Universal Precautions
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• Types of Airborne / blood borne pathogen diseases
  – Hepatitis A, B, C, D, E
  – HIV / AIDs
  – Meningitis
  – Tuberculosis
  – What to do if you come into contact with a blood borne pathogens
Hepatitis A (HAV)

- Most common form of Hepatitis
- Route of transmission is usually fecal – oral, but may also be transmitted by blood or body fluids.
- Consumption of out of season oysters is also a known cause.
- Incubation period is 30 days
- Once contracted the patient is immune for life
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• Hepatitis A (HAV)
• Signs and Symptoms
  – Malaise
  – Loss of appetite
  – Jaundice
  – Dark colored urine or chalky colored stool
Hepatitis B (HBV)
- Commonly called serum Hepatitis
- Poses as a serious risk to pre-hospital personnel
- Transmitted the same way as HIV
- Incubation period is 50 days
- Once contracted the body never clears the virus
- Immunization is available
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• Hepatitis B (HBV)
  – Malaise
  – Very Pronounced Jaundice
  – High Fever
  – Can evolve into Cirrhosis of the Liver which can eventually lead to death
  – Patient can also become a carrier without signs and symptoms
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- Hepatitis C (HCV)
  - Caused by prior history of blood transfusion
  - Accidental dirty needlestick
  - Needle injected drug abuse
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- Hepatitis C (HCV)
- Signs and Symptoms
  - Incubation period is 50 days
  - Initial signs and symptoms is a slight skin rash
  - Jaundice is not as pronounced as HAV and HBV
  - No Immunization is available
  - Serum is available at a short window of opportunity
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- Hepatitis D (HDV)
- Usually occurs as a coinfection with HBV
- Causes more severe and prolonged signs and symptoms than HBV alone.
- Poor prognosis with chronic HDV
- Incubation period is unknown
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- Hepatitis E (HEV)
  - Fecal oral transmission route
  - Commonly seen in Central America, India, and Africa
  - Incubation period is 40 days
  - Signs and symptoms are similar to the other Hepatitis diseases.
  - Chronic state is not common
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• HIV
  – Transmitted by contact with blood, urine, saliva, vaginal secretions, semen, CSF
  – Many HIV patients have TB
  – Can enter the body
    • through breaks in the skin
    • mucous membranes
    • placenta of an infected mother
    • accidental needlestick most common
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• HIV
  – Blood test is easily available
  – Incubation period from 6 months to 10 years
  – Average period is 2 years
  – Once exposed to potential carrier the patient may be offered a AZT cocktail.
  – Signs and Symptoms can vary from patient to patient
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- HIV Signs and Symptoms
  - fatigue
  - fever, night sweats
  - chronic diarrhea
  - weight loss, enlarged lymph nodes
  - pneumonia
  - candidate for TB
  - Kaposi’s Sarcoma - purple skin blotches
  - AIDS encephalopathy - psychosis
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- HIV / AIDS - No cure or vaccine
- Treat the Signs and Symptoms
- Be professional with this high risk patient
- Put a mask on yourself as well as on the patient to protect each other from further virus transmission.
• Meningitis
  – Infection of the lining of the brain and the spinal cord.
  –Occurs more frequently in children
  –Caused by bacteria, viruses, fungi
    • Bacteria is more severe than viruses
      – Streptococcus pneumonia is a big contributor
  – Transmitted by:
    • Airborne droplets from a productive cough or sneeze.
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- Meningitis
  - Signs and Symptoms
    - Starts off as a cold, sinus infection, or middle ear infection.
    - Transmitted to the brain
    - Low grade fever, malaise
    - Headache, Sore or stiff neck
    - Nausea and Vomiting
    - Advanced stages: seizures, coma, and death
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• Meningitis
  – Assume any child under three years old with a low grade fever to have meningitis until proven otherwise.
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• Tuberculosis (TB)
  – Lower respiratory tract infection caused by a bacterium Mycobacterium tuberculosis.
  – Spread through respiratory droplets.
  – Incubation period is from 4 to 12 weeks.
  – CDC states TB is on the rise.
  – Houston area has a large incidence of TB.
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• Tuberculosis
  – Signs and Symptoms
    • Cough
    • Chills and fever
    • Fatigue
    • Weight loss
    • History of night sweats
    • Coughing up blood
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• What to do for your protection.
  – Wear gloves
  – Place a disposable mask on the patient and on yourself.
  – Avoid contact with sputum.
  – Decontaminate the ambulance
  – Inform ER personnel
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• Common ways of coming in contact with a blood borne pathogen:
  – Dirty needle stick
  – Body fluids splashed into the eyes.
  – Body fluids splashed onto the skin
  – Body fluids splashed into the mouth or other mucous membranes.
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• So what do I do if I come into contact with Blood or other body fluids?
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• If exposed by a dirty needle stick:
  – Wash the puncture with an alcohol prep, or soap and water if available.
  – Place a bandage over the wound.
  – Continue to perform patient care.
  – Upon arrival and transfer of patient care:
    • Notify your supervisor (preceptor and Clinical Coordinator)
    • Notify the ER staff
    • Fill out an exposure form
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• What the ER will do for you:
  – Draw blood for testing.
  – Attempt to draw the patients blood for testing.
    • Patient may refuse.
      – You may have to process a court order.
    • Patient accepts:
      – The blood test will only indicate that at this point in time your current status and the patients current status to a virus.
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• Workman’s Compensation does cover dirty needle sticks and other exposure to blood borne pathogens.
  – Your agency will assign you a physician
  – Your physician may refer you to a specialist
    • Monthly evaluation for 6 months
    • Testing every 6 months thereafter up to 2 years is recommended.
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• Common sense Precautions:
  – Wear gloves on all patients or when cleaning up the ambulance or equipment after an EMS call.
  – Use Gowns, Goggles, Mask on calls that are appropriate (Childbirth delivery, Severe Trauma, etc.)
  – Wash your hands after taking your gloves off.
  – Carefully dispose of blood soaked materials
  – Empty a sharps container when it is 2/3 full.
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- When cleaning up after a scene:
  - Use OSHA approved cleansers and powders for soaking up body fluids.
  - Use Red biohazard bags for depositing contaminated material.
  - Be careful on how you pick up debris due to needles left at the scene.
  - If you gloves get blood on them then take time to change them otherwise everything you touch will get contaminated.
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• In Summary:
  – Use your common sense when dealing with Blood borne hazards.
  – Do not become complacent.
  – One mistake may affect you and your family for the rest of your life.