OSHA/Infection Control Annual Update Training - 2009

Disease Numbers 2007-2008

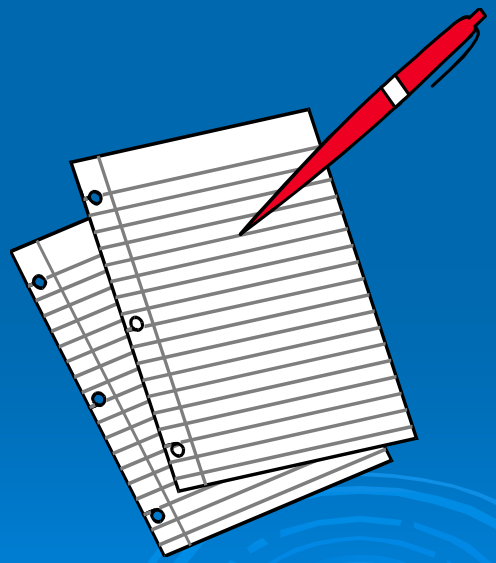
- 2007
- AIDS –38,151
- Hepatitis B – 4,519
- Hepatitis C – 845
- Syphilis – 11,466
- TB –13,299
- WNV – 3,404

- 2008
- AIDS – 39, 202
- Hepatitis B – 4, 033
- Hepatitis C – 877
- Syphilis – 13,500
- TB – 12,904
- WNV – 1,356

•CDC, MMWR, August 14, 2009

Local Disease Stats-

- AIDS - 646
- Hepatitis B - 44
- Hepatitis C – 8
- TB – 292
- Syphilis- 499
- WNV - 2



• VA PHD 2009

Exposures - 2008

- Bloodborne -
- Airborne -

Other Key Diseases

- Measles cases – 140
- Mumps – 454
- Pertussis (whooping cough) – 13,278
- Chickenpox – 30, 278

Vaccinations/Immunizations

- Hepatitis B vaccine
- Tdap or Td
- MMR vaccine
- Chickenpox vaccine
- TB testing
- Annual flu vaccine

Declinations forms are required!

CDC, NFPA 1581

Ryan White Notification Law

Update – September 2009

- Law to be back in 2009!
  - Attached back to original document

Refresher/Reminders

HBV Infection Rate- US

- 0.4%

CDC, September, 2008

Hepatitis B Vaccine

- Offers protection via “immunologic memory”
- There is NO formal requirement or recommendation for a booster
- Titer 1-2 months after completion of vaccine series is required- OSHA enforcing
  - CDC, 1992,1997, June 29, 2001, December 2006

Hepatitis B Vaccine Titers

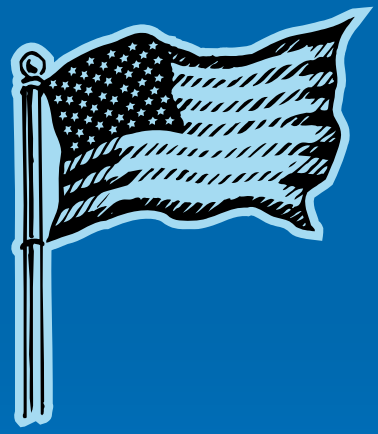
- If titer not never performed, DO NOT go back and do one
- Titer would be done if an exposure occurs
- Once you have a positive titer, you never have to titer test again even if an exposure occurs

•CDC, 1997, June 29, 2001, Dec. 2006

Hepatitis C Cases

Incident rate continues to decline

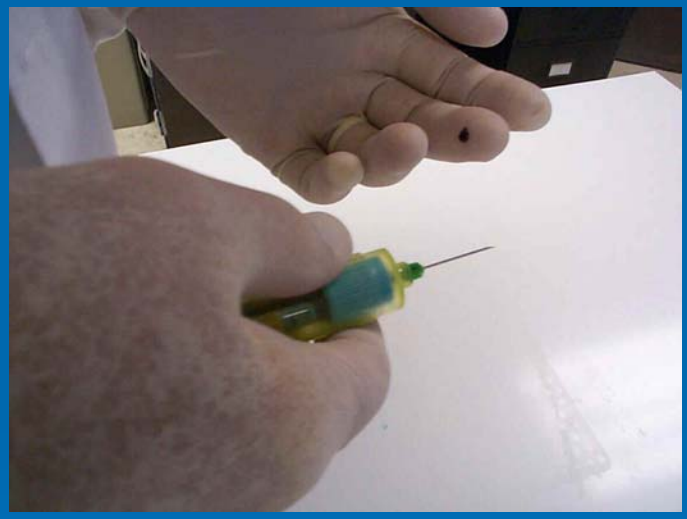
- Rate in US- 1.3%



•September, 2008

Risk Data Lowered

- Risk for contracting HCV from a contaminated sharps injury
  - Down to 1.5%



AxSYM Anti HCV

- New rapid test for HCV
- Takes 23 mins.
- More accurate than other antibody tests
- Performed on the *source* !
- Cost $65.00

CDC, 2005

Reminder -

- If you are exposed to a hepatitis C positive patient, you should have a blood test in 4-6 weeks

- HCV-RNA (blood test)
  - Cost - $65.00

Hepatitis C – Early Treatment

- Studies – Germany & France
  - HCV-RNA positive begin treatment
  - 24 weeks – clear viral load

Infected Healthcare Workers- Occupational Infection-HIV

- 1978 – December, 2007
  - 57* documented cases
    - 0 in fire/EMS personnel
    - 49 were sharps related exposures

CDC, Sept. 14, 2008(CDC), NIOSH

Undocumented Cases

- 139 cases of “possible” occupational acquired HIV infection
- 12 in EMT/Paramedics

CDC, September 14, 2007

No new cases since 2000

HIV/AIDS

- Cases in china doubled in 2008
- North America & Western Europe
  - Cases have remained the same

Infectious Disease News, January 2009

Update in U.S.

- HIV transmission rate decreased 89% since 1984
- And, 33% since 1997

CDC, 2008

States Broaden HIV Testing

- California
- Illinois
- Iowa
- Louisiana
- Maine
- Maryland
- New Hampshire
- New Mexico
- North Carolina
- North Dakota
- Rhode Island
- Virginia

Rapid HIV Tests

Rapid HIV Test - currently available – using blood

OraQuick
Reveal
Uni-Gold
Multispot
Clearview

CDC January 2007

Testing Issues - Post Exposure

- If source patient is negative with rapid testing = no further testing of health-care worker
- Use of rapid testing will prevent staff from being placed on toxic drugs for even a short period of time

•CDC, May , 1998, CDC June 29, 2001, September 2005

Syphilis Cases

- Continue to rise in the U.S.
- Post exposure follow up if source is HIV positive or Hepatitis C positive

Highest States for cases - 2008

- California
- Texas
- New York City
- Florida

CDC, MMWR, Jan. 8, 2009

CDC - Plan

- Update plan to eliminate syphilis by 2015

Tuberculosis

Tuberculosis

- 2007 lowest case number since 1953
- 71.4% decrease since 1993
- 2007 – screening applicants for entry to U.S.

Multi-drug Resistant TB

- MDR-TB – 84% in foreign-born persons
- XDR-TB – 2 cases reported in 2007
  - XDR-TB 1993 -2007 = 83 cases reported

Risk Assessment - TB

- Low Risk
  - Transported less than 3 TB patients
- Medium Risk
  - Transported more than 3 TB patients

CDC TB Guidelines, 2005, pg. 134

Department TB Risk Assessment

- 2008 –

Fire Department TB Testing- Mississippi

- 9 firefighters tested positive on 2-step testing
- NIOSH study conducted
  - Blood test –negative
  - Skin testing not read properly
  - Follow CDC risk assessment for need for testing yearly

CDC, December 21, 2007

Lesson Learned – Mississippi Study

- Evidence based practice is important
- Blood test is more accurate
- Annual testing when not needed is not a benefit

New Version TB Blood Test

- QFT-T (In-tube)
  - FDA approved – October 2007
  - Less time consuming to perform
  - More accurate
  - Cost effective
    - Available Chantilly, Newport News

Transmission - Plane

- " TB is generally not spread by casual contact, but typically requires relatively prolonged contact in shared air space. The environment on long flights in commercial aircraft, particularly those of 8 or more hours in length, has been previously implicated in TB transmission, especially to passengers seated in close proximity"

Dr. Cetron, US Public Health, July,2007

West Nile Virus - Update

- Cases 2008 = 1,227

West Nile Virus - 2008

- Cases moved westward
- Highest cases –
  - California
  - Arizona
  - Mississippi
  - Colorado
  - North Dakota

CDC, Dec. 16, 2008

Flu Vaccine - Annual

"Direct patient care"

All healthcare workers

FluMist – Nasal Spray

- For healthy persons ages
  - 2- 49 years
  - Does not need to be stored frozen
  - Do not take if pregnant – live virus vaccine
  - No thimerisol
  - Is egg based
  - Cost reduced
  - No work restriction

CDC Flu Vaccine Program

- Employers must offer
- Employers must pay
- Employees who decline - sign a declination form

CDC, February 24, 2006/2008

Department Flu Vaccine Participation

- Percent =

New York State

- Mandate for healthcare workers to be vaccinated

Healthcare Workers – Flu Shots

- 33% participation

Why do we not do what is in our best interest and that of our patients?

Flu Vaccine Program Rationale

- Reduce annual illness in staff
- Increase protection from flu viruses
- Reduction of Flu will assist in identification of a pandemic

Vaccine for 2009/10

- A-Brisbane/59/2007
- A-Brisbane/10/2007
- B-Brisbane/60/2008

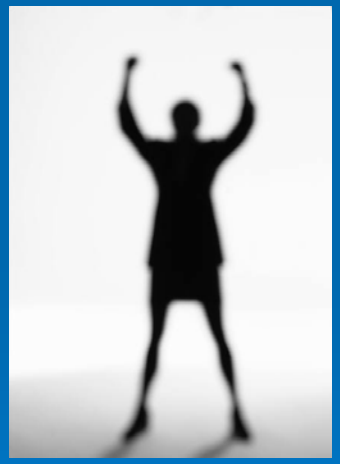
CDC, 2009

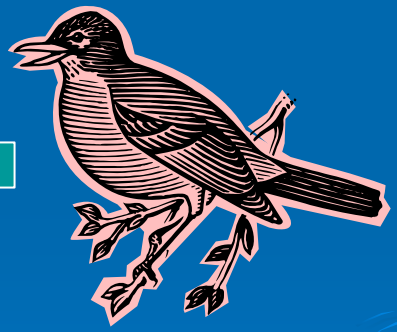
Work Restriction

- Restrict ill workers from the workplace
  - use sick time
  - protect co-workers
  - protect patients

H1N1 Flu Virus

- New virus





H1N1 Vaccine

- Injectible

- Nasal Spray

Vaccine Priority Groups

- Pregnant women
- Health care workers and emergency medical responders
- People caring for infants under 6 months of age
- Children and young adults from 6 months to 24 years
- People aged 25 to 64 years with underlying medical conditions (e.g. asthma, diabetes)

Licensure of 2009 H1N1 Vaccines

- Licensure progress
  - CSL (September 15, 2009, inactivated)
  - Sanofi (September 15, 2009, inactivated)
  - MedImmune (September 15, 2009, LAIV)
  - Novartis (September 15, 2009, inactivated)
  - GSK (pending, inactivated)
- Dosing
  - 1 dose for persons 10 years or older
  - 2 doses for children 6 months through 9 years
    - Doses separated by “approximately 1 month”

http://www.fda.gov/BiologicsBloodVaccines/Vaccines/ApprovedProducts/ucm181950.htm

Vaccine -

- Can vaccine be given if someone thinks they may have had H1N1?
  - Since most cases are not confirmed - vaccinate

MDROs – Basic Issues

HA-MRSA and CA-MRSA are different

New Strain – USA 300/400

- Community acquired
- More easily transmitted

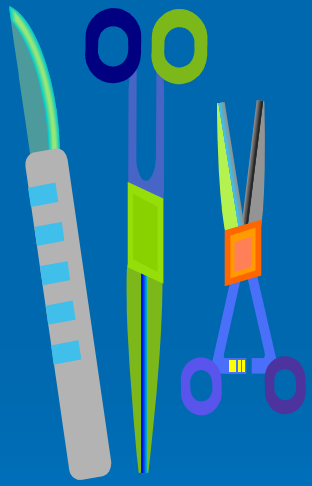
Differences

- HA
  - Multiple sites
  - Usually multidrug resistant
- CA
  - Predominantly skin & soft tissue
  - Carry different chromosome

CDC, Emerging Infectious Diseases, August 2007

Treatment

- Incision & Drainage



New Quick Test

- FDA approved on 1/2/08
- BD GeneOhm StaphSR Assay
  - Blood test

Clostridium difficile
C- diff

C- diff

- **Anaerobic spore-forming bacillus**
- ***Clostridium difficile*-associated disease (CDAD)**
  - Hospital-acquired
  - Related to antibiotic treatment

Remember

Cleaning with 1:100 bleach/water solution is adequate (1/4 cup bleach to one gallon water)

- Good for 24 hours after being mixed

Prevention for HCW's

- Handwashing -
  - after touching blood/body fluids
  - after touching contaminated objects
  - after glove removal

Prevention Issues

- Open areas on skin should be covered with a dressing- too large- limit work tasks
- Do not share PPE or fire gloves or clothing

CDC, NFPA,OSHA

N. Meningitidis

- Several cases – Cipro resistant

Compliance Monitoring

Check for compliance with cleaning routines

Novel H1N1 Flu Outbreak

Signs/Symptoms

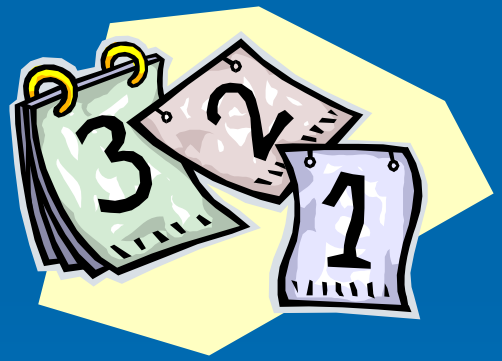
- Flu-like
  - Fever
  - Sore throat
  - Cough
  - Nausea
  - Vomiting
  - Diarrhea

Severe Signs/Symptoms

- Adult
  - Shortness of breath
  - Chest pain/pressure
  - Dizziness
  - Confusion
  - Persistent vomiting
- Pediatric
  - Respiratory distress
  - Bluish skin color
  - Irritability
  - Fever with rash
  - Low fluid intake
  - Not waking or interacting

Incubation Period

- 1 – 7 days



Communicability Period

- Up to 24 hours after fever resolves

Patient Assessment

- If symptoms:
  - Travel assessment
    - If no travel exposure – place surgical mask on patient
    - If travel exposure – use PPE

Prevention

- Travel history on patient assessment especially with respiratory symptoms

Not Suspect but has Symptoms

- Place surgical mask on patient
- If can not, place surgical mask on yourself
  - Good handwashing
  - Use good airflow in vehicle

PPE Recommendations - CDC

- When in close contact:
  - Surgical mask
  - Eyewear
  - Gown

WHO, August, 2009

CDC – August 2009

- Fit tested N95 respirator for confirmed patients
  - Backorder – 12 million

IOM Advisory Committee-N95

- The committee was not charged with considering implementation issues, which include cost, availability of equipment, and other considerations (such as effective vaccines) in the implementation of such guidance.

Key Points-IOM

- Emergency medical responders
- Fit-tested disposable N-95 respirator if in close contact
  - Aerosol generating activities
  - Interfacility transfers

On the Other Hand

- US – Canada Study
  - Surgical masks had an estimated efficacy within 1% of N95 respirators
  - N95s should be reserved for bronchoscopy or intubation

JAMA, 2009;302(17)

Reality

- One anecdotal report— 7000 masks in caring for ONE H1N1 Influenza A patient in one ICU

Priority Listing – N95's

- Assess the supply of N95 respirators and take measures to ensure adequate supply to cover situations and procedures that have the greatest risk for transmission.
- Ensure that N95 respirators are used during aerosol-generating procedures (e.g., bronchoscopy, CPR, open suctioning of airways) or when caring for patients with TB. If N95 respirators are not available, consider a higher

Priority List

- Minimize the number of individuals requiring respiratory protection through use of other control measures.
-
- Consider extending the use of disposable N95 respirators in special situations for multiple patient encounters (e.g., during triage).
- In situations of respirator shortage, provide FDA-approved facemasks to healthcare workers who are not participating in aerosol-generating procedures but providing routine care using a prioritization plan.

Survival on Surfaces

- About 2 hours
  - Routine cleaning is important
    - Equipment
    - Surfaces in vehicle

Treatment

- Antivirals
  - Tamiflu
  - Relenza

In National Stockpile Program

H1N1

- Tamiflu resistance documented
- Changes in post exposure treatment

New Guidelines - CDC

- Persons who are recommended for treatment include:
  - Anyone hospitalized with confirmed or suspected influenza
  - Anyone with confirmed or suspected influenza viral pneumonia
  - Anyone with confirmed or suspected influenza and complicating bacterial pneumonia

Handwashing – Practice It

H1N1 Vaccine

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Who Should NOT be Vaccinated

- Persons with allergy to chicken eggs
- Persons with previous severe reactions to a flu shot
- Person who have a history of Guillain-Barre Syndrome (GBS)
- Children younger than 6 month
- Persons with a fever

CDC

OSHA Enforcement

- October 14, 2009
  - Enforcing the CDC H1N1 Infection Control guidelines

Pandemic Phase

- Definitions are being rewritten
  - Not a full pandemic
  - New language will address-
    - Substantial risk of harm to people

WHO, May 26, 2009

Keeping Perspective

- H1N1 flu case
- Deaths -
- Annual Seasonal Flu deaths
  - US
    - 36,000

CDC

CDC Clarifies
Vaccines/Immunizations

For Disaster Responders

CDC Recommends

- Hepatitis B Vaccine for persons performing direct patient care activities
- Tetanus- booster if not immunized in past 10 years
  - Td or Tdap can be used

CDC Does ***NOT*** Recommend

- ***There is no indication for the following vaccines for disaster responders in the United States:***

  - **Hepatitis A vaccine** (low probability of exposure). Vaccine will take at least one to two weeks to provide substantial immunity
  - **Typhoid vaccine** (low probability of exposure)
  - **Cholera vaccine** (low probability of exposure, no licensed cholera vaccine available in the U.S.).

CDC, Sept. 1, 2008

CDC Does ***NOT*** Recommend

- ***There is no indication for the following vaccines for disaster responders in the United States:***

  - **Meningococcal vaccine** (no expectation of increased risk of meningococcal disease among emergency responders)

  - **Rabies vaccine series** (the full series is required for protection). Persons who are exposed to potentially rabid animals should be evaluated and receive standard post-exposure prophylaxis, as clinically appropriate

CDC, Sept. 1, 2008

Get Vaccination Records

- You must request
  - Previous employer
  - Schools

OSHA Most Common BBP Citations - 2008

- Failure to update Exposure Control Plan annually
- Failure to have a sharps injury log
- Failure to have an Exposure Control Plan
- Failure to reflect review of technology in the ECP
- Failure to use engineering/work practice controls
- Failure to discard sharps into sharps containers ASAP
- Failure to offer HBV vaccine within 10 days of hire
- Failure to document annual consideration & implementation of needlesafe devices
- Failure to offer new hire training at no cost and during work hours
- Failure to offer hepatitis B vaccine according to US Public Health recommendations

OSHA Jan. 2009

New OSHA Enforcement - 2009

- October 21, 2009
  - Focus on recordkeeping
    - Medical records
    - OSHA 300 forms
    - Sharps injury logs
    - Training records

Questions & Answers

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