DEVELOPMENT OF A BIOSAFETY LEVEL 3 OCCUPATIONAL MEDICAL SURVEILLANCE PROGRAM IN A UNIVERSITY SETTING: A CASE STUDY

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Existing BSL3 Occupational Health Service Experience

- Clearance for Respirator Use
- Vaccination
- TB Skin Testing
- Education
- Animal Handler Evaluation
- Etc.
Forces Driving Program Development

- Expansion of BSL3 Facilities & Research
- BMBL 5th Edition
Goal

- Develop a more structured, effective, and efficient BSL3 occupational medical surveillance program.
  - Harness existing strengths of the animal handler occupational health program
    (**inspiration courtesy of AAALAC**)
  - Infuse the expertise of infectious disease specialists in crafting the program
  - Establish a reliable mechanism to verify that suitable medical services are delivered.
  - Establish a mechanism for continual review of program scope, function and effectiveness.
Biohazard Occupational Health Working Group

- Work Group Representation:
  - Occupational Medicine*
  - Student Health Services*
  - Division of Infectious Disease*
  - Local Public Health Department*
  - Hospital Epidemiologist*
  - Biosafety Officer
  - Institutional Biosafety Committee
  - Human Resources
  - Senior Programmer
  - VP for Research
<table>
<thead>
<tr>
<th>Exposure Response</th>
<th>BSL3 or BSL2 &quot;med&quot;</th>
<th>BSL2</th>
<th>BSL1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notification of Med Services &amp; Risk</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Questionnaire &amp; Health Assessment</td>
<td>X</td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>Medical Education</td>
<td>X</td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>Vaccination</td>
<td>X</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>
UVA Web-Based Protocol System

- IBC
- EHS
- Occ. Health
- IACUC
BSL2 Experiments

"My planned research for calendar year 2008 WILL involve the use AND/OR possession of BSL-2 Med Agents".

1. Active Use & Storage Inventory (BSL-2)
   A. Vaccinia (WR-strain) \( ^{(MED)} \)

2. Persons, under your direct supervision, who may be potentially exposed
   A. BRANUM, JENNIFER
      • B PBTRP**: Most recent training date: 07/31/2008
   B. LEONARD, R. THOMAS
      • B PBTRP**: Most recent training date: MUST COMPLETE TRAINING
   C. PEARCE, ERICKA
      • B PBTRP**: Most recent training date: 08/29/2006

3. Locations of Use and/or Storage (BSL-2)
   A. BARRINGER: 111

4. Sources of Material (BSL-2)
Occupational Health

HEALTH HISTORY AND RISK ASSESSMENT SURVEY FOR RESEARCHERS WITH ANIMAL CONTACT

Date: 12/19/2007
Name: (Last) KOWAHL, (First) VAUGHN (MI) C
UVa ID: VCK9U
Employer: University, Medical Center OR Student (circle one)
Home Code: ______________________
University Mailing Address: ______________________
E-mail Address: ______________________
Phone: ______________________
Date of Birth: ______________________
Country of Citizenship: ______________________
Best way to contact me: ______________________

Species: Mice

Radioisotopes: None

Biological Agents: Vaccinia (WR-strain), Adenovirus (human wild-type; replication competent)

Hazardous Chemicals: Bromodeoxyuridine

Most Recent OEHS Respirator Training/Fit Test: NO FIT TEST OR RESPIRATOR TRAINING ON FILE
Occupational Health Services

- Review Medical Questionnaire
- Clearance for Respirator Use
- Vaccination
- Education
- Other (e.g. serology)

Provider then “clears” individual
**Protocol Identification:** Research
**Transgenic Animals:** NO
**Molecular Imaging Core:** NO
**Radioactive Materials:** NO
**Biological Agents:** YES, IBC Number Selected in this Protocol: **021-00**.
**Name registered to IBC Number (021-00):** **HEWLETT, ERIK**.
**Hazardous Chemicals:** NO
**Patient Care Areas:** NO
**Controlled Substances:** NO
Notification of Medical Services & Some Important Risk Factors

Work-related exposure to biological agents may cause illness or disease. While strict adherence to safe work practices is the most effective means of controlling risk, you are encouraged to discuss any work-related health concerns with **UVA Work Med** (3-0075).

For women of child-bearing age, if you are pregnant, or are considering pregnancy, you or your child may be predisposed to infection with the agents you use. Therefore, you are strongly encouraged to consult with **UVA Work Med** (3-0075) prior to working with biological agents.

If you are immunocompromised due to organ transplant, chemotherapy, radiation therapy, taking steroids, HIV positive status or other factors, you are strongly encouraged to consult with **UVA Work Med** (3-0075) prior to working with biological agents.
Protocol Confirmation of Occupational Health Services

Principal Investigator: **MOLLY HUGHES**
PI Department: **Md-Inmd Infectious Dis**
PI Title: **Asst Prof Of Internal Medicine**
Protocol Title: **Toxigenic effects of Bacillus anthracis toxins in mice**
Protocol Number: **3573-09-06**
Protocol Submittal Type: **1st or 2nd annual review - NO modifications (other than personnel & literature search updates)**

**SUMMARY OF SPECIES PROCEDURES**

Species Procedure # 1: **toxin injection**
Species: **Mice**
Animal Handler(s):
- **GATESMAN, JEREMY** - Health Status: **OK FOR WORK**, Must return by: **08/28/09**
- **LEONARD, THOMAS** - Health Status: **UNFIT FOR WORK**, Must return by: **04/27/08** (Out-of-Date!)
- **TESSIER, JEFFREY** - Health Status: **OK FOR WORK**, Must return by: **05/22/09**

**Protocol Identification:** Research
**Transgenic Animals:** NO
**Molecular Imaging Core:** NO
**Radioactive Materials:** NO
**Biological Agents:** YES, IBC Number Selected in this Protocol: **021-00**.
Name registered to IBC Number (021-00): **HEWLETT, ERIK**.
**Hazardous Chemicals:** NO
**Patient Care Areas:** NO
**Controlled Substances:** NO
Key Elements in Program Development

- Senior Official Buy-in
- Working Group
- Reliable Method for Verification of Medical Services
- Mechanism of Continual Monitoring & Improvement
Acknowledgements

- Jeffrey Tessier, M.D., Assistant Professor of Research
- Ericka E. Pearce, M.S., Senior Associate Biosafety Officer
- Vaughn Kowahl, Senior Programmer