The Laboratory Manual: Contents and Development

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Why should a lab develop a Laboratory Manual?

- Inherent risks of laboratory materials
- Safety Guidance and Training resource
- Provides written documentation
- Ensure lab procedures are appropriate and clearly understood by all technicians
The Manual should be...

- Site-specific
- Reviewed and/or revised annually (or when there is a change)
  - Procedures
  - Equipment
  - Organisms worked with
- Stored and easily accessible in the lab
- Be the responsibility of a person to maintain

A “Living” document
Exercise

• Identify 3 items (topics, contents, SOPs, etc.) that should be included in your laboratory’s Laboratory manual
Contents of a Laboratory Manual

1. Title page
2. Agents worked with and characteristics
3. Emergency Contact Information
4. Risk Assessment
5. Lab Procedures and SOPs
6. Occupational Health Program
7. Agent Inventory
8. Engineering Controls
9. Operations and Maintenance
11. Additional Safety Hazards
12. Training
13. Emergency Procedures and Incident Response
CCID
LABORATORY
BIOSAFETY
MANUAL

DIVISION OF Global AIDS
Branch: International Laboratory Branch
Section: Serology

Campus: Royal Campus (Clifton)
Building: 15
Room(s): 2101, 2401

Principal Investigator/Laboratory Supervisor: Dr. Bharat Parekh
Manual reviewed and approved by:
Signature: [Signature]
Date: 6/1/09

The Principal Investigator/Laboratory Supervisor should review and update the NCID Biosafety Manual on an annual basis.
Contents of a Laboratory Manual continued...

1. List of disinfectants used in lab
2. Sharps handling procedures
3. Bldg evacuation procedures
4. Employee acknowledgment
5. Laboratory definitions
6. Packing and Shipping guidance
7. Autoclave usage
8. Safety-related forms
9. Signage used in the lab
10. Laboratory resources and information
11. Chemical safety information
12. Radiation safety
13. Manual review and revisions page
Lab Procedures

- Standard Microbiological Techniques
- Special Practices
- Signage used within the lab
- Special Policies
  - Visitors
  - Temporary Employees
  - Non-scientific staff
SOPs

• Entry and Exit
• Safety Equipment
  – PPE
  – Biological Safety Cabinets
  – Containment equipment, i.e. sealed rotors
• Storage/Inventory
• Specimen transport/packing/shipping
• Occupational Health procedures
SOPs (cont’d)

• Decontamination
  – Disinfectants used in lab
  – Spills
  – Equipment
  – Space Decontamination

• Waste Management
  – Liquids
  – Solids
  – Sharps
Exercise

• Choose one of the three elements from your manual and create an outline of the individual components of that element that should be included in the manual
Operations and Maintenance

• Engineering Procedures
  – Directional Airflow – alarms and monitors
  – Emergency lighting
  – Generator

• Equipment Maintenance
  – BSCs, autoclaves, centrifuges
  – Validation/certification

• System Maintenance
  – Ventilation
  – Electrical
  – Plumbing
Additional Hazards

Safety procedures for

• Chemicals: Ethidium bromide, formaldehyde, bleach
• Physical: UV light,
• Ergonomics: repetitive motion, BSC,
• Radiation
Incident Response

Emergency Response

• Spill or Release of a pathogen

• Medical Emergency
  – Exposure, heart attack, fainting, etc.,

• Natural Disaster
  – fire, earthquake, etc.,
Develop and write an SOP for one of the following:

- Cleaning a bio-hazardous spill in a Laboratory cabinet
- Disposing of a broken blood tube found on the laboratory floor
- Procedures to follow if you have stuck yourself with a potentially contaminated needle
What We Should include vs. What We Must include in a Manual

• “Musts” (requirements)
  – Regulations
  – Standards
  – Local Laws
  – Institutional Policies

• “Shoulds” (optional)
  – CWA 15793
  – International Health Regulation
  – Best Practices
  – WHO Manual
Practical Matters

• Who will develop the manual?
  – Who is responsible for deciding on the specific policies and procedures to be included?
  – Who reviews?

• Who authorizes the manual?
  – Establish a procedure for approving the manual with the support of the institution’s administration
  – Who do you include in the process?

• Question: Must all laboratorians sign off that they have read and understand the information contained in the manual?
Questions?

Thank you!