

Occupational Health for Laboratory and Animal Research Programs

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Occupational Health and Safety

- Safety is employer's responsibility
- Strategies for Protecting Workers
 - Vital Role of the Risk Assessment
 - Principles of Medical Surveillance
 - Pre & Post Exposure Protocols
 - Advancing planning before work begins

Occupational Health and Safety

➤ Medical Surveillance Program

- Comprehensive employee evaluations:

- Research Investigator & Lab Technicians
- Veterinary & Animal Care Staff
- Biosafety Staff
- Maintenance Staff
- Other employees that may need access to animal or research areas.

Occupational Health and Safety

- Medical Surveillance Program
 - Evaluations of employees and job duties



Researcher



Animal Care Staff



Maintenance

Occupational Health and Safety

- Site-Specific Risk Assessment
 - **Critically important** to identifying *potential* hazards:
 - Working in lab with infectious substances
 - Working with animals
 - Cleaning lab facilities
 - Servicing lab equipment
 - Clinical activities / patient care
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Hazard / Risk Assessments

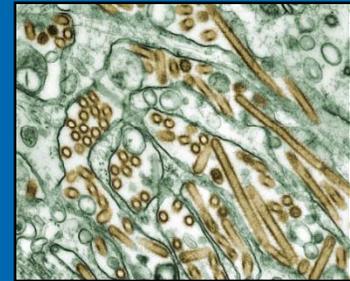
- Minimizing hazards and preventing exposure are critical to protecting workers.
- This is best accomplished through the **site-specific risk assessment process**

Hazard Assessment

Safety is Task #1 in Everything We Do

Laboratory Activities:

- Assess the agent or pathogen
- Assess the lab activities and processes
- Administrative activities vs. handling specimens,



Hazard Assessments

Working with animals

- Normal animal hazards (bite & scratch)
- Infected research animals
- Caging, equipment, cleaning



Hazard Assessments

Building cleaning operations

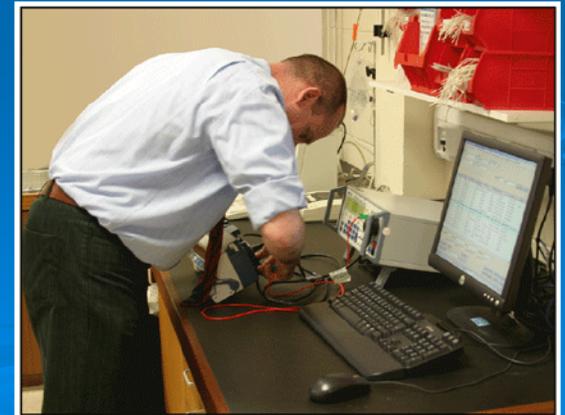
- Cleaning lab facilities
- Chemicals and cleaning products
- Ensure no potential exposure to Infectious substances from lab



Hazard Assessments

Servicing or working with lab equipment

- Is operating equipment hazardous?
- Has equipment been decontaminated before servicing?
- Is service worker enrolled in medical surveillance program?



Hazard Assessments

Patient care or field activities

- Exposure to different work environments and activities
- Performing medical examination



Role of Risk Assessments

Summary:

- Basis for sound, comprehensive safety decisions
 - Define potential exposure and other risks based upon actual job duties
 - Universal & include all potentially affected staff
 - Tailored to each setting/space
 - Customized for each process
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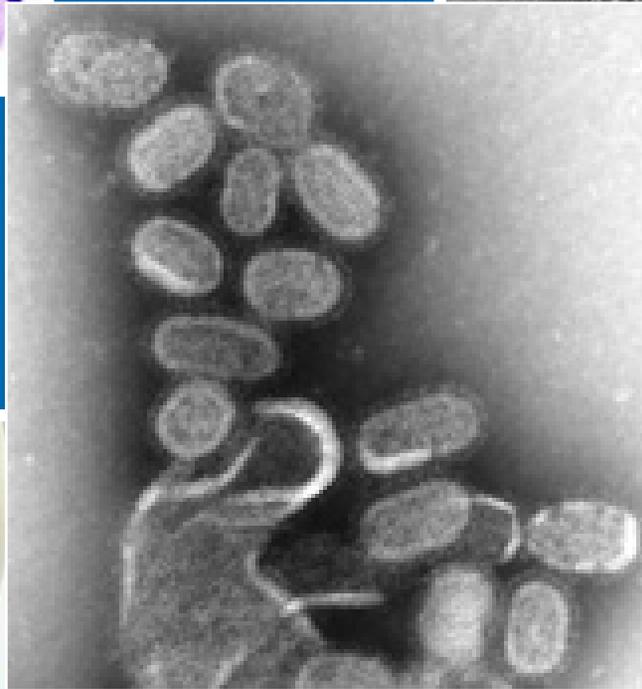
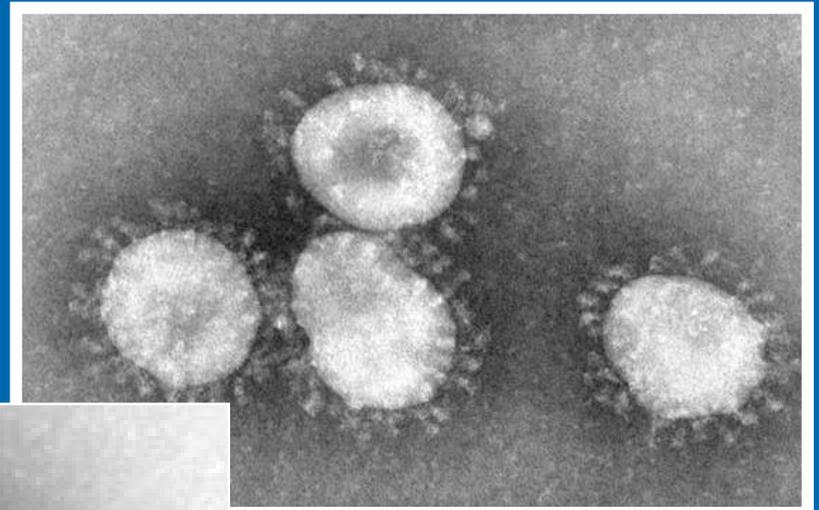
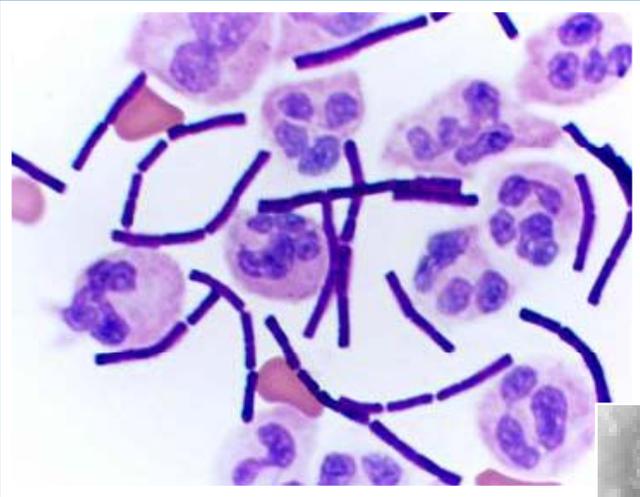
Quick Quiz

(Yes or No)

➤ Does Your Medical Surveillance Provider?

- Visit your animal areas and meet with veterinary and care staff
- Review protocols and fully understand risks of work being performed
- Maintain contact lists of your PIs, subject matter experts and referral sources
- Connect well with both the people and the process





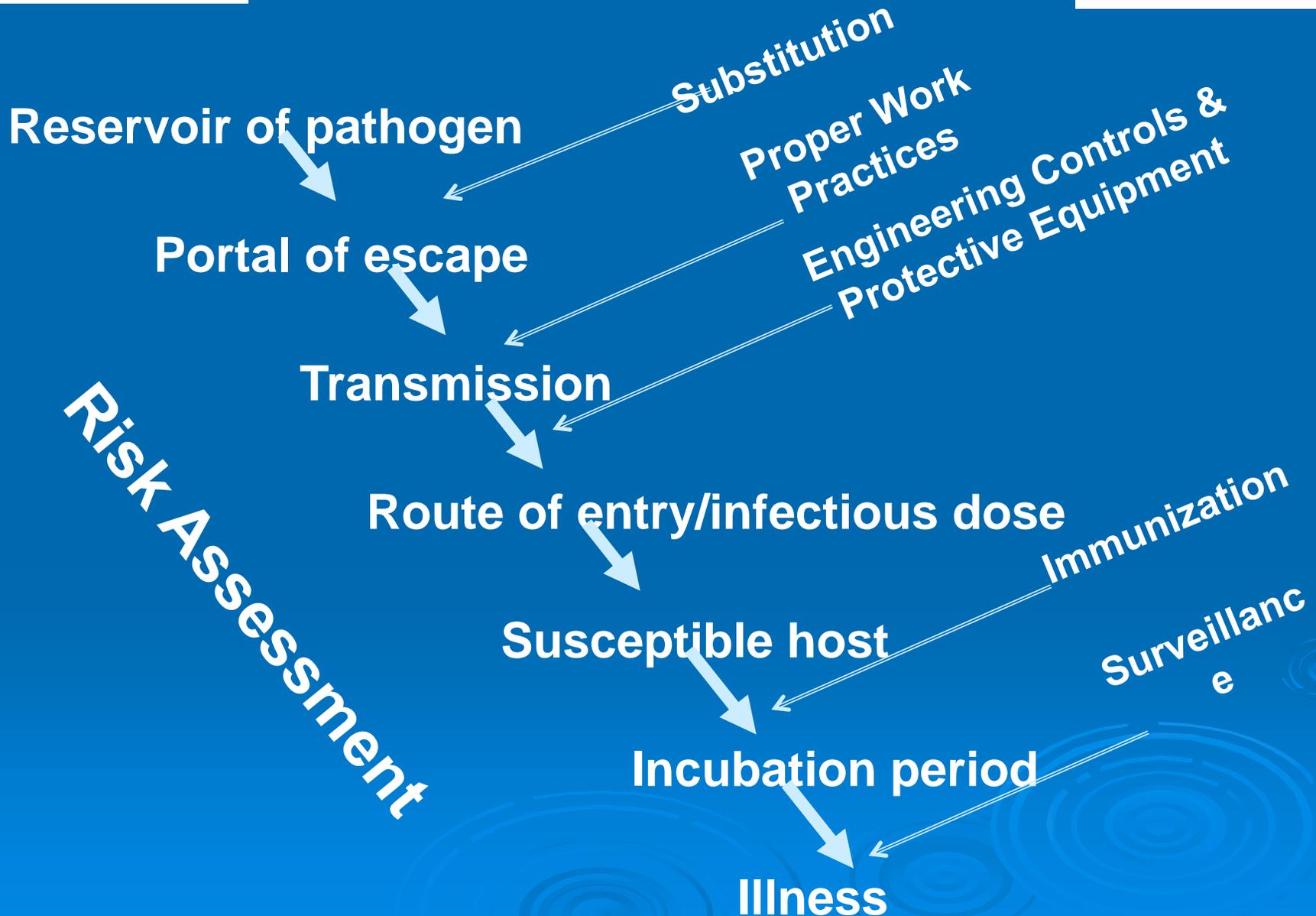
Worker Protection Strategy Laboratory and Animal Research Environments

- Attitude and Expertise
- Risk Assessment
- Hierarchy of Controls
- Medical Surveillance
- Incident Management

Hierarchy of Risk Reduction

- Engineering Controls
 - Administrative Controls
 - Work Practice Controls
 - Personal Protective Equipment
 - Active Training and Surveillance
 - Initial and Recurring Interventions
 - Awareness and Vigilance
 - Trigger Reporting
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Chain of Infection



Medical Surveillance Providers

- Knowledge of work's risks (protocol, species, intervention)
- Involved in planning pre-work requirements, surveillance needs, PPE, and incident management
- Readily available for consultation (barrier-free access by workers, veterinarians, PIs)
- Familiar with reporting and compliance requirements
- Interested in work being performed
- Willing to actively communicate with leaders and scientists

Surveillance Begins Before Work Begins

- Pre-placement medical history
- Medical assessments and interventions
- Training and Education enhance self-surveillance efforts
 - Work-specific
 - Species-specific
 - Agent-specific
 - Method-specific

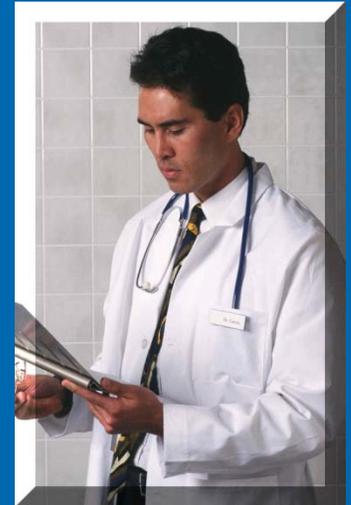


Pre-placement Medical History

- Evaluation of past medical history
 - Medical, surgical, social and family history
 - Allergies and sensitivities (latex, dander, drugs, foods)
 - Previous occupational history and activity
 - Medications and other treatments
 - Active conditions and review of major body systems
 - Review and record past immunization history

Pre-Study/ Pre-Exposure Considerations

- Discuss / review research protocol with Occ Health physician or services
- Adult vaccines (insure up to date)
 - Examples: MMR, Tetanus, Hepatitis A & B, Influenza, etc.
 - See below link for recent Adult Vaccine recommendations:
 - American Academy of Family Physicians (AAFP)
http://www.aafp.org/online/etc/medialib/aafp_org/document/s/clinical/immunization/adultsched07-08.Par.0001.File.tmp/adultschedule.pdf



Pre-Study/ Pre-Exposure Considerations

- **Discuss additional Occupational Health Needs**
 - Determined by risk assessment
 - Type of research or work activities
 - Vaccinations or titers
 - Vaccinia vaccine (research with viral vectors)
 - Rabies vaccine (standard for animal activities)
 - Yellow fever vaccine (field activities)

Pre-Study/ Pre-Exposure Considerations

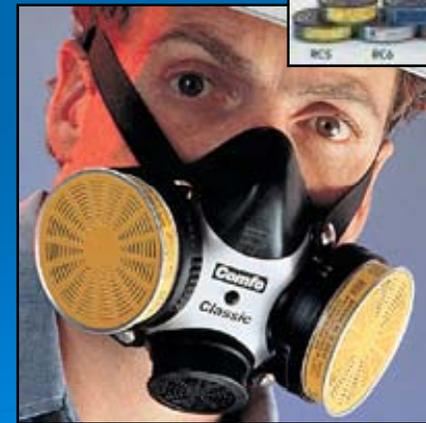
- **Additional Occupational Health Program needs**
 - Respiratory Protection Program
 - Selection of appropriate respirator
 - Fit testing & training



Surgical Mask



Particulate Respirator



Chemical Respirator



Pre-Study/ Pre-Exposure Considerations

Discuss Occupational Health Program needs

- Discuss need for serum storage
- Pre-exposure prophylaxis or medications
- Procure / purchase necessary post-exposure prophylaxis & medications
- Insurance considerations (Immediate care, Follow-up care, Long term care)

Post-Exposure & Emergency Procedures

Develop Exposure Control Plan (post-exposure plan)

➤ **First-aid protocols**

- Location of first-aid kit; stocking & rotating of content

➤ **Initial medical services (who will provide)**

- Ex: On-site health facilities, contract physician service,
- Local hospital or emergency room

➤ **Is attending physician aware of research hazard?**

➤ **Is employee provided with hazard information or card**

- For presentation to health care staff

➤ **Follow-up medical services**

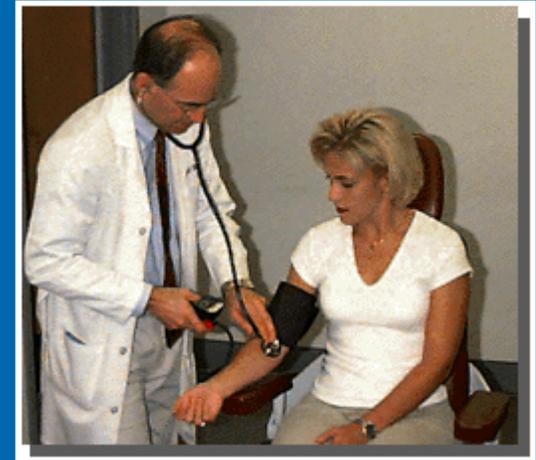
- Are contracts in place for follow-up care & services?

First Aid Interventions

- Pre-defined and pre-arranged
- Simple, easy-to-follow guidance
- Widely known about and reviewed often
- Barrier-free access, available 24/7
- Always linked to further assessment
- Connect seamlessly to reporting and investigations
- Should be drilled and practiced



First Aid Follow-up



- Assure awareness of first aid and decontamination activities
- Assure availability of prompt medical evaluation and follow-up as necessary
- Pre-plan for consultations with experts if needed
- Plan for “observation” needs of workers
- Assure timely incident investigation and remediation if required

Post-Exposure Management

Medical provider evaluation (post-exposure)

- Repeat or extend first aid measures if needed
- Evaluate patient, event and agent-specific risks
- Obtain supervisory, safety, expert or other specialty input
- Increase or expand vigilance (clinical follow-up, education, after-hours contacts)
- Aggressive use of prophylaxis/interventions where appropriate

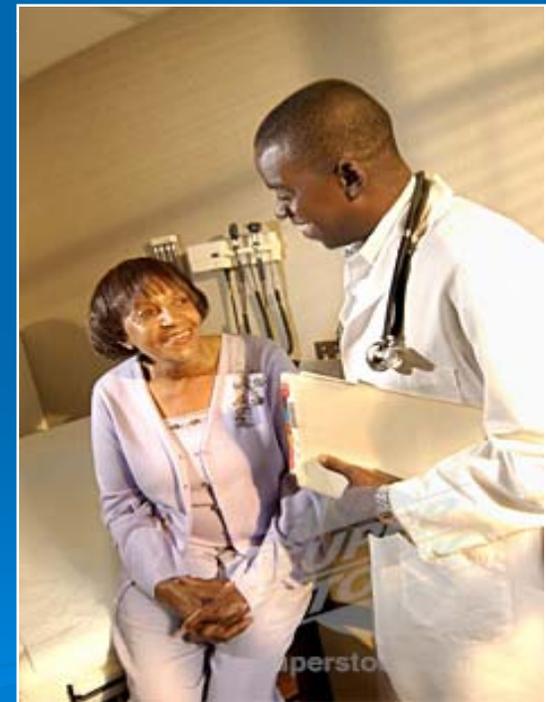
Summary



- Comprehensive medical surveillance and intervention plan is key to protect workers
- Risk assessments continue to be the cornerstone in planning appropriate medical surveillance
- Pre-placement, periodic and post-incident interventions important
- Forethought, training, and drilling lower risks

*Never Hesitate to Raise the Red Flag

- Fever and other atypical symptoms should prompt immediate medical evaluation
- Understand incubation periods, modes of transmission and clinical symptoms
- Know that symptoms of
- work-acquired infection and natural infection may differ

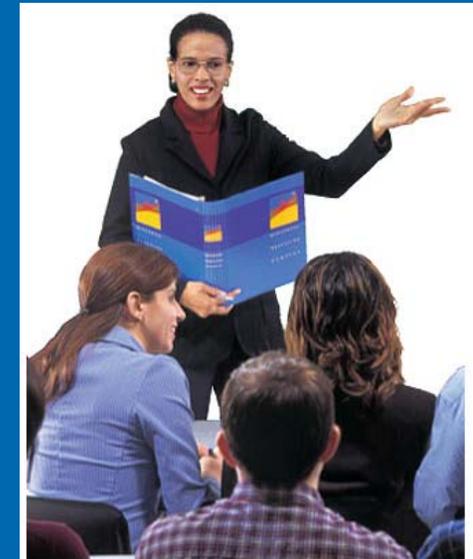


Training
Equals
Vigilance

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Safety Training Lowers Occupational Risk

- Training must be fun, interactive, fresh
- Effectiveness must be assessed
- Messages need repeating often
- Take training beyond the classroom
 - Drills
 - Handbooks/Guides
 - Posters
 - Cheat Sheets



Embracing Safety

- Management Sets Tone for safety at the Institution
 - Attitude and understanding are critical
 - Safety Culture must be woven into all operations
 - Working Safely is a repetitive process
 - Ongoing investments in worker protection strategies and safety Knowledge is invaluable
 - Systems management approach to processes and Responses to incidents
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Embracing Safety

- My work culture strongly values safety.
- Incident reporting is encouraged and embraced.
- Safety training is fresh, interactive and delivered in multiple formats.
- Incidents are managed openly and transparently.



Work Safely



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