

POCT Options and Decisions In the HIDU

Dan Scungio, MT (ASCP), SLS, COA (ASQ)

Laboratory Safety Officer
Sentara Healthcare
"Dan the Lab Safety Man, Inc."



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It's In The Bag!



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Objectives:

- Review our experiences with an infectious disease crisis.
- Evaluate the POCT options in the Infectious Disease Unit Laboratory.
- Outline steps to take to ensure patient and staff safety in the face of a potentially dangerous outbreak.



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The Ebola Outbreak:

- Began March 2014
- Laboratory-Confirmed Cases: 15,255
- Total Cases (Suspected, Probable, and Confirmed): 28,646
- Total Deaths: 11,323
- Officially Ended On March 29, 2016



Response in the U.S.



Frontline Healthcare Facility

Quickly identifies and isolates patients with possible Ebola

Notifies facility infection control and state and local public health officials

Has enough Ebola personal protective equipment (PPE) for at least 12-24 hours of care

Prepares for patient transfer, if needed

Ebola Assessment Hospital

Safely receives and isolates a patient with possible Ebola

Provides immediate laboratory evaluation and coordinates Ebola testing

Cares for a patient for up to 5 days (including evaluation and management of alternative diagnoses) until Ebola diagnosis is confirmed or ruled out

Has enough Ebola PPE for up to 5 days of care

Transfers a patient with confirmed Ebola to an Ebola treatment center in consultation with public health officials

Ebola Treatment Center

Safely receives and isolates a patient with confirmed Ebola

Cares for patients with Ebola for duration of illness

Has enough Ebola PPE for at least 7 days of care (with stockpile as needed)

Has a sustainable staffing plan to manage several weeks of care

CEB Response Team (CERT) is ready to deploy to provide assistance as needed



Sentara Princess Anne Hospital



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Equipment/Other Considerations

- BSC
- Centrifuge
- Incubator
- Refrigerator
- Chemical Waste
- Biohazard Waste
- Space



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CDC Laboratory Tests (Assessment Hospital)

- CBC with Diff
- Sodium, potassium, bicarbonate, blood urea nitrogen, creatinine, and glucose concentrations
- Liver function tests
- Coagulation testing, specifically prothrombin time (PT), expressed as international normalized ratio (INR)
- Urinalysis (dipstick)
- Blood culture for bacterial pathogens Malaria testing (smear or rapid testing or PCR)
- Influenza virus testing during periods when influenza prevalence is high



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Original Laboratory Testing Pathways

- **POCT**
- Performed by RNs in patient room
- **Lab**
- Performed by Technologists in containment unit Laboratory
- Performed by External Lab (state, CDC)



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Nurse Training

- Blood collection
- Hand offs
- POCT Test Menu
 - UA Dipstick (manual read)
 - i-STAT



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i-Stat Test Menu

- ABG (G3+)
- Lytes, Gluc, BUN, iCA, H/H (CHEM 8)
- Measured HCT, Calculated HGB
- Lactate (CG4+)
- Includes ABG
- Glucose—i-STAT, not glucose meter
- Special considerations: All wastes disposed in designated container in patient room



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Test Result Entry

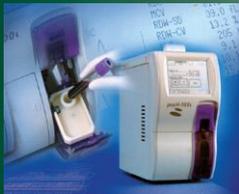
- Urine Dipstick
 - Manual form
 - Hand off to Lab tech
- i-STAT
 - Downloader
- Quality Control
 - Lab Tech perform & document



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Infectious Disease Lab Tests

- CBC
 - Automated 3 part differential



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Infectious Disease Lab Tests

- Chemistries
 - Chem Panel (Alb, Phos, Mg)
 - Liver Panel (Alb, ALP, ALT, Amylase, AST, GGT, Tbili, Total Protein)



Infectious Disease Lab Tests

- Malaria Testing
- Influenza Testing
- Rapid Strep Testing
- Prottime

- Blood Culture Analysis
 - Incubator
 - Gram Stains



Case Study #1-The Point of Care

- Nurses should not perform iStat testing at the patient bedside
1. Do you agree? Why/why not?
 2. What would have to happen in order to implement this change?

Update

- Nurses should not perform iStat testing at the patient bedside
- Recommended by CDC
- Danger to nursing staff due to potential blood splatter



Repercussions

- Duplication of Testing
 - iStat Chemistries
 - Piccolo Chemistries
- Change of Instruments
- Troponin?



Laboratory Staff Training

- Analyzer Operation
- Result Entry
- Hand-offs
- Packaging & Shipping
- Special Safety Training



Laboratory Staff Training

- PPE



Laboratory Staff Training

- PPE



Laboratory Staff Training

- Working in PPE



Laboratory Staff Training

- PPE



Case Study #2 – Change in PPE

- A new PAPR has been purchased.
 - Easier to put on
 - Easier to use
 - Wear longer
 - Other PPE stays the same
- Does lab still need 2 people in the room?
- Why or why not?



Update

- CAPR in use
- All users in same PPE
- Still don/doff with buddy system/checklists



Case Study #3 – Passing Out

- An employee in the HIDU lab has fainted while wearing PPE.
- How do you proceed?



Other Considerations

- Specimen Tracking
- Training/Competency/PT Testing
- Staff Scheduling
- Health Screens
- Critical Situations

Lessons Learned

- Flexibility
- Keep Going
- Resources
- Ready for the Future

All Systems Go!



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What Did You Learn?



CALL IN THE HAZ-MAT TEAM! THIS GUY'S SPILLING AMAZING ALL OVER THE PLACE!



• Questions?



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