training provisions of the regulations.

Prevention and Protection

Engineering controls such as sharps disposal containers and biological safety cabinets are preventive controls used to isolate a worker from the hazard. Work practice controls such as proper hand washing,



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appropriate housekeeping and disinfection, and other good work habits prevent transmission of pathogens. Use of personal protective equipment such as gloves, lab coats, and face shields protects a worker from contact with potentially infectious materials when engineering controls and work practice controls are not sufficient to prevent exposure. Proper labeling of contaminated equipment and containers as well as contaminated laundry provides notice to trained and untrained personnel of the potential hazard. Customized training on proper use of all these methods is available from the Biological Safety Section and may be mandatory for research using human materials.

Hepatitis B Vaccination Series

Laboratory personnel potentially exposed to bloodborne pathogens and who are employees of UIUC must be offered, at no charge, the opportunity to be vaccinated against hepatitis B and to receive a test determining the effectiveness of that vaccination. The vaccination is a series of three shots given at zero, one, and six months. The post-vaccination antibody test is given within one month of the last vaccination.

Employees must attend a training session on occupational exposure to bloodborne pathogens before they are offered the vaccination and prior to work involving potentially infectious materials.

Exposure Incidents

All laboratory personnel, regardless of employee status, must be offered appropriate medical care following an exposure of eyes, nose, mouth, or non-intact skin to human blood or other potentially infectious materials. Detailed procedures are given in the UIUC Bloodborne Pathogen Exposure Control Plan available from the Biological Safety Section.

Questions?

Contact the Division of Research Safety, Biological Safety Section (333-2755 or [via e-mail at bss@illinois.edu](mailto:bss@illinois.edu)) or visit our web site: <http://www.drs.illinois.edu/bss/>.

Other Biosafety Fact Sheets are available from the Biological Safety Section at our web site: <http://www.drs.illinois.edu/bss/factsheets/>.

