Glove Love

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Objectives

- Recognize need for the use of Personal Protection Equipment (PPE)
  - BSI/PPE isn't a new concept!!
  - What do you mean Body Substance Isolation?
  - Types and forms of PPE
  - How much PPE should I be using again…
- Learn Infection Control Practices
  - What's out there?
  - How can I become exposed?
  - Signs and symptoms of exposure
- Understand OSHA Standards – "Requirements"
  - Exposure Control Plan
  - Worker's Rights/Requirements
  - Squad/Agency Responsibilities

History 101

Dr William Halstead and scrub nurse Caroline Hampton
Late 1800's early 1900's

Mercuric Chloride – antiseptic for hand washing caused rash on Caroline's hands

Dr Halstead asking the Goodyear rubber company to create a pair of rubber gloves for her to wear in the operating room suite, thus allowing for her to continue working with him…

therefore being known as the Gloves of Love

1966 Standard Operating Room Procedures included wearing gloves

History 101

In 1980 AIDS epidemic – more people aware of disease transmission
TB makes a comeback as well

Rubber Latex gloves throughout all hospital and clinical areas
World becomes focused on how to prevent diseases from spreading

During the late 1980s Neil Tillitson and Luc DeBecker invented the nitrile gloves. Perfecting the formulae in 1990. They filed for a patent in May of 1991 and was finally granted to the Tillitson Corporation in 1997.

In 1992 the OSHA standard on Bloodborne pathogens took effect

In 1994 CDC issued final notice for the Ryan White Comprehensive AIDS Resources Emergency (CARE) Act – mandating procedure by which EMS can seek out to find out if they have been exposed to potentially life threatening diseases. Has been amended and upheld many times.

"BSI SCENE IS SAFE!!!!!!!!!!"

What the %@$$ does that mean??*

GLOVES

Mask

N-95

Gown

Sterile?

Uniform: pants/shirt/shoes

Eye Goggles

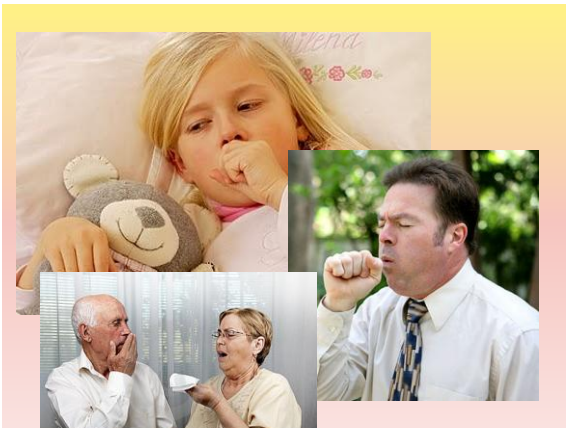
HAZMAT SUIT

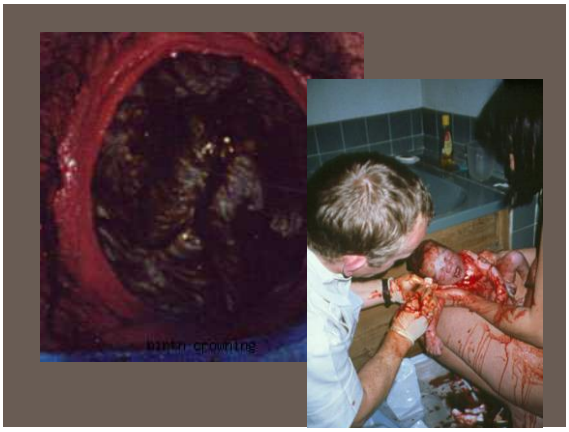
Hand Washing/Sanitizer

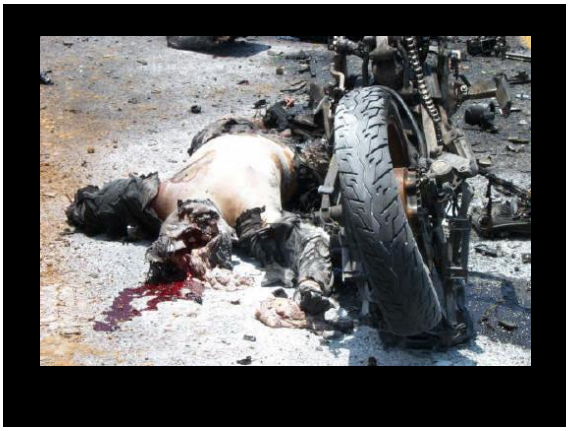
How much PPE Should I use?

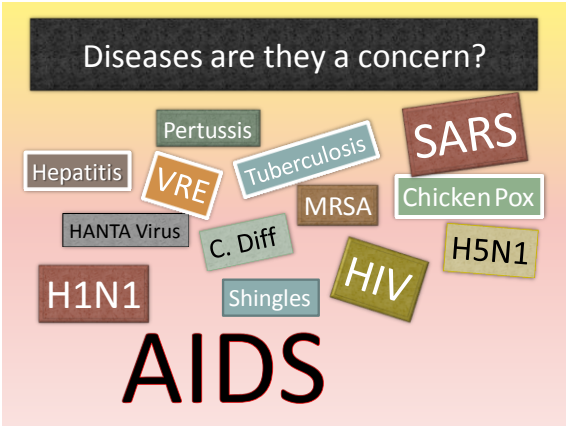
WARNING:

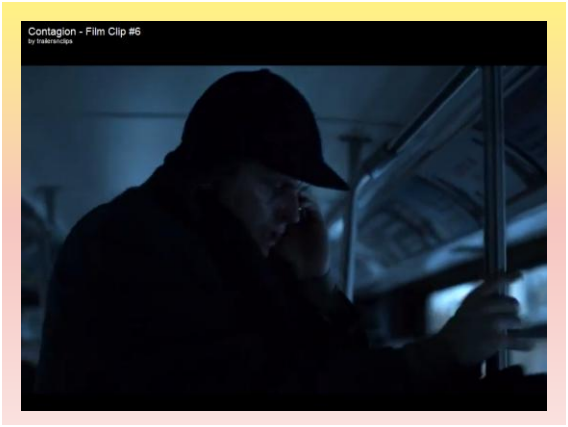
THESE IMAGES WILL BE GRAPHIC IN NATURE





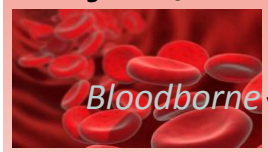



Diseases are they a concern?
Pertussis
Tuberculosis
SARS
Hepatitis
VRE
Chicken Pox
MRSA
HANTA Virus
C. Diff
H5N1
HIV
H1N1
Shingles
AIDS


Contagion - Film Clip #6

What am I protecting myself from?

Pathogens- organisms that cause infection = VIRUSES/BACTERIA



vs.

Bloodborne – Comes from blood rich areas (veins, arteries, placenta, mucous membranes)

Airborne - tiny droplets sprayed during breathing (coughing, sneezing, snoring, breathing)

WHAT ABOUT OTHER THINGS?

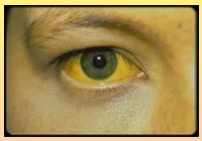
Fecal Emesis (Vomit) Seminal Vaginal

Diseases of Concern!!

Hepatitis A, B, C …D, E?

- - Bloodborne
- Disease of the Liver
- Hepatitis A – feces contaminant
- Hepatitis B – dried blood… so any body fluid spill
- Hepatitis C - fluid spills, needle stick, intercourse… Baby Boomer Generation?
- Still learning!

- HBV vaccine & titers



Viral Hepatitis - Overview

	Type of Hepatitis				
	A	B	C	D	E
Source of virus	feces	blood/ blood-derived body fluids	blood/ blood-derived body fluids	blood/ blood-derived body fluids	feces
Route of transmission	fecal-oral	percutaneous permucosal	percutaneous permucosal	percutaneous permucosal	fecal-oral
Chronic infection	no	yes	yes	yes	no
Prevention	pre/post-exposure immunization	pre/post-exposure immunization	blood donor screening; risk behavior modification	pre/post-exposure immunization; risk behavior modification	ensure safe drinking water

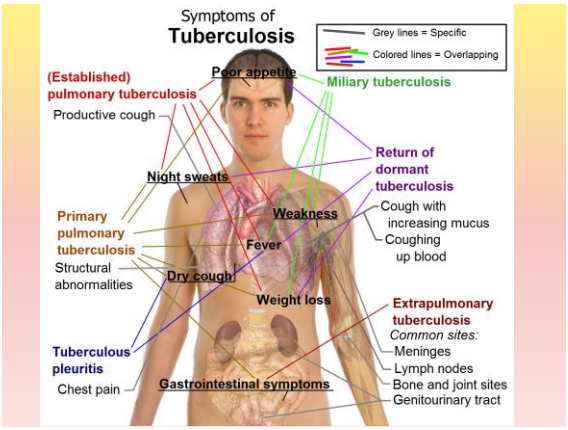
CDC

Diseases of Concern!!

Tuberculosis

- Airborne - droplets
- Thought to be controlled until in the 1980's the disease made a comeback
- Productive cough? Undiagnosed
- Greatest risk population: nursing homes, correctional facilities, and homeless shelters

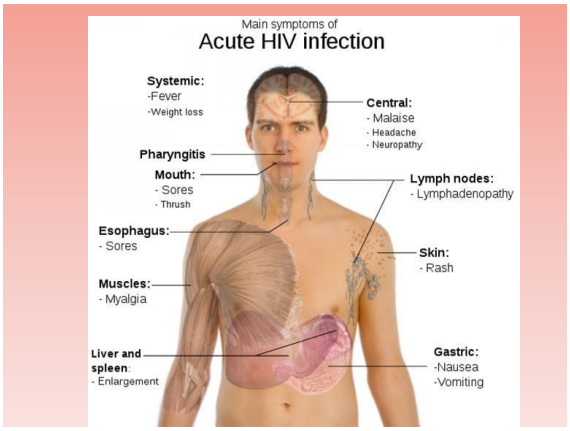
- Yearly TB test…. Vaccine?



Diseases of Concern!!

HIV/ AIDS

- Bloodborne
- Immune system deficiency
- Far less risk of contamination – virus cannot live outside the body
- Need direct contact with blood, blood source, needle stick*
- No vaccine

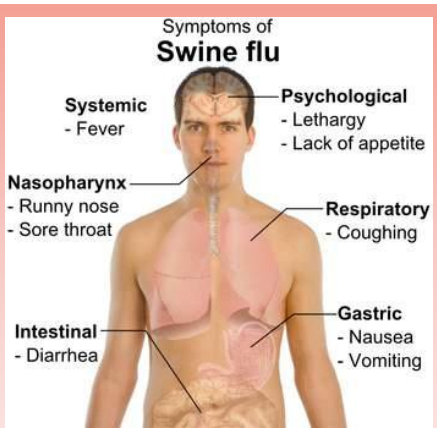


Diseases of Concern!

Pandemic Flu's (H1N1)

- Airborne - droplet
- 1918 Pandemic Flu killed 50 million people
- Fever, dry cough, difficulty breathing
- Frequent hand washing
- N-95/HEPA masks

- Flu shots? **H3N2v**



Diseases of Concern??

Closdridium difficile

- Fecal – contact contaminant
- Diarrhea- nausea, vomiting
- Antibiotic use – frequent
- Patient population: elderly, unkempt pt's, hoarders

- Contact with uniform

- HANDWASHING!

Chicken Pox

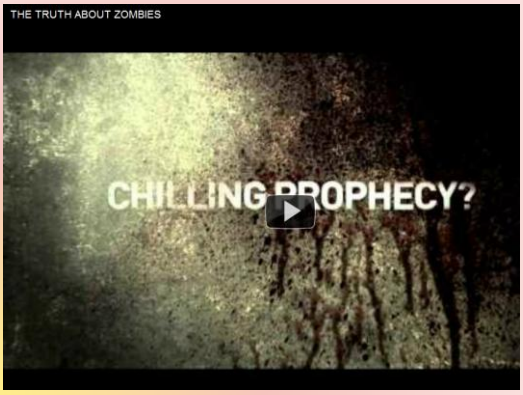
- Airborne and Bloodborne
- Direct contact with sores
- N-95/HEPA mask
- Pregnancy? Previous infection?

Staph Infections – MRSA?

- Bloodborne – Direct contact with skin
- Why contact for us and not family?

Diseases of Concern?

- ZOMBIE Apocalypse!!!!
- Its coming!
- CDC Pandemic Preparedness

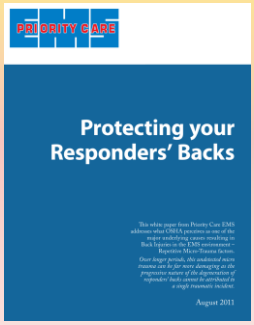


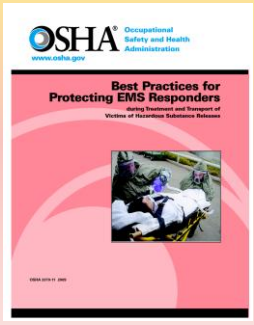
CDC: Emergency Preparedness

- Get a Kit
- Make a Plan
- Stay Informed

- Used "zombies" as way to attract more attention

What's the role for EMS?





Agencies and the LAW

- Occupational Safety and Health Administration (OSHA)
- U.S. Department of Labor
- Center for Disease Control (CDC)
- National Institute for Occupational Health and Safety (NIOSH)
- World Health Organization (WHO)
- U.S. Food and Drug Administration (FDA)
- U.S. Department of Transportation (DOT)
- Local agencies & hospitals (REMAC)

Who's responsible for what?!

•Infection control is a joint responsibility between the employer and the employee

•Training, PPE, and Vaccinations are required to be *provided*

•Training you have to attend…. PPE you have to put on…. And your choice to be vaccinated

Specifics, Specifics….

- Infection Control Plan
- Adequate education and Training
- Hepatitis B Vaccine
- PPE- gloves, face shields, masks, eye wear, gowns, aprons, bag valve mask, pocket masks
- Methods of control – needle/sharps containers, needle-less systems, disposable airway/suction/treatment

… continued

- Housekeeping – clean environment and equipment Proper decontaminants
- Labeling – containers used to ship store or transport potentially infectious materials
- Post exposure evaluation/follow up plan
  Ryan White CARE Act

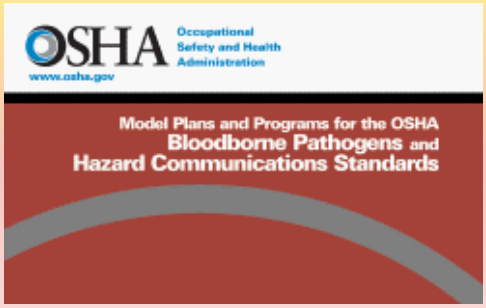
Mandatory Education/Training

- Hand Hygiene
- Standard Pathogens
  - HIV, Hep B&C, etc
- New pathogens
  - H1N1 uproar about vaccine?
- Placards/Labeling
- Hazmat awareness

Exposure Control Plans

- Who has one?
- Where in your squad is it located?
- How often have you updated it?
- Is your exposure control officer still active?!!

Lets look at our packets from OSHA and NIOSH!!!



osha.gov

cdc.gov/niosh/

Accidents do happen….

- AIRBORNE
  - You Get Notified!!
  - *WITHIN 48 HOURS*
  - Officer helps arrange for your follow up with physician and appropriate
- or BLOODBORNE
  - You should get notified (48*)
  - You have a right to request
  - Request has to be answered within 48 hours to agencies officer
  - *UNIVERSAL PRECAUTION*

SEEKING MEDICAL CARE is IMPORTANT!!

Fun and Interesting Facts…..

Latex gloves produce toxic waste during the manufacturing process

Nitrile gloves are still about 3 times more puncture-resistant than latex gloves.

Pediatricians jokingly refer to a fictitious medical school course called **Latex Glove Balloon Making 101**, supposedly where techniques for enhancing their bedside manner with the young patient are taught

Nitrile gloves are made to tear when pierced making the break in PPE more visible to the worker

Questions??

Resources

•Mikić Z. [The gloves of love]. Med Pregl. 2010 Jan-Feb;63(1-2):133-7. Serbian. PubMed PMID: 20873325.

•http://www.hopkinsmedicine.org/news/media/releases/rubber_gloves_born___and_now_banished___at_johns_hopkins

•http://www.ehow.com/about_6572251_history-surgical-gloves.html

•http://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/GeneralHospitalDevicesandSupplies/PersonalProtectiveEquipment/ucm056077.htm

•https://www.osha.gov/

•http://www.cdc.gov/niosh/

•http://www.labor.state.ny.us/workerprotection/safetyhealth/DOSH_ONSITE_CONSULTATION.shtm

•http://www.mayoclinic.com/

•http://www.naemt.org

How fast can disease spread?