

IBC: Promoting Optimal Practice Now and In the Future

Occupational Health and Medical Surveillance



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Disclaimer

- The views herein represent current approaches and practices of the CDC Office of Health and Safety as described by the author and presenter. Your own workplace may have similar or vastly different needs and requirements.
- This is not official, cleared guidance from the Centers for Disease Control and Prevention. Such guidance can be found at www.cdc.gov.
- The mention of organizations and commercial entities and products in this presentation is for illustrative purposes only and does not represent an endorsement by CDC or the US Department of Health and Human Services.

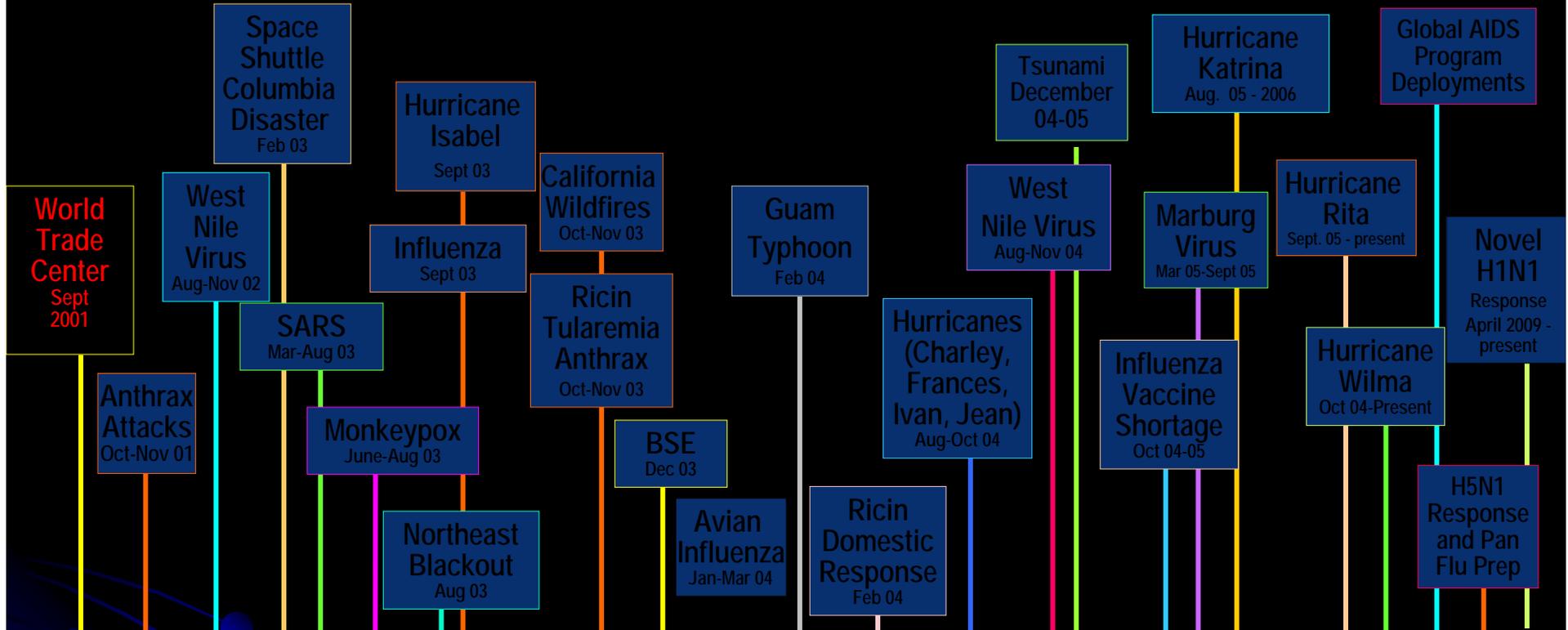


Highlights

- **CDC Today: An Overview of Current Public Health Challenges**
- **Occupational Health and Worker Protection at CDC**
- **Screenings, Medical Clearance and Surveillance**
- **Medical Clearance, Immunization and Serum Banking Issues**
- **Occupational Health Issues of Animal Care Workers**
- **Post-incident and Post-Exposure Management**

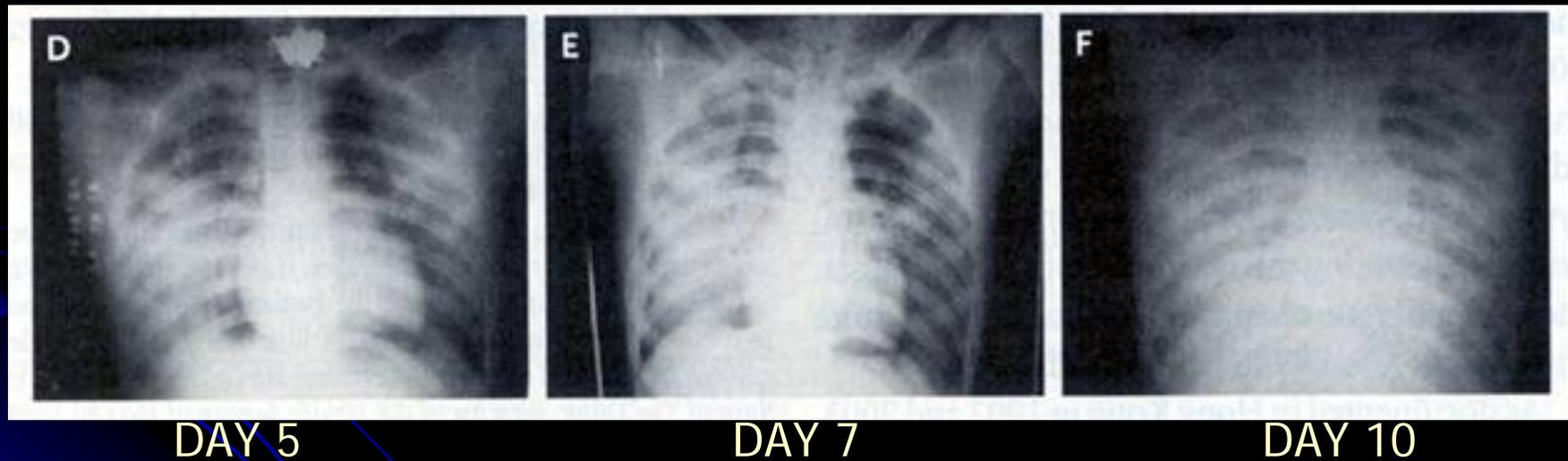


CDC: Health Protection and Response



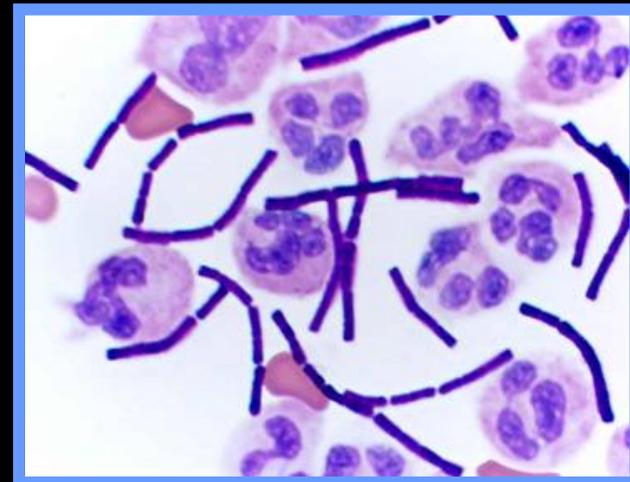
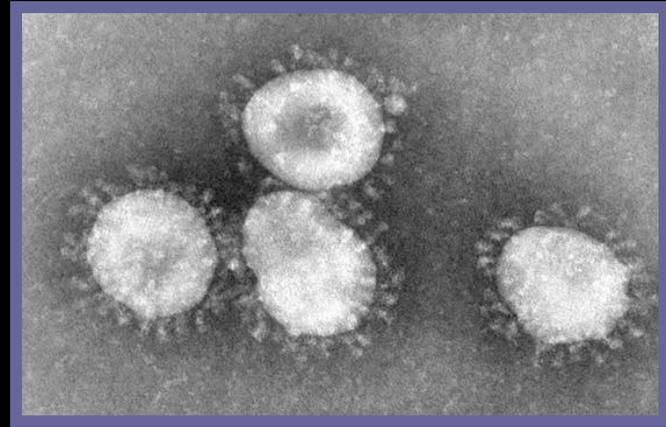
CDC's Current Global Challenges

- **Pandemic Influenza Preparedness**
- **Novel H1N1 Response**



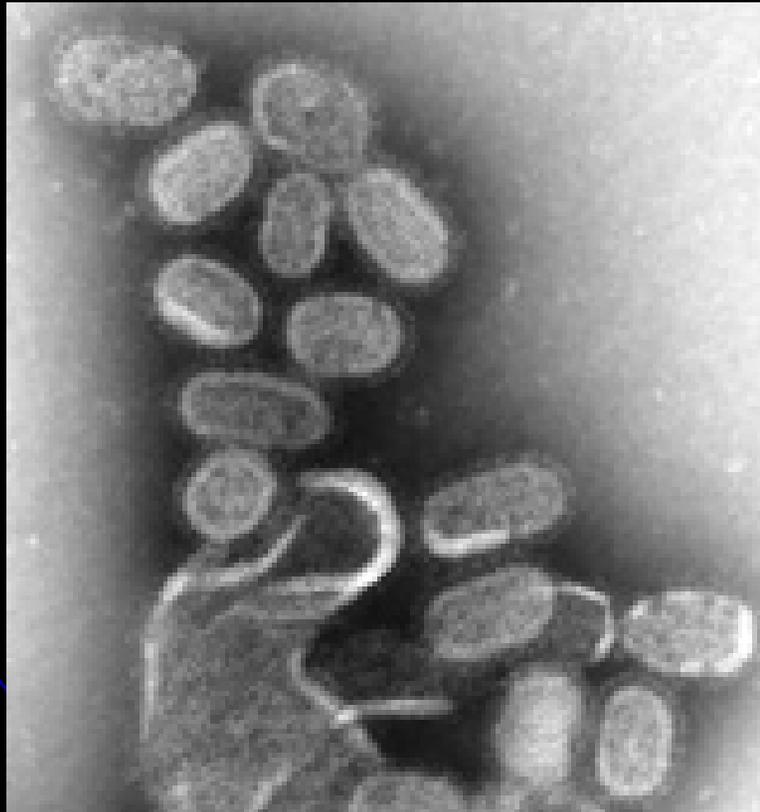
CDC's Current Global Challenges

- **Emerging Infections and Threats Quiz**



CDC's Current Global Challenges

- **Bonus Question: Name This Mystery Virus**



CDC's Global Health Challenges



Emerging and Re-emerging Infectious Diseases



CDC Infrastructure Overview

- **CDC Director**
 - **Chief Operating Officer**
 - **Office of Health and Safety**
 - Office of Security and Emergency Preparedness
 - Buildings and Facilities Office
 - Human Resources
 - Equal Employment Opportunity Office
 - Financial Management Office
 - **Coordinating Center Directors**
 - National Centers, Institutes, Offices
 - Laboratorians
 - Animal Care and Use Program

CDC Office of Health and Safety

- **Protects the Health, Safety, and Resilience of the CDC Workforce**
- **Approximately 125 employees**
- **Internal Activities**
 - **Physicians (3) Mid-Levels (3) Nurses (8)**
 - **Biosafety Officers and Technicians (5)**
 - **Industrial Hygienists (8)**
 - **Safety and Environmental Engineers (5)**
 - **Health Physicists (2)**
 - **Safety and Occupational Health Specialists, Trainers, and Technicians**

CDC's Office of Health and Safety at Work



Occupational Health and Safety at CDC

Comprehensive Risk Assessments

General Job Hazard Analyses
Biological, Chemical, Radiation Risks

Integrated Occupational Health and Safety Programs

With Programs (labs, PI's, response elements)
With Support Partners (Animal Care, Facilities, Security)

Interlocked Workplace Safety and Clinical Programs

Risk Assessments lead clinical screenings and interventions

Aggressive Incident Management and Investigation

Emergency Response Element
Safety Help Desk, Safety Info Line, CDC Clinic Hotline, Worker Injury Reporting System

Health Promotion and Prevention Activities

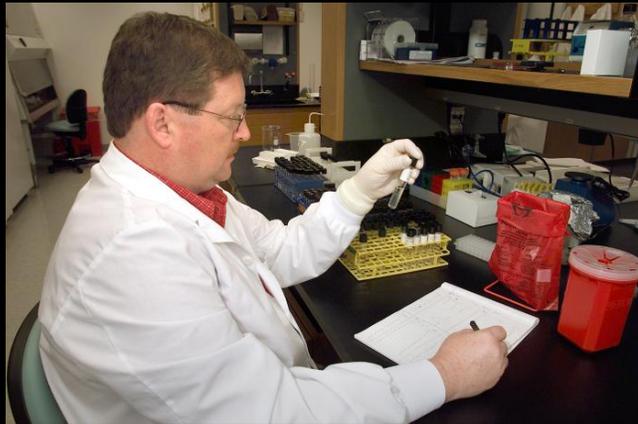
Safety Training
Quality of Work Life Initiatives

Continuous Vigilance and Process Improvement

Metrics Review and Program Evolution

Safety Challenges in the High-Containment Lab Environment

- People



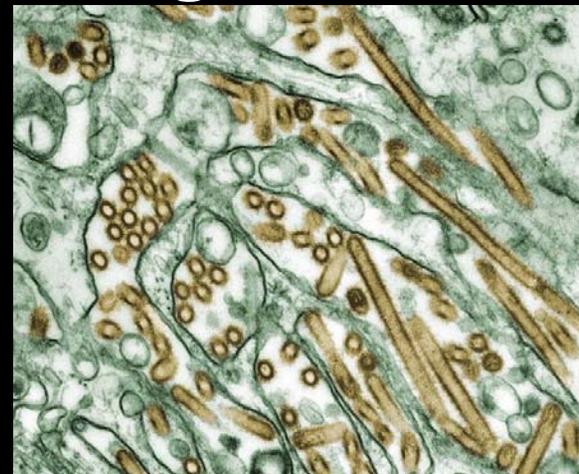
- Places



- Processes



- Pathogens



The Risk Assessment and Occupational Health

- Basis for sound, comprehensive safety decisions and occupational health planning
- Must be customized and universal for all potentially affected personnel
- Define potential exposure and other risks based upon actual job duties
- Translate outcomes of the assessment to create optimal screening, worker protection and surveillance programs



The Ideal Occupational Health Clinic

- **Onsite or Near the Workplace**
- **Near Ambulance Access**
- **Electronic Health Records**
- **Wide Variety of PPE Always Available**
- **One-pass Air or Negative Pressure Space***
- **Isolation Room***
 - **Anteroom for donning or doffing PPE**
 - **Shower inside**
 - **Surfaces that can be easily decontaminated**

*As determined by risk assessment

The Ideal Occupational Health Clinician

- Available and readily accessible 24/7
- Knowledgeable
- Integrated into research programs
- Familiar with work, agents, protocols
- Able to Access Subject Matter Experts and Consultants when Necessary
- Genuine Interest in Laboratory Worker Protection Issues
- Agent-, PPE-, Decon-, and Procedure-Savvy



Pre-Placement Medical Screening

- **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**

Medical Assessment and Interventions

- Targeted physical examination if necessary
- Fitness for Duty Assessment
- Baseline serum collection and storage
- Immunizations
- Titters when indicated
- Other lab work when indicated



Serum Banking

■ Pros

- Helps identify and characterize silent or inadvertent infections
- May be useful in assessing risks with novel or emerging agents
- May help with a worker's non-occupational health issues
- May protect the employer from liability related to previously-acquired infections

■ Cons

- Costly and resource intensive
- Storage, retention and legacy issues
- Privacy, trust and confidentiality issues
- Many believe post-exposure serum collection adequate for baseline purposes

Medical Assessment and Interventions

- **Respirator clearance and spirometry**
- **Respiratory fit testing and training programs**
- **Interventions to protect research animals**
- **Repeat all interventions at appropriate intervals**



Additional Risks Related to Work with Laboratory Animals

- **Animals react variably in lab environment**
- **Variety of job tasks and processes increase risk**
- **Animal handling less automated, “hands on”**
- **Fewer engineering and administrative controls**
- **Greater reliance on personal protective equipment, consistent work practices, and personal behavior**
- **Training levels of animal care staff and lab workers vary widely**

Commonly Used Immunizations

- Hepatitis B Series
- MMR, Polio
- Varicella
- Rabies
- Smallpox/Vaccinia
- Tetanus-Diphtheria
- Hepatitis A Series
- Q fever, Yellow Fever, JE
- Others as Research Warrants



Personal Protective Equipment

- Gloves and Gown
- Respiratory Protection
- Face and Eye Protection
- Closed-toe Shoes
- Field Gear and Clothing



Periodic Medical Surveillance and Evaluation



- **Assess need for interval surveillance on case-by-case basis**
- **Update medical screenings in at-risk employees**
- **Assess titers and offer boosters as needed**
- **Annual medical clearance to use respirator, fit testing and training**
- **Builds trust and ongoing relationship between lab workers and occ health staff**

Never Hesitate to Raise a Red Flag

- Workers should understand incubation periods, modes of transmission and clinical symptoms
- Workers, supervisors and clinicians should always maintain a **high** index of suspicion for exposure and a **low** threshold for action
- Never discourage reporting of concerns
- Pay attention to work absences
- Any fever or illness clustering should lead to prompt evaluation
- Know that symptoms of work-acquired infection and natural infection may differ



Medical Alert Card

Medical Alert Attending Physicians

This card holder works at the _____
in areas where hazardous biological, chemical or radioactive
agents or materials may be used. In the event of an
unexplained illness, please contact the supervisor listed on the
reverse side for information on specific agents or materials to
which this person may have been exposed.

Clinic 8 - 16:30 EST

XXX.XXX.XXXX

Agency Contact

XXX.XXX.XXXX

Medical Alert Card

(back)

Employee Name _____

Employee Emergency Contact

Telephone Number

Allergies _____

Organizational Unit _____

1^o Supervisor

Work Telephone

Alternate Telephone

2^o Supervisor

Work Telephone

Alternate Telephone

Post-Exposure Management

Clinical Focus



- 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 prophylaxes/interventions where appropriate

Post-Exposure Management

Safety Focus

- Thorough incident investigation
- Assess risks for multiple victims
- Assure control for secondary incidents
- Accentuate the “opportunity this presents” not the “failure it represents”
- Use multi-disciplinary “systems approach” to assure follow-thru with corrective action/ prevention efforts

Specialists and In-Patient Management Issues

- Plan for seamless transition to specialty care or in-patient management in advance
- Establish a work-specific relationships with specialists and facilities
- Specialized in-patient units for high-risk agent exposures likely to be increasingly common
- Infection control in hospital setting is not new
- Ongoing communication and planning

CDC's In-patient Management Unit at Emory University Hospital

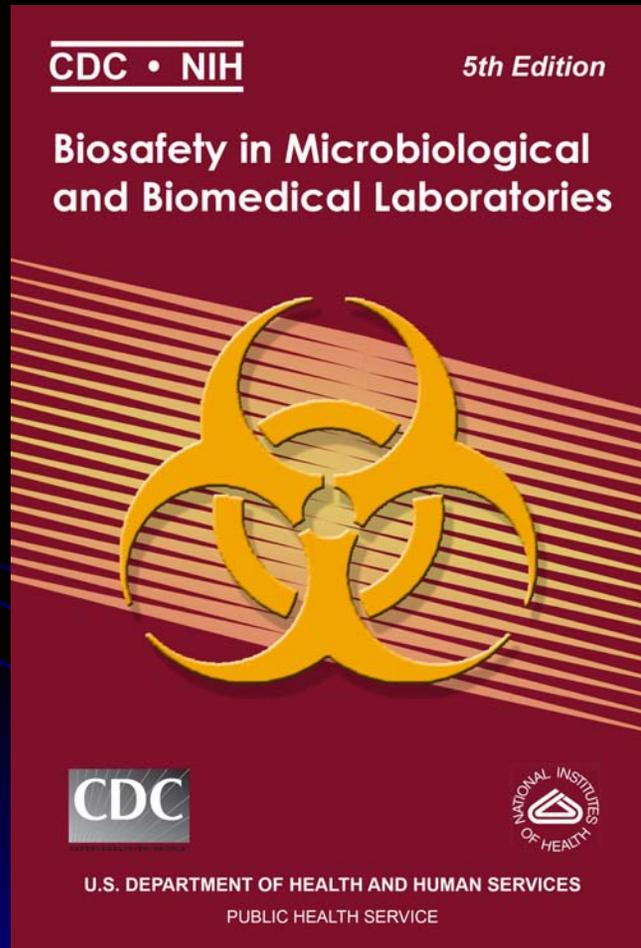


Protecting High-Containment Laboratory Workers

Basic Tools for Success

- **Comprehensive Risk Assessments Dictate Essentials for Optimal Occupational Health**
- **Inter-locked Workplace Safety and Clinical Programs**
- **Aggressive Incident Management and Investigation**
- **Credible Surveillance and Post-Exposure Management**
- **Health Promotion and Prevention Activities**
- **Continuous Vigilance and Process Improvement**

More information...



- The 5th Edition of the **Biosafety in Microbiological and Biomedical Laboratories** is now available online at www.cdc.gov/od/ohs/
- Extensive Biosafety and Biosecurity risk assessment material is included in this edition
- New chapter on **Occupational Health**

