



Practice Briefs

What factors should be considered when developing a protocol or policy for cleaning and disinfection of blood glucose meters used on multiple patients?

In the last 10 years, alone, there have been at least 15 outbreaks of [Hepatitis B virus] infection associated with providers failing to follow basic principles of infection control when assisting with blood glucose monitoring. Due to under-reporting and under recognition of acute infection, the number of outbreaks due to unsafe diabetes care practices identified to date are likely an underestimate.

Although the majority of these outbreaks have been reported in long-term care settings, the risk of infection is present in any setting where blood glucose monitoring equipment is shared or those assisting with blood glucose monitoring and/or insulin administration fail to follow basic principles of infection control.

Centers for Disease Control and Prevention, Infection Prevention during Blood Glucose Monitoring and Insulin Administration

Device Selection

Blood glucose meter manufacturers designate if the meter is intended for single patient use, multiple patient use, or both.² **A device which is intended for single patient use should not be shared.**

Device Use

Whenever possible, blood glucose meters should be assigned to an individual person and not be shared¹. The device manufacturer's instructions for use and disinfection should guide protocol or policy development.

If blood glucose meters must be shared, the following must be in place:

- the device selected must be intended by the manufacturer for multiple patient use
- the device should be cleaned and disinfected after every use, per manufacturer's instructions, to prevent carry-over of blood and infectious agents. If the manufacturer does not specify how the device should be cleaned and disinfected then it should not be shared¹
- The disinfectant recommended by the manufacturer should be effective against HIV, Hepatitis C, and Hepatitis B virus

Disinfectant selection

Disinfectants which are effective against HIV, *Mycobacterium tuberculosis*, and Hepatitis B can be found or verified using the EPA List E: EPA's Registered Antimicrobial Products Effective Against *Mycobacterium tuberculosis*, Human HIV-1 and Hepatitis B Virus at <https://www.epa.gov/sites/production/files/2017-06/documents/20171406-liste.pdf> last accessed 7/26/17

Note: 70% ethanol solutions (e.g., alcohol wipes) are not effective against viral bloodborne pathogens².

Disinfectant Use

Determine the disinfectant(s) recommended by the manufacturer and verify that it is listed on the EPA List E, as above. If multiple disinfectants are listed, consider choosing one that is already in use at the facility.

Healthcare workers using the disinfectant should be oriented to proper use (i.e, appropriate personal protective equipment for use and the required contact time of the disinfectant). A specific policy or protocol should be developed for your facility. Training of healthcare workers should:

- Occur before they begin work using the disinfectant/ device.
- Be repeated annually and as needed (e.g., if audits suggest a need for retraining or new practices or products are introduced)

References

1. Infection Prevention during Blood Glucose Monitoring and Insulin Administration, Centers for Disease Prevention and Control <https://www.cdc.gov/injectionsafety/blood-glucose-monitoring.html> last accessed 7/26/17
2. FDA Communication: Letter for Manufacturers of Blood Glucose Monitoring Systems Listed with the FDA <https://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/InVitroDiagnostics/ucm227935.htm> last accessed 7/26/17