CDC Clinical Reminder: Use of Fingerstick Devices on More than One Person Poses Risk for Transmitting Bloodborne Pathogens

CDC has investigated multiple outbreaks of viral hepatitis among residents in long-term-care (LTC) communities that were attributed to shared devices and other breaks in infection-control practices related to blood glucose monitoring. Any time blood glucose monitoring equipment is shared between individuals there is a risk of transmitting viral hepatitis and other bloodborne pathogens.

Following are specific infection control recommendations targeting diabetes care procedures in long term care communities (e.g., Senior Centers, Continuum of Care Communities, Assisted Living Facilities and Skilled Nursing Facilities) but anyone performing fingerstick procedures should review the following recommendations to assure that they are not placing persons in their care at risk.

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Reminder Regarding Insulin Pens and Cartridges
Single-patient insulin pens and insulin cartridges should not be used to administer medication to multiple patients due to the potential risk of transmitting blood-borne pathogens such as HIV and the hepatitis viruses. Insulin pens are not designed for, and are not safe for, use on more than one patient. Even if needles are changed between patients, blood contamination of the pen reservoir could result in transmission of already existing blood-borne pathogens from the previous user. All insulin pens are approved only for single-patient use - one device for only one patient. For more information, please refer to the FDA site.

Diabetes Care Procedures and Techniques

- Prepare medications such as insulin in a centralized medication area; multiple dose insulin vials should be assigned to individual patients and labeled appropriately.
- Decontaminate environmental surfaces such as glucometers regularly and any time contamination with blood or body fluids occurs or is suspected.
- Maintain supplies and equipment such as fingerstick devices and glucometers within individual patient rooms if possible.
- Any trays or carts used to deliver medications or supplies to individual patients should remain outside patient rooms. Do not carry supplies and medications in pockets.
- Unused supplies and medications taken to a patient’s bedside during fingerstick monitoring or insulin administration should not be used for another patient because of possible inadvertent contamination.
- Glucometers should be assigned to individual patients and used as directed.
- Glucose test meters approved for use with more than one person must be cleaned and disinfected following disinfection guidelines.
- Never reuse needles, syringes, or lancets.
- Restrict use of fingerstick capillary blood sampling devices to individual patients, they should never be shared. Select single-use lancets that permanently retract upon puncture.
- Dispose of used fingerstick devices and lancets at the point of use in an approved sharps container.
- Store unused and used diabetes equipment and supplies separately

Hand Hygiene and Glove Recommendations

- Wear gloves during fingerstick glucose monitoring, administration of insulin, and any other procedure that involves potential exposure to blood or body fluids.
- Change gloves between patient contacts.
- Change gloves that have touched potentially blood-contaminated objects or fingerstick wounds before touching clean surfaces.
Remove and discard gloves in appropriate receptacles after every procedure that involves potential exposure to blood or body fluids, including fingerstick blood sampling.

Perform hand hygiene (i.e., hand washing with soap and water or use of an alcohol-based hand rub) immediately after removal of gloves and before touching other medical supplies intended for use on other residents.

Management and Oversight

- Provide a full Hepatitis B vaccination series to all previously unvaccinated LTC staff persons whose activities involve contact with blood or body fluids and then check and document post-vaccination titers one to two months after completion of the vaccination series.
- Establish responsibility for oversight of infection-control activities.
- Investigate and report any suspected case that may represent a newly acquired bloodborne infection.
- Have staff demonstrate knowledge of standard precautions guidelines and proficiency in application of these guidelines during procedures that involve possible blood or body fluid exposures.
- Provide staff members who assume responsibilities involving percutaneous procedures with infection control training that includes practical demonstration of aseptic techniques and instruction regarding reporting exposures or breaches. Direct annual retraining to all staff members who perform procedures that involve exposure to blood or body fluids.
- Assess compliance with infection-control recommendations for fingerstick glucose monitoring (such as hand hygiene and glove changes between patients) by periodically observing personnel and tracking use of supplies.

Clinical Supervision
• Regularly review the individual patients’ schedules for fingerstick blood glucose sampling and insulin administration and reduce the number of percutaneous procedures to the minimum necessary for appropriate medical management.
• Assure that adequate staffing levels are maintained to perform all scheduled diabetes care procedures, including fingerstick blood glucose monitoring.
• Consider the diagnosis of acute viral hepatitis infection in long-term care (LTC) residents who develop an illness that includes hepatic dysfunction or elevated aminotransaminase levels (AST or ALT).

**Hepatitis B Vaccination for Adults with Diabetes Mellitus: Recommendations of the ACIP**

On the basis of available information about HBV risk, morbidity and mortality, available vaccines, age at diagnosis of diabetes, and cost-effectiveness, ACIP recommends the following:

• Hepatitis B vaccination should be administered to unvaccinated adults with diabetes mellitus who are aged 19 through 59 years (recommendation category A; evidence type 2).
• Hepatitis B vaccination may be administered at the discretion of the treating clinician to unvaccinated adults with diabetes mellitus who are aged ≥60 years (recommendation category B; evidence type 2).

Medscape Commentary: [Hepatitis B Vaccine for Adults With Diabetes by Trudy Murphy, MD](#)

**Related CDC Resources:**

• [CDC Diabetes information](#)
• [MMWR: Use of Hepatitis B Vaccination for Adults with Diabetes Mellitus: Recommendations of the Advisory Committee on Immunization Practices (ACIP)](#)
• [MMWR: Notes from the Field: Deaths from Acute Hepatitis B Virus Infection Associated with Assisted Blood Glucose Monitoring in an Assisted-Living Facility --- North Carolina, August--October 2010](#)
• [MMWR: 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](#)
• [Infection Prevention during Blood Glucose Monitoring and Insulin Administration](#)
• [Prevention & Control of Hepatitis B in Health Care Settings](#)
• [Prevention & Control of Hepatitis C in Health Care Settings](#)
• [Universal Precautions for Prevention of Transmission of HIV and Other Bloodborne Infections](#)
• [Infection Control in Long-Term Care Facilities](#)

**Other resources:**
• **SHEA/APIC Guideline: Infection Prevention and Control in the Long-Term Care Facility**

• **FDA Notice: Use of Fingerstick Devices on More Than One Person Poses Risk for Transmitting Bloodborne Pathogens: Initial Communication**

• **FDA: Letter to Manufacturers of Blood Glucose Monitoring Systems Listed With the FDA**