

# **MANAGING EXPOSURE TO EBOLA**

**BACWA ANNUAL MEETING**

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# Presentation Objectives

- Brief Review of Ebola Virus Disease
- Understand Transmission of Ebola Virus
- Review Potential Exposure of Wastewater Workers
- Summarize Measures to Manage Exposure to Ebola Virus

# Review of Ebola Virus Disease

- Ebola virus is old and relatively stable
- Recent outbreaks in West Africa
- High mortality rate when infected
- Symptoms of Ebola virus disease
  - Fever, Severe headache, Muscle pain, Weakness, Fatigue, Diarrhea, Vomiting, Abdominal (stomach) pain, Unexplained hemorrhage (bleeding or bruising)
  - Appear from 2-21 days after exposure (average 8-10 days)

# Transmission of Ebola Virus

- Exposure from direct contact with bodily fluids of contaminated person or animal exhibiting symptoms
- Current knowledge – Ebola Virus is not transmitted by air, water, or food
- Survival of Ebola virus in wastewater reported to be short time (few minutes)
  - Documentation not located
  - Research needed



# Potential Exposure of Wastewater Workers

- Risk of exposure to Ebola Virus is very low during routine wastewater work
- Highest exposure is when working in collection system downstream of known Ebola source (e.g. hospital caring for Ebola patient)
  - Collection system workers
  - Source Control staff sampling hospital wastewater
- Processes that aerosolize wastewater contaminated with Ebola virus

# Measures to Manage Exposure to Ebola Virus

- Reinforce proper use of PPE to prevent exposure to raw wastewater
- Reinforce personal hygiene (e.g. hand washing) before taking breaks or eating
- Follow health and safety procedures established for bloodborne pathogens
- Control known or suspected sources of Ebola virus (e.g. wastes discharged from hospitals treating Ebola patients)
- Limit exposure to wastewater with known or suspected sources of Ebola virus
- Consider using enhanced personal protective equipment (PPE) for higher risk work

# Control Known or Suspected Sources of Ebola Virus

- CDC guidance is to flush contaminated human wastes to sanitary sewer without pretreatment
- January 13, 2015 CASA Guidelines for Wastewater Agencies to Work With Hospitals on Managing Ebola Wastes
  - Managing human wastes from patients known, or suspected, to be contaminated with Ebola virus
    - Isolate and do not discharge to sanitary sewer when feasible
    - Disinfect wastes prior to flushing to sanitary sewer
  - Notify wastewater agency if patient known, or suspected, to be contaminated with Ebola virus is admitted or treated



# Enhanced Personal Protective Equipment (PPE) for Higher Risk Work

- CDC identified enhanced PPE for workers working with wastewater contaminated with Ebola virus
  - Respiratory protection (exposure to mists), liquid resistant coveralls, double gloves (at least one liquid resistant) , rubber boots
- Additional health and safety considerations
- Consider when and when not to use

# Suggested Program Elements

1

- Address Concerns With Open Communication

2

- Integrate Management Strategies With Existing Programs When Feasible

3

- Make Adjustments To Work Practices When Necessary

# Resources

- <http://www.cdc.gov/vhf/ebola/about.html>
- <Http://www.who.int/csr/disease/ebola/en/>
- <http://www.casaweb.org/documents/01.13.2015 revised consensus rec for dialogue wv-hospitals - ebola virus.pdf>
- <http://www.casaweb.org/documents/evdwastemanagementonmtfsop.pdf>



## **QUESTIONS AND DISCUSSION**