

Injection Safety/Safe Medication Handling

The Centers for Disease Control and Prevention has identified 33 hepatitis outbreaks between 1998 and 2008 resulting from deficient health care practices. These outbreaks occurred in outpatient settings such as doctor's offices, outpatient clinics, dialysis centers, and nursing homes. Unsafe injection practices, such as reuse of syringes, accounted for most of the infections and exposures. In addition to viruses, unsafe practices when handling medications for injection can put a dialysis patient at risk of central line-associated bloodstream infections.

The following recommendations should be followed in all dialysis centers. They apply to the use of needles, cannulas that replace needles, and, where applicable, intravenous delivery systems:

- Use aseptic technique to avoid contamination of sterile injection equipment and supplies.
- Do not administer medications from a syringe to multiple patients, even if the needle or cannula on the syringe is changed. Needles, cannulae, and syringes are sterile, single-use items; they should never be reused for another patient.
- Do not enter any vial with a used syringe or needle.
- Decontaminate vial stoppers with antiseptic before entering a vial with a sterile needle
- Use fluid infusion and administration sets (i.e., intravenous bags, tubing, and connectors) for one patient only and dispose appropriately after use. Consider a syringe or needle/cannula contaminated once it has been used to enter or connect to a patient's intravenous infusion bag or administration set.
- Use single-dose vials for parenteral medications whenever possible.
- Do not administer medications from single-dose vials or ampules to multiple patients or combine leftover contents for later use.
- If multiple-dose vials must be used, both the needle or cannula and syringe used to access the multiple-dose vial must be sterile.
- Do not keep multiple-dose vials in the immediate patient treatment area and store in accordance with the manufacturer's recommendations; discard if sterility is compromised or questionable.
- Do not use bags or bottles of intravenous solution as a common source of supply for multiple patients.
- Medications should be prepared only in a dedicated medication area and never at the dialysis station.
- Medication vials should always be discarded whenever sterility is compromised or questionable.
- In addition, the United States Pharmacopeia General Chapter 797 recommends the following for multiple-dose vials of sterile pharmaceuticals:
 - If a multiple-dose vial has been opened or accessed (e.g., needle-punctured), the vial should be dated and discarded within 28 days unless the manufacturer specifies a different (shorter or longer) date for that opened vial.
 - If a multiple-dose vial has **not** been opened or accessed (e.g., needle-punctured), it should be discarded according to the manufacturer's expiration date.
- The manufacturer's expiration date refers to the date after which an unopened multiple-dose vial should not be used. The beyond-use date refers to the date after which an opened multiple-dose vial should not be used. The beyond-use date should never exceed the manufacturer's original expiration date.

For information on storage and handling of vaccines, please refer to the Centers for Disease Control and Prevention Vaccine Storage and Handling Toolkit or the manufacturer's recommendations for specific vaccines.

References

Centers for Disease Control and Prevention. CDC - Multi-dose vials - Safe Practices for Medical Injections FAQs - Injections Safety. www.cdc.gov/injectionsafety/providers/provider_faqs_multivials.html. Accessed January 3, 2014.

One & Only Campaign. What Are They & Why Follow Them? www.oneandonlycampaign.org/content/what-are-they-why-follow-them. Accessed January 3, 2014.