

EMORY



Biosafety Support to Clinical Care Lessons Learned

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COMMUNICATIONS AND MEDIA RELATIONS
WASTE MANAGEMENT
LABORATORY – SAMPLE HANDLING
SUPPLIES
BIOSAFETY – EHS- PPE
STAFFING



COMMUNICATIONS AND MEDIA RELATIONS







Once we said yes...



Powered by The Atlanta Journal-Constitution

Thursday, July 31, 2014

Emory Healthcare to treat Ebola patient



Atlanta hospital deemed 1 of safest for Ebola care

AP 5 days ago | By RAY HENRY and MIKE STOBBE of Associated Press



'Training for this': Atlanta hospital ready for opportunity to treat Ebola patients

By Greg Botelho, CNN

updated 10:06 AM EDT, Sun August 3, 2014



Second Ebola patient recovering at Emory University Hospital, showing signs of improvement

Updated: 6:10 a.m. Wednesday, Aug. 6, 2014



Emory hospital isolation ward staff more than ready for Ebola patients

By Tina Susman August 2, 2014, 9:35 PM | Reporting from Atlanta



By Susan M. Grant August 6

I'm the head nurse at Emory. This is why we wanted to bring the Ebola patients to the U.S.



Atlanta hospital deemed 1 of safest for Ebola care

BY RAY HENRY AND MIKE STOBBE THE ASSOCIATED PRESS
08/03/2014 2:37 AM | Updated: 08/03/2014 4:58 PM



Emory University Hospital to treat American with Ebola



Communications

- Primary goal: to educate and to ease fears
- Key messages
 - **We have expertise in serious infectious diseases**
 - **We are trained and prepared for these patients**
 - **We will protect our patients, our staff and our communities**
- Patient confidentiality and respect is paramount
 - **“To act in the best interests of our patients”**



Communications

- Initially twice daily Town Hall meetings with the hospital staff was established
- Email updates to all staff
- A letter was given to each inpatient and all new admission explaining the situation and our key messages
- Key leaders rounded on the floors to answer questions



Operations Team

- Formed a hospital administration meeting once decision to accept first patient made
 - Met twice per day the first week
- Family Meetings with SCD staff conducted daily.
- Careful coordination with involved organizations and groups
 - Within Emory, state and federal government
- Formal review and approval process for key decisions



WASTE MANAGEMENT

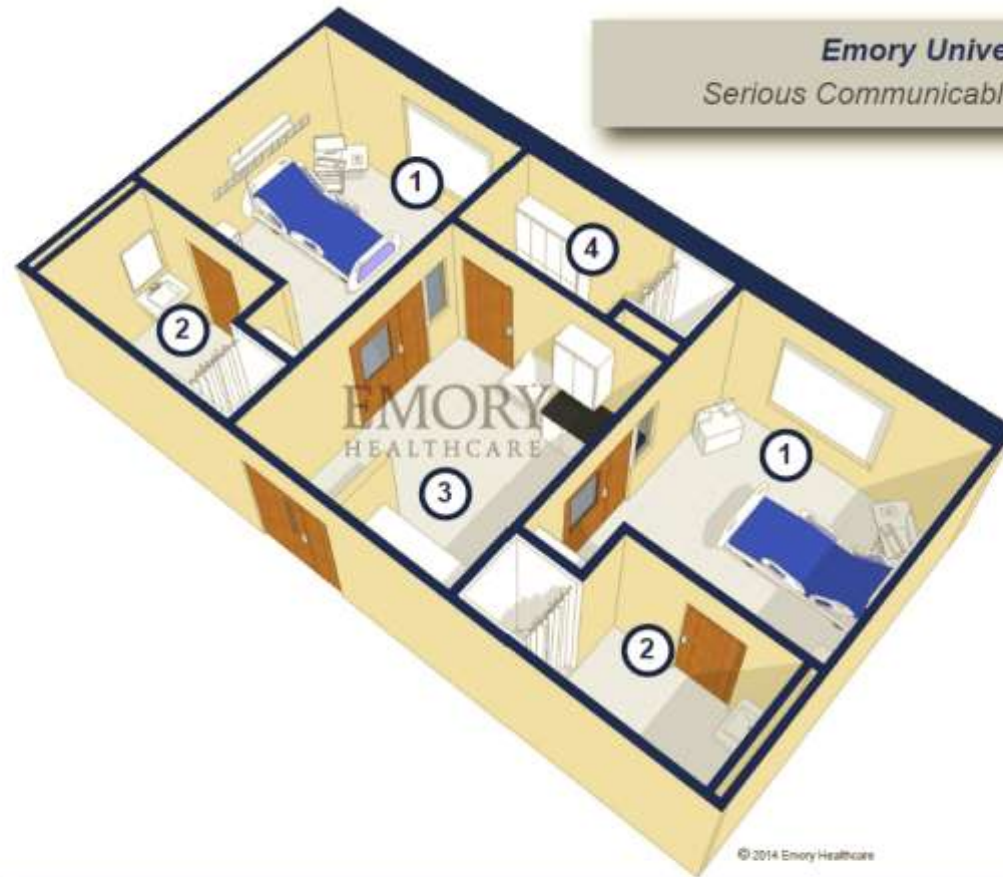


Waste Management

- All liquid waste is treated prior to releasing to the sanitary sewer.
- Local civil authorities also requested no untreated EBOV patient waste enter standard waste stream.
- All room wastes were triple bagged and sent to unit's autoclave
 - Initially took **6** days to form agreement with our waste disposal vendor to pick up bags for incineration.
 - Every autoclave run was required to be validated.
 - Document to final disposition.



Serious Communicable Diseases Unit



*Emory University Hospital
Serious Communicable Disease Unit*

EMORY
HEALTHCARE

1 Patient Room

2 Patient Support Room

3 Anteroom

4 Staff Dressing Room

EMORY
UNIVERSITY
HOSPITAL



LABORATORY SAMPLE HANDLING



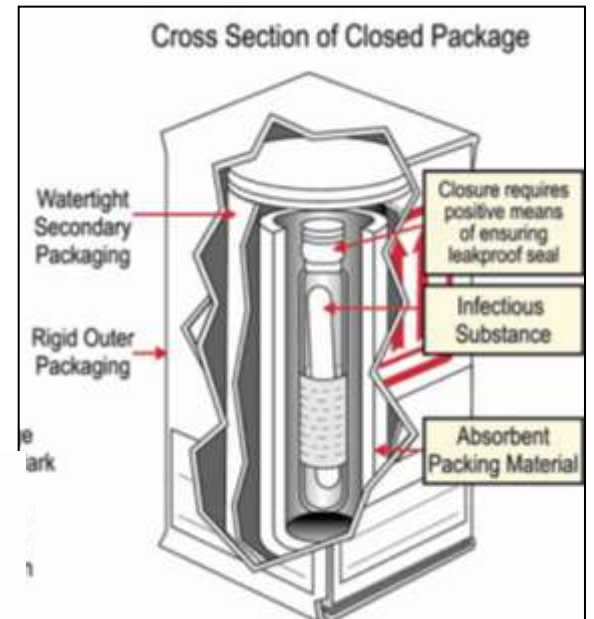
A Dedicated Lab Space

- The SCD unit had previously established laboratory testing capabilities within the anteroom
- We realized it would become too crowded, once the unit would be activated
 - Commandeered a room adjacent to anteroom
 - EHSO, Facilities and Engineering built a complete point of care lab facility in less than 72 hours



Sample Transport

- Existing hospital lab staff trained in packing and shipping.
 - Not part of the unit team
 - Reluctant to come to unit
 - Kalpana Rengarajan, trained members of SCD team at activation on packaging.
- Commercial couriers, even those certified in Category A shipping, refused to pick up anything from Emory destined for CDC



Category A Shipping Containment



Select Agent Rules?

- Emory is not a Select Agent Site.
- Clinical settings exempt from regulations
- Documentation and tracking requirements for diagnostic samples that are tested for Ebola and test positive.
 - Both for those who test the sample: Form 4 Section A&B
 - For those who provide the sample: Form 4 Section C&D

“Patty, They already know we have Ebola. This makes no sense.”





SUPPLIES



Supplies – EHS Related

- Does your facility have a sufficient on-hand supply:
 - PPE
 - Disinfectant
 - Spill Clean-up Materials
 - Autoclave bags
- Where are backups stored?
- What is your back-up contingency plan?
- Do you have multiple sources for quick replenishment?



BIOSAFETY AND EHS

PERSONAL PROTECTIVE EQUIPMENT



List of Regulations Associated with the Ebola Response



- **OSHA** - BBP, Lab Standard, PPE, HazCom, Respiratory Protection, etc.
- CDC/NIH Biosafety in Microbiological and Biomedical Laboratories (**BMBL**) 5th Ed.
- Department of Transportation (**DOT**) Hazardous Materials Regulations (Division 6.2 Biological Agents)
- National Science Foundation (**NSF**)/ American National Standards Institute (**ANSI**) 49 (Biosafety Cabinetry Certification)
- Georgia Environmental Protection Division (**EPD**)
- Federal Select Agent Program - **DSAT**

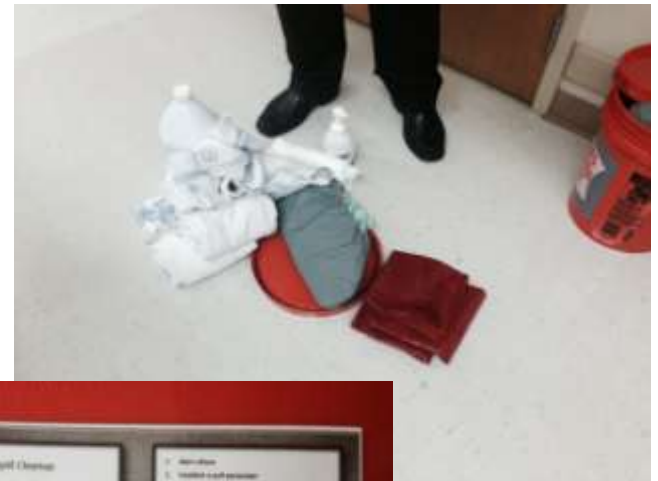




Bodily Fluid Clean-up

BE PREPARED

- Nurses and Doctors are not usually trained for bodily fluids clean up.
- Prepared kits
- Training





CDC “Recommendations” for Precautions for Prevention of Ebola Transmission

DO YOUR RISK ASSESSMENT

- Philosophy differences between Infection Control and Biosafety?
 - 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings

http://www.cdc.gov/hicpac/2007IP/2007ip_part2.html#e



PPE Risk Assessment – PPE Algorithm – PPE Matrix

Ebola Positive - Symptomatic Patient

| Personnel | Activities/Jobs/Tasks | Clinical Conditions of patients | Potential Exposures/Contamination | PPE requirements | Unexpected events | Additional PPE/Changes |
|-------------|---|---|---|---|---|------------------------|
| Nurses | Directly in contact with patients (clinical care) | <ul style="list-style-type: none"> ○ Nausea/Vomiting ○ Droplets ○ Diarrhea ○ Bleeding ○ Rash | <ul style="list-style-type: none"> ○ Mucous membrane- Eyes/nose/mouth ○ Feet ○ Hands ○ Whole body | <ul style="list-style-type: none"> ○ Full PAPR ○ Booties ○ Double Gloves ○ Tyvek Suit | <ul style="list-style-type: none"> ○ Explosive diarrhea ○ Projectile vomitus | |
| Physicians | Directly in contact with patients | <ul style="list-style-type: none"> ○ Nausea/Vomiting ○ Droplets ○ Diarrhea ○ Bleeding ○ Rash | <ul style="list-style-type: none"> ○ Mucous membrane- Eyes/nose/mouth ○ Feet ○ Hands ○ Whole body | <ul style="list-style-type: none"> ○ Full PAPR ○ Booties ○ Double Gloves ○ Tyvek Suit | <ul style="list-style-type: none"> ○ Explosive diarrhea ○ Projectile vomitus | |
| Lab techs | Directly in contact with patient samples | <ul style="list-style-type: none"> ○ Nausea/Vomiting ○ Droplets ○ Diarrhea ○ Bleeding ○ Rash | <ul style="list-style-type: none"> ○ Mucous membrane- Eyes/nose/mouth ○ Feet ○ Hands ○ Whole body | <ul style="list-style-type: none"> ○ Full PAPR ○ Booties ○ Double Gloves ○ Tyvek Suit | <ul style="list-style-type: none"> ○ Sample spill ○ BSC failure | |
| Waste techs | Directly in contact with waste generated from patient rooms | <ul style="list-style-type: none"> ○ Nausea/Vomiting ○ Droplets ○ Diarrhea ○ Bleeding ○ Rash | <ul style="list-style-type: none"> ○ Mucous membrane- Eyes/nose/mouth ○ Feet ○ Hands ○ Whole body | <ul style="list-style-type: none"> ○ Procedure Mask with extended shield ○ Booties ○ Double Gloves ○ Tyvek Suit | <ul style="list-style-type: none"> ○ Leaky bag ○ Autoclave Validation failure | |

DRAFT



CDC “Recommendations” for Precautions for Prevention of Ebola Transmission

DO YOUR RISK ASSESSMENT Agent Specific

Suspected asymptomatic
Suspected symptomatic
Positive asymptomatic
Positive symptomatic



Protecting Health Care Workers From Ebola: Personal Protective Equipment Is Critical but Is Not Enough

William A. Fischer II, MD; Noreen A. Hynes, MD, MPH; and Trish M. Perl, MD, MSc

- “Although PPE is effective at decreasing exposure to infected bodily fluids among health care workers, its presence is simply not enough”
- PPE itself can introduce risk
 - Proper training and competency in donning and doffing of PPE
 - Monitoring of activities by other team members
- Evaluate for and mitigate fatigue, exhaustion and complacency



Considerations for PPE

- All staff undergo training and refresher training from qualified instructors (EHSO + Key Nursing Staff)
 - Including all levels of possible PPE needed
- ALL EHS related SOPs are reviewed and approved by Biosafety, Infection Control, Nursing, and Infectious Disease Physicians.
- Removing PPE properly key to preventing contamination
- All donning and doffing of PPE was observed by another team member
 - Placed visual clues to remind staff of proper protocols
 - Noticed some complacency after several days
- Staff must be comfortable and assured with these procedures to ensure adequate patient care



STAFFING



Biosafety and EHS Staff

- What is your role?
- Are they trained to provide high level donning and doffing techniques?
 - Our training was called Advanced Infection Control.
- Is there an outside source for HELP when needed?
- Are you prepared to be on call?
- Quality Assurance Team?
- Occupational Medicine?



SUMMARY

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EMORY



Special Thank You

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