

CDC Coordinating Center for Infectious Diseases



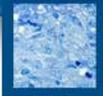
Biosafety in Clinical Laboratories



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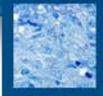
Potential *Brucella* Exposures in the CAP Laboratory Preparedness Survey (LPS)

- Laboratory survey using surrogate agents for potential bioterrorism agents sent 10/07
 - LPS specimen inadvertently sent to NYS public health laboratory (PHL)
 - Laboratory workers in NYS PHL did not follow safety precautions
 - Follow up survey of laboratories that participated in the LPS was conducted



Voluntary Survey Report

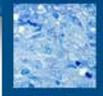
- 36 states, 2 cities, 1 county, DC
- Potential exposures:
 - 916 people in 254 laboratories
 - 679 (74%) high-risk exposures
 - 237 (26%) low-risk exposures
- No cases of brucellosis reported



Need for Attention to Safe Working Practices

- *Brucella* is most common agent in laboratory-acquired infections (LAI)
- *Shigella*, *Salmonella*, and *Staphylococcus aureus* are also common*
- Survey of hospital labs indicated LAI more frequent in >200 bed hospitals*
- Risk of LAI greatest for *Brucella*, *Neisseria meningitidis*, and *E. coli* 0157:H7 vs. community*

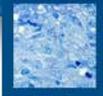
*Baron and Miller, *Diag Microbiol Infect Dis*, 2007



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Regulations and Guidelines for Laboratory Safety

- OSHA General Duty Clause (29 CFR 654)
- Bloodborne Pathogens Regulations (29 CFR 1910)
- *Protection of Laboratory Workers for Occupationally Acquired Infections, CLSI M29-A3*
- *Medical Laboratories—Requirements for Safety, ISO 15190*
- State and Local Oversight



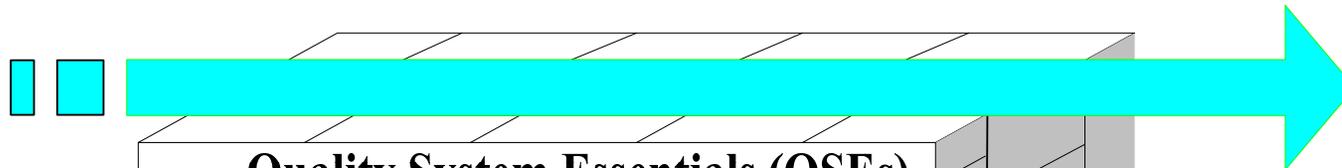
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Laboratory Path of Workflow

Pre-analytic
(pre-examination)

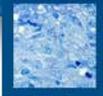
Analytic
(examination)

Post-analytic
(post-examination)



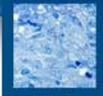
Quality System Essentials (QSEs)

- Documents and Records
- Organization
- Personnel
- Equipment
- Purchasing and Inventory
- Process Control
- Information Management
- Occurrence Management
- Assessment: External and Internal
- Process Improvement
- Customer Service and Satisfaction
- Facilities and Safety



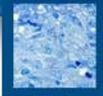
Issues

- Clinical laboratories handle many specimens that may contain infectious agents
- Recent incidents indicate:
 - Laboratory personnel may not have adequate **training** to work safely with infectious agents
 - Some safety **equipment** may not be readily available in clinical laboratories
 - Safety **procedures** in clinical laboratories may need improvement



For Discussion

- Do clinical laboratories have appropriate safety procedures in place?
- Are workers in clinical laboratories adequately trained in safety procedures?
- Are clinical laboratories properly equipped to handle infectious agents safely?
- What recommendations do you have for ensuring safe practices are followed in clinical laboratories?



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