Testing and Symptom Based Approach to CDI Control:

Essentials for Nursing, Infection Prevention, and Laboratory Personnel

IDPH *Clostridium difficile* Workshop
July 2012

OBJECTIVES

- Identify infection prevention measures based on patient symptoms
- Discuss how Infection Control Professionals, Laboratory Personnel, and Nursing can improve communication and collaboration to prevent the transmission of CDI

Case Scenario:

Jon, 67 year old, had a colon resection for Diverticulitis that had resulted in an abdominal abscess. It is POD 4 and he begins to have cramping, and is complaining of urgency and frequency with urination (his foley catheter was removed on POD 2). He is currently on Ciprofloxacin (for the abscess) and Levaquin is started for a possible UTI.

He is also taking Nexium for his GERD . Other history includes medical management of his diverticulitis with antibiotics in the past 3 months, and had a splenectomy as a result of a MVA 6 years ago. He has recently been diagnosed with Atrial fibrillation. At the end of POD 4 he begins to experience loose stools. Staff documents one loose stool, moderate amount at 2100.

Three hours later, the patient has another bout of "diarrhea" that doesn't get documented. The next day (POD 5) at 0500, the nurse documents large stool x1. When report was given at 0700, there was no mention of loose stools. His vitals at 0700 are temp of 38^0 C, Heart rate 96, RR 22, B/P 127/62. His am labs show that the WBC is elevated, but it has come down since surgery. He reports feeling a little nauseated and doesn't want to eat breakfast.

What are the symptoms?

- *Participants discuss and list*

Symptoms of *C-difficile*

- ❑Watery diarrhea (3 or more loose stools in 24 hours)
- ✓Leukocytosis
- ✓Temperature
- ✓Abdominal Cramping and pain/tenderness
- ✓Nausea
- ✓Loss of appetite
- ❑Dehydration

What are the Risk Factors?

- *Participants discuss and list*

Risk Factors of *C-difficile*

- ✓Patients on antibiotics
- ✓Patients over 65 years old
- ✓Gastrointestinal surgery or manipulation
- ❑Hospitalization for extended periods of time or multiple stays
- ❑Underlying illness
- ✓Immunocompromised
- ❑Previous history of *C-difficile*
- ❑Long Term Care patient
- ✓Use of Proton Pump Inhibitors

Case Scenario continued…

As POD 5 continues, the patient has 4 more large loose stools. The patient gets chills, his temperature elevates to 39º C, and he reports increased abdominal cramping and discomfort. A stool specimen is sent for *C-difficile* and the patient is placed in Contact Precautions/Isolation

Early Case Identification

- Documentation of daily consistent patient/stool assessments is essential
  - Elimination history at admission is also important
- Identify patients with ≥ 3 unformed, loose stools in 24 hours
- Initiate Isolation
- Send specimen for testing

Let's Focus on Isolation

Isolation: What happens at your facility?

- *Participants discuss and list*

Contact Isolation Guidelines

- Pre-emptive Isolation based on symptoms
- Compliance with Hand Hygiene is essential
  - Soap and water,
    - If a cluster or outbreak (CDC)
    - Required by CMS for infectious diarrhea for LTC
    - Recommended by IDPH collaborative
- Use of PPE, essential
  - Changing gloves between patient activities
- Communication
  - Signage
  - SBAR
  - Computer Flags
  - Transport Communication

So when do you discontinue isolation?

Symptom resolution

Isolation until 48-72 hours after symptoms resolve (supplemental from CDI toolkit and IDPH recommendation)

If patient is symptomatic, the isolation is maintained regardless of testing

Testing…What happens at your facility?

- *Participants discuss and list*

Laboratory Best Practices

- PCR is the preferred test, however it is not available at all facilities
- Test only specimens that conform to the cup (Lab criteria are varied)
- Single test for diagnosis – repeat testing could lead to false positive
- No re-testing for cure…contraindicated for positive patients (toxin may be present for long time)

Environmental Cleaning

- *Participants discuss and list*

Working Together: EVS and Nursing

- Good communication is essential
  - At the unit level
  - Knowledge of what rooms are *C-difficile* rooms
  - Unit transfers and discharges
- Real time and ongoing education and communication
  - Include staff in the cleaning audit process
  - Identify breaks in the system in "real time"
  - Provide learning (nonpunitive) opportunities
- Refine the cleaning process for *C-difficile* rooms
  - Have a process for cleaning shared equipment
  - Daily versus terminal
- Share your rates so staff are aware of outcomes

Bleach vs. Sporacidal

Bleach

- 1:10 solution
- May have to be mixed by staff
- Corrosive
- Strong vapors

Sporacidal

- Usually pre-mixed
- Strong vapors

•Verify the product chosen claims to kill the spores and NOT the vegetative form of *C-difficile*
•It is vital to know the contact time of the selected product

How do you monitor cleaning?

Can you identify the 17 High Touch Areas?

- *Participants to discuss*

Identify 17 High Touch Areas

- Bedrails/ controls
- Tray table
- Call box/button
- Telephone
- Bedside table handle
- Chair
- IV pole (grab area)
- Room sink
- Room light switch
- Room inner door knob
- Bathroom inner door knob/ plate
- Bathroom light switch
- Bathroom handrails by toilet
- Bathroom sink
- Toilet seat
- Toilet flush handle
- Toilet bedpan cleaner

ICU High Touch Areas:
•IV pump control
•Multi-module monitor controls
•Multi-module monitor touch screen
•Multi-module monitor cables
•Ventilator control panel

Methods to Evaluate Effective Environmental Cleaning

- Direct Practice Observation
- Swab Cultures
- Fluorescent Markers (gel, powder, lotion)
- ATP Bioluminescence
- Conducted by Epidemiologists, Infection Preventionists, or a chosen designee

Cleaning Audit Tool

TERMINAL CLEANING
Record results of evaluation for each surface on the check list for every room monitored. Use the following symbols for marking:
O = NOT CLEAN, X = CLEAN, LEAVE BLANK = NOT EVALUABLE NOTE - USE CAP LETTERS "X" AND "O"
The percentage of individual surfaces cleaned will be automatically calculated in Sheet 2 (Aggregate Score Sheet).
Please report aggregate scores calculated for each category highlighted in Sheet 2 (Aggregate Score Sheet).

				High Touch I			High Touch II			High Touch III			
Unit	Rm No.	Date of Marking (if applicable)	Date of Evaluation	Bed rails	Tray table	IV pole	Call box / button	Telephone	Bedside table handle	Chair	Rm sink	Rm light switch	Rm inner doorknob

Bathroom Surfaces							Equipment Surfaces					Surfaces Cleaned for Each Room		
BR inner doorknob	BR light switch	BR handrails	BR sink	Toilet seat	Toilet flush handle	Toliet bedpan cleaner	IV pump control	Monitor controls	Monitor touch screen	Monitor cables	Ventilator panel	# Surfaces Cleaned	# Surfaces Evaluated	% of Surfaces Cleaned
												0	0	#DIV/0!
												0	0	#DIV/0!

What are your educational goals ?

- *Participants to discuss*

Education and Communication

- Documentation of stools
  - Daily/per shift
  - POA
- Hand off communication should include # stools
- Full understanding of facility's policy and testing protocols
- Education of the Bundle
- Education of students (Medical, Nursing, Residents)
- Consider competencies (NPSG: annual)
- Patient and family education

Questions??