ECU
Bloodborne Pathogen and Tuberculosis Training
Who is OSHA?

- Occupational Safety and Health Admin.
- Requires employers to provide a safe working environment
- Developed “Occupational Exposure to Bloodborne Pathogen” Standard
Standard Requirements

- Limit occupational exposure to human blood and other potentially infectious materials in the workplace
- Provide employee with knowledge of job associated risks
- Provide protective devices/measures that can prevent most exposures
- Written Exposure Control Plan – on line
- Annual training – on line
What are bloodborne pathogens?

• Pathogenic microorganisms in the blood or other potentially infectious materials (OPIM) which can cause disease in humans

• Exposure can result in serious illness or death
Who’s at risk?

• Anyone with reasonably anticipated skin, eye, mucous membrane, or percutaneous contact with blood or OPIM.
How are bloodborne diseases transmitted?

- Contaminated sharps injuries (needle sticks, broken glass, scalpel blades)
- Mucous membrane splash (eye, mouth, nose)
- Contact on non intact skin (cuts, rash, blisters, hangnails)
• Human blood and human blood components
• Semen
• Vaginal secretions
• Amniotic, pericardial, pleural, peritoneal, synovial and cerebrospinal fluids
• Saliva in dental procedures
• Any body fluid that is visibly contaminated with blood
• Any unfixed tissue or organ
Bloodborne Pathogens of Concern

- Hepatitis B
- Hepatitis C
- HIV
Hepatitis B

- A virus that infects the liver
- Can lead to cirrhosis, liver cancer and death
- 20% risk of infection from a contaminated sharp
- Virus can survive in dried blood up to 7 days
Symptoms of Hepatitis B

- Fatigue
- Loss of appetite, nausea
- Jaundice (yellowing of skin and eyes)
- Fever
- Abdominal pain, joint pain
- May have no symptoms
- Preventable
Hepatitis B Vaccine

- Recommended for all high risk groups
- Free- provided by employee health
- Safe
- 3 shots- initial, 1mo, 6mo.
- Decline- must sign OSHA waiver
Hepatitis C

- Most common chronic blood borne infection in US
- Causes liver damage, cirrhosis and liver cancer
- Leading reason for liver transplants
- 2% risk of infection by contaminated sharp
Symptoms of Hepatitis C

• Same as Hepatitis B

• May occur within 2 weeks to many years

• 85% don’t know they are infected
Hepatitis C Vaccine

- There is NO vaccine
- Treatment available after infection, 95% cure rate
- There are 50,000 needlesticks annually related to HCV infected patients
HIV/AIDS

- Attacks the body’s immune system
- Unable to fight off other infections
- NO vaccine and NO cure
- >6,000 new infections every day
Symptoms of HIV

- Mild flu-like symptoms initially (fever, swollen glands)
- May be free of symptoms for months to many years
- Eventually leads to AIDS and death
Risk of Infection after Occupational Exposure

- Hepatitis B ~20% if no history of vaccination
- Hepatitis C ~2% 
- HIV ~0.2%
How can I protect myself?

- Standard Precautions: All blood and body fluids are treated as if infectious for blood borne pathogens
- Personal protective equipment
- Safe work practices
- Engineering controls
Personal Protective Equipment (PPE)

• Provides a barrier between you and infectious material

• Should be available in appropriate size and type needed, at no cost to employee
PPE Selection Based on Anticipated Exposure

- Gloves - any time contact with blood or other body fluids may occur
- Masks and eye protection - if there is any chance of splashing into the mouth nose or eyes
- Gowns/lab coats, shoe covers - risk of splattering or spilling on clothes or skin
Safe Work Practice

- Depends on you!
- Examples - proper handwashing,
  - getting Hep B vaccine
  - proper handling of sharps
  - proper disposal of infectious waste
  - wearing appropriate PPE
Handling Sharps

• Needles should NOT be bent, recapped, removed, or broken
• Use tongs, or dust pan and broom to pick up contaminated broken glass (not hands!)
• Discard all needles and sharps in closable, leak proof, puncture resistant sharps containers
Engineering Controls

• Devices that reduce employee risk by isolating or removing the hazard
  Examples:
  Sharps containers
  Safety medical devices
  Negative pressure rooms
WARNING:

DO NOT OVERFILL OR FORCE SHARPS INTO CONTAINER!!

Change when no more than 2/3 full
Needlestick Safety and Prevention Act

- OSHA Mandates adoption of safety devices
- Engineering and work practice controls shall be used to eliminate or minimize employee exposure
International Biohazardous Waste Symbol
Biohazardous Waste

- Discard contaminated sharps in approved sharps containers
- Discard all other infectious material in red biohazard trash bags
- Picked up by biohazard waste technicians
- Incinerated
- Do NOT throw regular trash in red bags!
Blood or OPIM Spill Procedure

- Prevent accidental exposure to others
- Wear appropriate PPE
- Absorb spill (paper towels or biohazard spill kit)
- Spray Dispatch or bleach solution, set for 10 min. or air dry
- Dispose of all cleaning materials and PPE in biohazard trash bag
What if I am exposed?

• Wash with soap and water

• Splash to mucous membranes- rinse or flush with water for 15 min.

• Have source patient remain available
Who needs to know?

Contact:
ECU Office of Prospective Health

744-2070

Contact Vidant Occupational Health if exposed at hospital
(After hours contact Vidant Nursing Coordinator)

847-4386

For exposure at ECU
After 5 pm, on weekends or holidays, use the Vidant Emergency Department for follow-up.

See ECU Infection Control Policy for Source Patient Evaluation Algorithm
Post Exposure Surveillance

- Review medical history of source patient
- Baseline blood tests - HEP B & C and HIV of source patient
- HIV results in less than 2 hrs
- Confidentiality is maintained
Post – Exposure Followup for ECU Employees

• Baseline labs drawn 6 wks, 3 mo, and 6 mo

• Evaluation for post exposure prophylaxis (PEP)

• PEP reduces risk of infection 60-80%
Tuberculosis
and Respiratory Protection Program
Transmission

- Caused by a tiny germ called *mycobacterium tuberculosis*
- Spread when some one with active TB disease coughs, talks, laughs, sneezes, or spits TB bacteria into the air
- Uninfected person breathes in TB bacteria
Signs & Symptoms

- Cough > 2 weeks
- Fever
- Weight loss
- Night sweats
- Bloody sputum
High Risk for TB

- Immunocompromised
- People living in close conditions
- Economically disadvantaged
- Foreigners
MTB in the World

• Six countries in Asia account for more than 50% of TB epidemic
  – India
  – China
  – Bangladesh
  – Pakistan
  – Indonesia
  – the Philippines
MTB in North Carolina

- North Carolina’s number of MTB cases rank 24th in the nation in 2015.
TB Testing

• A TB skin test or PPD will show if you have any TB bacteria in your body.

• All employees that are potentially exposed to TB are required to receive a skin test annually and/or complete a symptom screen.
<table>
<thead>
<tr>
<th><strong>LATENT TB INFECTION</strong></th>
<th><strong>ACTIVE TB DISEASE</strong></th>
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<tbody>
<tr>
<td>Exposed to active TB disease</td>
<td>Infection has progressed to active disease</td>
</tr>
<tr>
<td>Positive TB skin test</td>
<td>Positive TB skin test</td>
</tr>
<tr>
<td>No symptoms</td>
<td>Will have symptoms</td>
</tr>
<tr>
<td>Negative chest xray</td>
<td>Positive chest xray</td>
</tr>
<tr>
<td>WILL NOT INFECT OTHERS</td>
<td>CAN INFECT OTHERS</td>
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What if I have Latent TB Infection?

- 90% of healthy people with TB infection will never develop TB disease.
- Should be evaluated for prophylaxis medications by the health department or a private physician.
- Prophylaxis meds reduce lifetime risk of developing active TB disease by 95%
- Be aware of signs and symptoms of active TB disease
Multi-drug resistant TB strains (MDR TB)

- Occurs when patients do not complete treatment; all TB germs in body not killed
- Occurs when TB germs mutate, can survive standard TB treatment
- Difficult to diagnose, control, and cure
- MDR-TB becoming more prevalent
Prevent MDR TB

• Must take antibiotics as directed for active TB disease
• Therapy directly observed by Public Health
• It’s the Law!
How do Healthcare Workers avoid exposure to TB?

- Notice if patients have symptoms of TB and offer tissues and masks.
- TB patients are kept in “negative pressure” rooms to isolate them.
- Patient should wear mask outside room and during transport to other departments.
- All employees who work with potential TB patients must be fit tested for an approved respirator to wear when working with infectious individuals.
N-95 Respirator

• Remember your size

• Fit testing is required annually

• Done during new employee orientation and annually
Notify Prospective Health of facial changes:

large amount of weight gain or loss
facial trauma and/or surgery
growth or shaving of beard

If unable to wear mask, you will be instructed in the use of a PAPR.
Power Air-Purifying Particulate Respirators (PAPR)
What do I do if I’m exposed to TB at work?

- You are notified by Infection Control of suspected/confirmed exposure to patients seen in your area that have been diagnosed with TB.

- After notification, call Employee Health to schedule a TB skin test.

- A TB skin test is done at the time of exposure and 2 months after the exposure.
If you develop a positive TB skin test after workplace exposure:

You will be evaluated for active TB with a CXR and presence of symptoms

You will be treated with antibiotics