



Universal Precautions and Hierarchy of Controls: *A Duke Perspective*

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Background: Universal Precautions

Extreme
Contact
Precautions
Eg: Ebola

Extreme
Airborne
Precautions
Eg: SARs



Routine clinic visit



phlebotomy



bacterial meningitis



diarrhea



RSV / flu



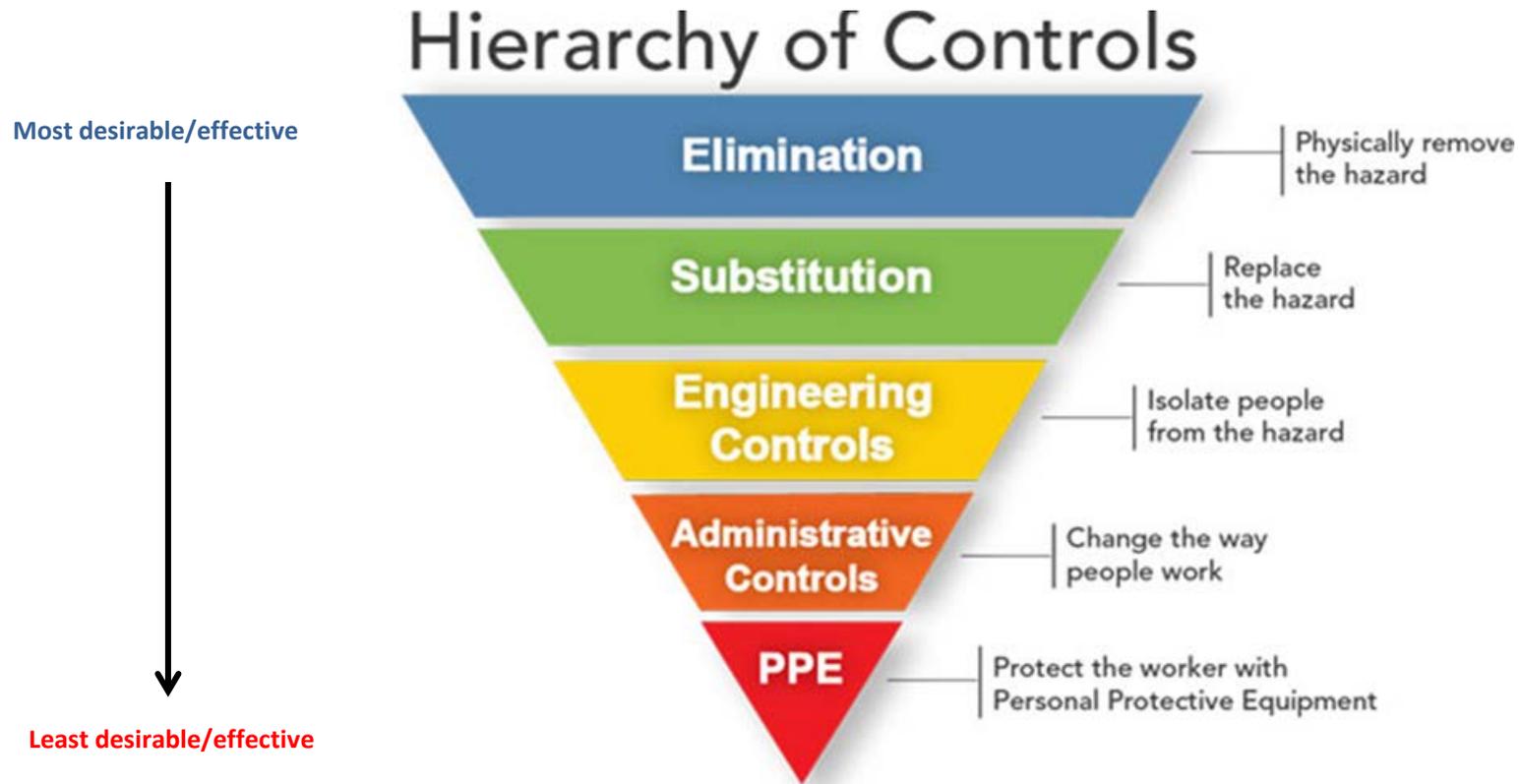
Ebola





Minimizing Risk of Exposure

(approach to implementing feasible and effective controls)



Source: NIOSH

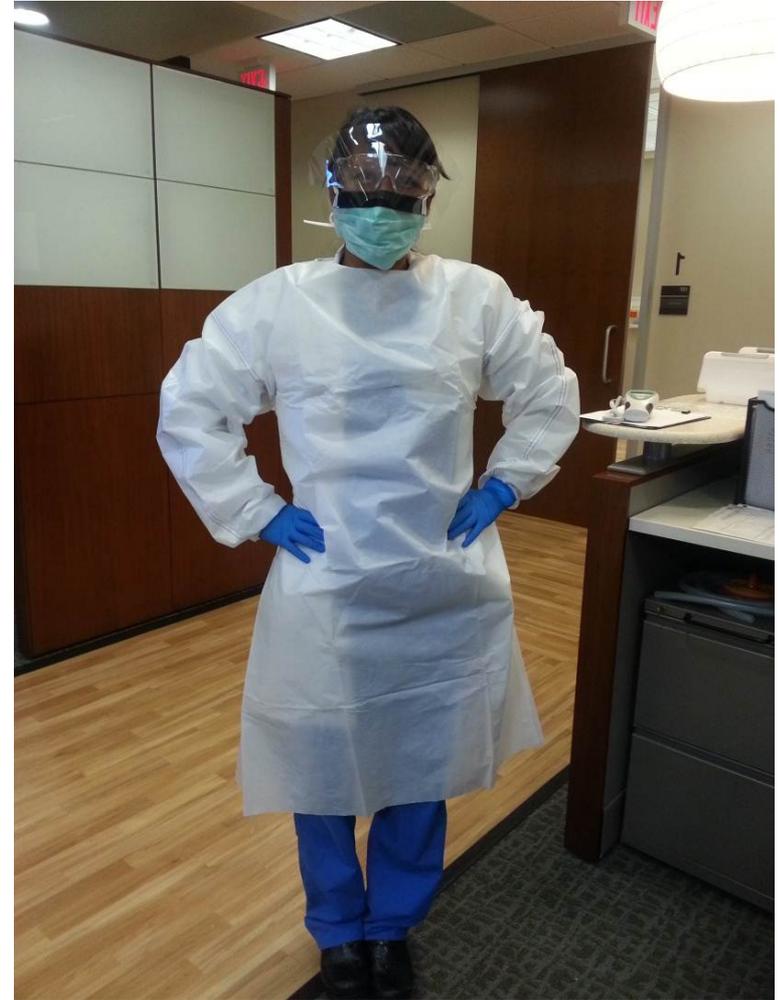




Personal Protective Equipment:

- We all *think* “more” PPE is better
- Donning *and* Doffing is crucial
- High proportion of infected HCW, became infected when doffing (removing) their PPE
- The best PPE is the PPE you have been trained in and that you understand, and that is applicable for your area, and your risk.

PPE Guidance in Duke isolation: different according to risk





Administrative Controls:

“The last thing you should rely on is that 1mm thick piece of Tyvek... Proper biosafety isolation should have occurred many meters away!”

HELP US BE PREPARED
IN IDENTIFYING F

EBC

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ASK

ISOLATE

CALL

UNC
HEALTH CARE



Duke Experience:



- Individual patient room
- Isolated hallways
- Secured ward entrance
- Camera / teleconference availability to clinical space
- Space for storage, reserve equipment, backup lab etc





Adult Learning Experience

- Target adult worker populations, not just in hospitals
- Active participation
- Hands-on activities
- Case studies
- Peer-sharing activities
- Electronic options





- DICON exists as an externally-facing Infection Control service *within* the Department of Medicine and Division of Infectious Disease
- Provides:
 - Training Courses
 - Prevention Initiatives
 - Website and Symposia

e-DICON:

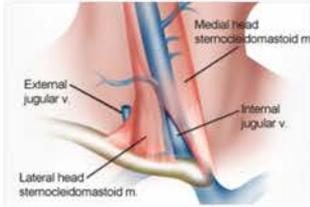


Available Courses

Course access is available by subscription, contact us or your institution's training coordinator about signing up



Stopping the Spread



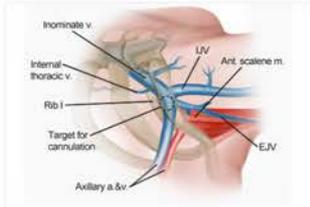
Care and Maintenance of Centr...



Prevention of Surgical Site I...



Safe Injection Practices: Cor...



Insertion of Central Venous C...



Safe Practices for Central Ve...



Training Courses for Healthcare Providers

- On-line Training Course for insertion of CVCs for physicians—provides CME credits
- On-line Training Course for care and maintenance of CVCs for nurses—provides CEUs
- Video modules for stopping the spread of infections by using proper hand hygiene practices
- Safe Injection Practices: Core Competencies for all healthcare workers
- Preventing SSI in the Operating Room—provides CME and CEU credits



Training Courses for Healthcare Providers

- On-Line courses have been used by over 200 hospitals and surgery centers
 - > 50,000 HCW—Insertion of CVC
 - > 20,000 Nurses—CVC Care & Maintenance
 - > 18,000—Safe Injection videos viewed
 - > 60,000 Hand hygiene course completions by Duke employees and non-Duke employees
- License agreements with hospitals in 29 states



Prevention Initiatives

- Goal: Provide hospitals with practical solutions to common important problems
 - “Pre-cooked food”
 - “How to”
 - Data and references
 - Adaptable templates
 - Prevent infections and thus save hospital money
- Examples
 - Invasive Spinal Procedures
 - Colorectal Surgery
 - Catheter-associated UTI
 - *Clostridium difficile* infection (CDI)



Simulation Lab

- Collaboration with Duke University Human Simulation and Patient Safety Center
- Training for patient transport
- Training for activating Isolation ward, donning / doffing

Practice the management of:

- Dropped sample
- Ripped glove
- Respiratory Distress / Emergency Airway
- Vascular Access
- Patient Delirium / Combativeness
- Extreme hypotension
- CXR
- U/S
- Lab specimen handling
- Trash/Linen handling





Expect the unexpected?



- Waste Management / Engineering
- Decontamination
- Simulation
- Media / Communications
- Psychologic support for staff
- Procurement delays
- Staff rostering and back-fill
- Legal framework (state, federal)

Duke suite – 3d waste accrual...



Finally:

Communication & Media Control

Harnessing the media can be a great method of risk mitigation and education

Beware media hyperbole





Questions?