

Sources of Infection in Assisted Living Facility

**Karen K Hoffmann, RN, MS, CIC, FSHEA
Centers for Medicare and Medicaid (CMS)
Infection Control Specialist**

Topics of Lecture

- Safe Injection Practices
- Point of Use Devices

Safe Injection Practices

- **Syringe reuse among infection control lapses, leading to 33 outbreaks**
- Thirty-three outbreaks in non-hospital settings and seven hospital outbreaks are examined in a recent study by the Centers for Disease Control and Prevention (CDC). Multiple failures in basic infection control practices in non-hospital settings such as the reuse of syringes has led to the testing of over 60,000 U.S. patients for viral hepatitis.

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) cont.

- There is at least one manufacturer (Alcavis) that makes a both a 1:50 and a 1:100 concentration of **bleach-only** disinfecting wipe for environmental surface disinfection.

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.



**North Carolina Department of Health and Human Services
Division of Public Health • Epidemiology Section
Section Office**

1902 Mail Service Center • Raleigh, North Carolina 27699-1902
Tel 919-733-3421 • Fax 919-733-0195

Beverly Eaves Perdue, Governor
Lanier M. Cansler, Secretary

Jeffrey P. Engel, MD
State Health Director

December 2, 2010

TO: All North Carolina Health Care Providers
FROM: Megan Davies, MD, State Epidemiologist

WARNING: SPREAD OF HEPATITIS B THROUGH UNSAFE DIABETES CARE

An outbreak of hepatitis B virus (HBV) infections was recently identified among residents of a long-term care facility in North Carolina, resulting in severe illnesses and even deaths. Nationally, there have been more than 15 outbreaks of HBV infection reported in the past 10 years associated with unsafe blood glucose monitoring and insulin administration practices. Since many hepatitis B infections are not recognized or reported, the true number of outbreaks is probably much higher.

In order to prevent additional infections, the North Carolina Division of Public Health urges all health care providers to follow these basic rules for safe diabetes care:

Reusable Fingertick Device

CDC recommends that these devices never be used for more than one person



Single-use, disposable fingerstick devices

Single-use, auto-disabling fingerstick devices:

In settings where assisted monitoring of blood glucose is performed, single-use, auto-disabling fingerstick devices should be used.

Simple rule for safe care:

Fingerstick devices should never be used for more than one person.



Blood Glucose Meters

Whenever possible, blood glucose meters should be **assigned to an individual person and not be shared**

**Simple rule for safe care:
Blood glucose meters should
not be shared**

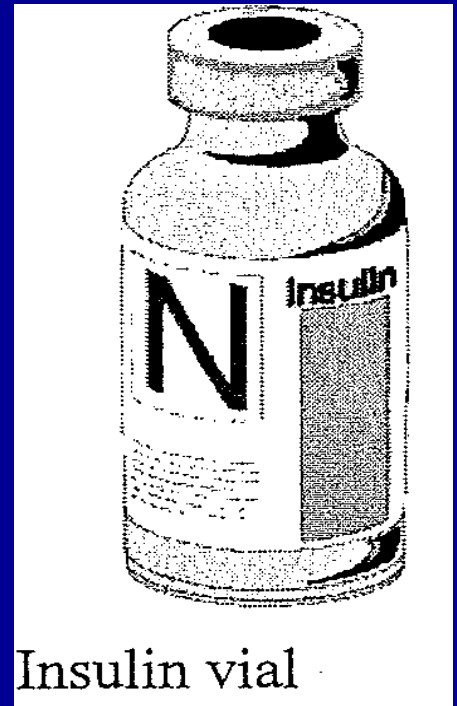


Insulin pens always must be single resident use and labeled appropriately



Insulin Administration

- Multi-dose vials of insulin should be dedicated to a single person whenever possible.
- Medication vials should always be entered with a new needle and syringe.



Supplies

- Unused supplies and medications should be maintained in clean areas...separate from used supplies and equipment (e.g. blood glucose meters)
- Health care providers should not carry supplies and medications in pockets.

Hand Hygiene and blood glucose monitoring

- Wear gloves during glucose monitoring.
- Change gloves between patient contacts, or if having touched potentially blood contaminated objects or fingerstick wounds before touching clean surfaces.
- Perform hand hygiene immediately after glove removal and before touching other supplies or persons.

Oversight of Safe Practices

- OSHA requires the HBV vaccine series, and post series serology to be offered to all unvaccinated staff whose activities contact with blood or body fluids.
- Assess adherence to infection control recommendations for blood glucose monitoring and insulin administration by periodic observation.
- Report to Public Health authorities any suspected newly acquired bloodborne infection (HBV) in residents, or staff members.

Summary

- Simple rules for Safe Healthcare
 1. Fingertick devices should never be reused for one than one person.
 2. Blood glucose meters should be assigned to an individual person and not shared.
 3. Injection equipment (e.g. insulin pens, needles, and syringes) should never be used for more than one person.

Thank you!

Have a terrific day!