

# University of Kansas Lawrence Campus

## Laboratory Safety Manual

### Part III – Biosafety Plan

#### **5) Medical Factors to Consider in Biosafety**

##### **5.1) Introduction**

This chapter identifies several medical factors that may need to be considered in the establishment of laboratory-specific safety requirements and/or procedures when infectious agents and organisms are being used. This chapter should be used together with Chapter 5 of Part I on exposure assessment and medical surveillance.

##### **5.2) Medical Factors in Evaluating Access Restriction (see III-3.3.4.2)**

###### 5.2.1) Immunizations/Vaccinations

The Authorized Laboratory Supervisor/Unit Safety Coordinator shall evaluate the need for immunizations/vaccinations as a prerequisite for working in the laboratory. This needs to be based upon the virulence of the infectious agents being used, the availability of such immunizations/vaccinations, and the risks posed by the types of procedures carried out in the laboratory. The authorized Laboratory Supervisor would be responsible for ensuring that the appropriate immunizations, if needed, are made available to identified lab personnel. Depending upon these factors, an evaluation will need to be made to determine under what circumstances, if any, non-laboratory personnel/students/visitors (not immunized) who are Authorized Occupants should be kept out of the laboratory. Consult with EHS.

[Note] - unescorted entrance might be allowed only when no open containers with infectious agents are present in the lab or the restriction might only apply when vulnerable operations are being performed. How visitors will be controlled also would need to be addressed.

###### 5.2.2) Individuals with special susceptibilities

The Authorized Laboratory Supervisor/Unit Safety Coordinator shall evaluate the need to identify classes of individuals who would be at special risk based upon the agents/organisms used in the laboratory and the types of activities carried out. Consult with EHS.

[Note] - Immuno-compromised or immuno-suppressed individuals must be warned of special hazards. If such individuals wish to be Authorized Users, the use of special protective equipment may be an option if it will provide sufficient protection. Non-laboratory personnel/students/visitors of this type must be warned concerning the hazards. If the evaluation is positive, the necessary procedures shall be established.

### 5.2.3) Individuals with allergies

The Authorized Laboratory Supervisor/Unit Safety Coordinator shall identify individuals who are allergic to products that are airborne in the laboratory and provide special breathing protection to such individuals if evaluation of the working conditions indicates the need for such protection. Consult with EHS.

Dander, animal bedding, animals, animal residues, etc., are examples of known allergens. Non-laboratory personnel, students, and/or visitors must be made aware.

## 5.3) Medical Care

### 5.3.1) Emergency Response to Exposure to Hazardous Biological Agents/Organisms

The Authorized Laboratory Supervisor/Unit Safety Coordinator shall establish laboratory-specific procedures for biohazard emergencies in addition to the general emergency procedures described in I-2.9 and I-5.3. They must address any actions that need to be taken very quickly to reduce the magnitude of the medical consequences of the biohazard emergency if an evaluation indicates the need. If appropriate, the procedures should specify when and what information should be shared with medical authorities and/or Lawrence Memorial Hospital. In some cases, advance information might be in order. In other cases, information provided at the time of the emergency may be sufficient. Consult with EHS.

### 5.3.2) Effects of Chronic Exposure

The Authorized Laboratory Supervisor/Unit Safety Coordinator shall evaluate the risk of long-term biological effects subject to on-going exposure to the agents/organisms being used. If there are unique symptoms that need to be monitored or if there are medical tests that can monitor the status of exposure, appropriate provisions for such monitoring must be included in the Standard Operating Procedures if the level of risk requires it. Consult with EHS.

[Note] - It may be necessary to obtain baseline serum samples for laboratory and other at-risk personnel/students/visitors if biohazard risk/biosafety level warrant it. This would require procedures for collection and proper storage of the samples. It may be that periodic samples will need to be provided. (The latter is just one example of many possibilities depending upon the agents being used.)

### 5.3.3) Effects of Acute Exposure

The Authorized Laboratory Supervisor/Unit Safety Coordinator shall evaluate the potential risks associated with the use of the agents/organisms in the laboratory and determine whether procedures need to be in place for responding to individuals who develop symptoms associated with exposure to the agents or harm from the organisms. Consult with EHS.

### 5.3.4) Public Health Issues

The Authorized Laboratory Supervisor/Unit Safety Coordinator shall evaluate the potential for a public health risk associated with the use of the agents/organisms and the need for procedures that would minimize the risk of public health problems. Consult with EHS.

Note: Hopefully, in most cases, the evaluation will show that there is little cause for concern. The Authorized Laboratory Supervisor is held responsible for having thoroughly researched and identified what is known concerning the risks associated with the agents/organisms the Authorized Laboratory Supervisor proposes to use.