Material Control and Accountability

Biosafety and Biosecurity Awareness Training
For Afghan and Pakistani Bioscientists
December 7 to 9, 2009

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BIOLOGICAL THREAT REDUCTION

Material Accountability
A Comprehensive Approach

- **Material accountability is an essential part of good laboratory practice**
- **Material accountability requires that you know**
  - What material you have
  - Who is responsible for it
  - Where it is located
  - Who has access to it
  - How it is controlled
  - How it is documented
- **The systems we use to achieve material accountability include**
  - Laboratory access controls
  - Personnel reliability
  - Material handling and control measures
  - Transport security
  - Information security
  - Program management practices

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BIOLOGICAL THREAT REDUCTION

Material Control and Accountability

- **Material Control and Accountability (MC&A) ensure complete and timely knowledge of:**
  - **What materials exist**
  - **Where the materials are**
  - **Who is accountable for them**

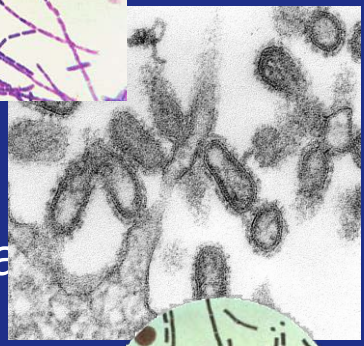
- **NOT: to detect whether something is missing**

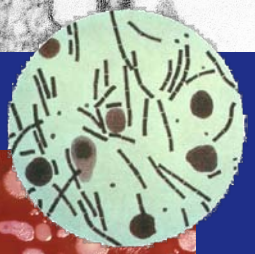
Material Control and Accountability Discussion

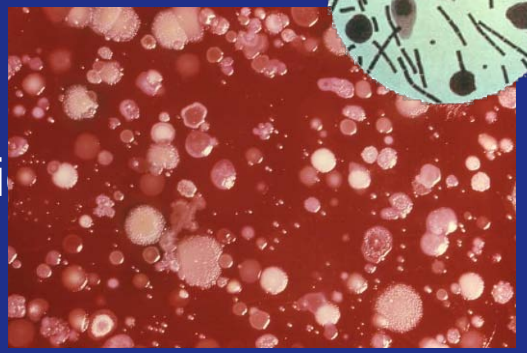
- What are some of the reasons you think a bioscience facility should implement MC&A besides for biosecurity?
- What details should be in a laboratory inventory and are they feasible with biological agents? Is it ever appropriate for the facility and laboratory have different levels of detail in their inventories?
- What is the span of the MC&A program? (e.g. from a blood sample submitted for diagnosis until the sample and all other items used in diagnosis destroyed?)
- What documentation should be kept on day-to-day use, repositories, destruction?

Material Control and Accountability

- **Agent**
  - What agents are high risk?
  - Viable? Whole organism or DNA?
- **Quantity**
  - Any amount can be significant
  - A threshold amount for toxins
- **Form**
  - Repository stocks, working samples, in host, contamina
- **Detail—what level is adequate for MC&A?**
  - Material as *items*
  - Each vial as a separate inventory record?
- **Capture—when does MC&A start & stop?**
  - Naturally occurring; clinical samples; dispositi







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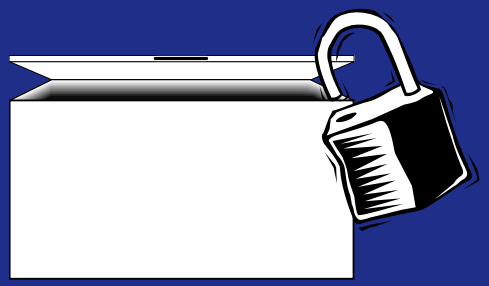
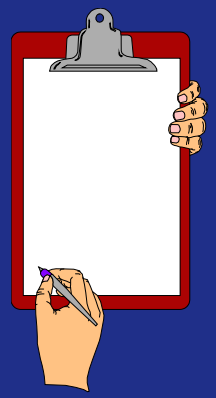
Material Control and Accountability

- **Control is either…**
  - Engineered / Physical
  - Administrative
- **Containment is part of material control**
  - Containment Lab / Freezer / Ampoule
- **Procedures are essential for material control**
  - For both normal and abnormal conditions





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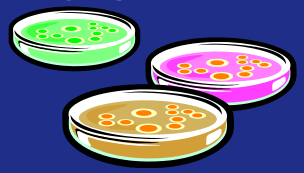
Material Control and Accountability

- **All material should have an associated "accountable person"**
  - The person best in a position to answer questions about the associated material
  - Not someone to blame!
  - Ensure that no material is "orphaned"
- **Procedures should ensure accountability**
  - Experimental work: laboratory procedures
  - Inventory: know what you have
  - Reporting: document routine MC&A practic
  - Audit/ assessment: is this working?
    - **Ensures effective *implementation* of MC&A**
  - Training: personnel understand requirements



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Material Control & Accountability Examples

- **Moderate risk biological agents**
  - Seed stocks cataloged and records stored securely
    - **Transfers in and out**
    - **Source**
    - **Strain**
    - **Form**
    - **Responsible individual**
  - Working stocks, including infected animal status, tracked through laboratory notebooks

- **High risk biological agents**
  - Moderate plus
    - **Increased control over working stocks**

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Material Accountability Problems: Discussion

- What are some examples of material accountability problems?
- How could they be prevented?
- How should management address these problems?