

Best Practices in LTCFS

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Karen Hoffmann, RN, MS, CIC, FSHEA
University of North Carolina- Chapel Hill
School of Medicine
Division Of Infectious Diseases

Infection Control in LTC

Goals

- Protect patient
- protect staff
- cost efficient

Best practices Issues

- Infection Control Program
- Prevention of Outbreaks
- Control of MRSA/AROs

Long Term Care: Infection Control Program

ICHE 1997; 18:831

- Oversight Committee
- Infection control practitioner
- Infection control functions:
 - Surveillance
 - Outbreak Control
 - Infection and Prevention Policies and Procedures
 - Education
 - Resident Health Program
 - Employee health program
 - Antibiotic review
 - Disease reporting
 - Other

Infection Control in Long Term Care vs Acute Care Facilities

- fewer resources
- less expertise/increased turnover
- multiple duties
- diagnostic facilities
- residence
- medical record
- limited research

Infection Control Program Surveillance

Surveillance


- definitions
- outbreaks
- intermittent/continuous
- denominator/1000 days

Anticipate Outbreaks

1. Infection outbreaks will occur in LTC
 - susceptible population
 - multiple exposures
 - facilitated transmission
2. Be prepared: policies and procedures
 - general outbreak guidelines
 - common/important specific agents

Anticipate Outbreaks

- influenza
- other severe respiratory illness
- foodborne
- norovirus
- scabies
- group A streptococcus
- Hepatitis B

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MMWR
Weekly
March 11, 2005 / 54(09);220-223

Transmission of Hepatitis B Virus Among Persons Undergoing Blood Glucose Monitoring in Long-Term-Care Facilities --- Mississippi, North Carolina, and Los Angeles County, California, 2003--2004

Regular monitoring of blood glucose levels is an important component of routine diabetes care (1). Capillary blood is typically sampled with the use of a fingerstick device and tested with a portable glucometer. Because of outbreaks of hepatitis B virus (HBV) infections associated with glucose monitoring, CDC and the Food and Drug Administration (FDA) have recommended since 1990 that fingerstick devices be restricted to individual use (2,3). This report describes three recent outbreaks of HBV infection among residents in long-term-care (LTC) facilities that were attributed to shared devices and other breaks in infection-control practices related to blood glucose monitoring. Findings from these investigations and previous reports suggest that recommendations concerning standard precautions and the reuse of fingerstick devices have not been adhered to or enforced consistently in LTC settings (2--5). The findings underscore the need for education, training, adherence to standard precautions, and specific infection-control recommendations targeting diabetes-care procedures in LTC settings (4--6) (Box 1).











Recommended practices for preventing patient-to-patient transmission of hepatitis viruses from diabetes care procedures in long-term-care settings

From the CDC, MMWR Weekly March 11, 2005

- Prepare medications such as insulin in a centralized medication area; multidose insulin vials should be assigned to individual patients and labeled appropriately.

**CDC Recommended Practices
(cont)**

- Wear gloves during fingerstick blood glucose monitoring, administration of insulin.
- Change gloves between patient contacts and after every procedure that involves potential exposure to blood or body fluids, including fingerstick blood sampling.

**CDC Recommended Practices
(cont)**

- Store individual patient supplies and equipment, such as fingerstick devices and glucometers, within patient rooms when possible.
- Keep trays or carts used to deliver medications or supplies to individual patients outside patient rooms. Do not carry supplies and medications in pockets.

**CDC Recommended Practices
(cont)**

- Consider using single-use lancets that permanently retract upon puncture.
- Assign separate glucometers to individual patients. If a glucometer used for one patient must be reused for another patient, the device must be cleaned and disinfected.

Recommendations for Cleaning and Disinfection of Glucometers (SPICE)

- Clean glucometer surface when visible blood or bloody fluids are present by wiping with a cloth dampened with soap and water to remove any visible organic material.

Recommendations for Cleaning and Disinfection of Glucometers (SPICE) cont.

- If no visible organic material is present, disinfect after each use the exterior surfaces following the manufacturer's directions using a cloth/wipe with either an EPA-registered detergent/germicide with a tuberculocidal or HBV/HIV label claim, or a dilute bleach solution of 1:10 (one part bleach to 9 parts water) to 1:100 concentration.

Recommendations for Cleaning and Disinfection of Glucometers (SPICE)

- Additional Information

- Directions for glucometer disinfection vary between manufacturers and models within brands. Alcohol should never be used because it can damage the light emitting diodes (LED) readout, causing "fogging" of the plastic screens. Alcohol is also not an EPA-registered detergent/disinfectant.

Recommendations for Cleaning and Disinfection of Glucometers (SPICE) - Additional Information

- Many manufacturers do not recommend the use of quaternary ammonium compounds because of the corroding effects on metal parts. This includes products that combine bleach with detergents or disinfectants.

Recommendations for Cleaning and Disinfection of Glucometers (SPICE) - Additional Information

- All manufacturers caution that having the cloth too saturated could allow liquid to get inside the glucometer and cause damage. Screens and ports currently are not sealed on these devices. Therefore, using a bleach-only disinfecting wipe is less likely to cause damage.

LTCF Infection Control Program

Other Components

- isolation/barrier precautions
 - airborne
 - contact/droplet
- resident health program
- employee health program
- education

LTCF Infection Control Program

Resident Health Program

- immunization
- admission screening
 - TB
- prevention of aspiration
- skin care
- oral hygiene

Infection Control Program

Employee Health Program

- immunization
 - tetanus, diphtheria, influenza, HBV, VZV, HAV
- post-exposure prophylaxis
 - HIV, HBV, TB, scabies
- work restrictions when ill

Influenza Vaccination of LTCF HCWs

- New Mexico DOH surveyed influenza rates at the state's 75 long-term care facilities during the 2006-2007 and 2007-2008 flu seasons.
- Authors looked for correlations between vaccination rates at each facility and whether there was an influenza outbreak.

Ref. Wendelboe, et al. Infection Control and Hospital Epidemiology, October 2011

Influenza Vaccination of LTCFS HCWS

- facility had between 51 and 75 percent of its healthcare personnel with direct patient care vaccinated
- chances of a flu outbreak in that facility went down by 87 percent.
- vaccination rates among U.S. healthcare workers still hover under 65 percent.

Ref. Wendelboe, et al. Infection Control and Hospital Epidemiology, October 2011

Infection Control Program

Education

- ICP education
 - ↑ knowledge
 - ↑ implementation
- LTCF personnel education
 - disease transmission
 - handwashing
 - barrier precautions
 - early symptom recognition

Antimicrobial Resistance

Long Term Care

- common/expanding
- variable among facilities
- consistent risk factors
 - functional disability
 - acute care exposure
 - antimicrobial exposure
- limited morbidity/mortality

Antimicrobial Resistance Control Proposed Best Practices

- hand hygiene/standard precautions
- separation
 - cohorting/single room
 - limited socialization
- barrier precautions
- screening
- optimal antimicrobial use

Antimicrobial Resistance in LTC Infection Control Management

Controversies

- screening
- restrictions
- barriers

Control of MRSA in Nursing Homes

1. Residents with MRSA should not be denied entry into LTCF.
 - no evidence effective to prevent MRSA
 - ↑ acute care resources
 - no evidence increased morbidity or mortality with MRSA

Control of MRSA in Nursing Homes

3. Pre-admission surveillance cultures are not indicated but the facility should be advised of patients known to be infected or colonized

Control of MRSA in Nursing Homes

2. Decolonization therapy should not be required prior to admittance to LTCF.
 - failure of decolonization
 - increasing resistance

Control of MRSA in Nursing Homes

4. Colonized residents should not be restricted from participation in social or therapeutic group activities unless:
 - shedding large numbers of organisms and implicated in infection of other residents.
5. No evidence strict isolation effective
 - inadequate rehabilitation may impair convalescence

Control of MRSA in Nursing Homes

6. Routine/standard precautions indicated: colonization
- handwashing - adequate sinks, education, and incentives
 - minimize use of invasive devices
 - barrier precautions for all wounds and invasive devices - adequate supplies and education

Control of MRSA in Nursing Homes

7. Surveillance:
- microbiology review
 - threshold infection rates

Key Research Questions for Antimicrobial Use and Resistance in LTCF

Richards, JAGS, 2002

1. What explains the extreme variance in antimicrobial use in previous studies?
2. What is the scope and magnitude of adverse effects from antimicrobial use in LTCF residents?

Key Research Questions for Antimicrobial Use and Resistance in LTCF

Richards, JAGS, 2002

3. What is the relationship between antimicrobial use and resistance in LTCF?
4. How can antimicrobial use be optimized in LTCF?

Key Research Questions for Antimicrobial Use and Resistance in LTCF

Richards, JAGS, 2002

5. How do the incidence and severity of ARO infections in LTCF compare with acute care?
6. What is the role of health care workers in transmission of resistant organisms?

Key Research Questions for Antimicrobial Use and Resistance in LTCF

Richards, JAGS, 2002

7. What is the role of the environment in transmission of resistant organisms?
8. What is the role of antimicrobial use in the generation of resistant organisms?

Key Research Questions for Antimicrobial Use and Resistance in LTCF

Richards, JAGS, 2002

9. How can empiricism in antimicrobial use be reduced?
 - ? Antibiotic stewardship,
 - ? diagnostic strategies,
 - ? criteria for infection,
 - ? restriction of antibiotic classes
10. Are infection control guidelines for ARO's feasible in LTCF that are based on patient risk and needs?

Antimicrobial Resistance Long Term Care Management

- consider facility/resident population
- surveillance for infection
 - not screening for colonization
- epidemic vs endemic
- antimicrobial use
- restriction/barriers only if documented risk

Infection Prevention in LTC Likely Effective

- outbreak prevention/control
- influenza vaccination
- environmental management
 - food practices
 - shared equipment cleaning
- ill worker restriction

Thank you!

QUESTIONS
