



The Children's Hospital

'Contagious Comments'

Department of Epidemiology

Safe Injection Practices – An Important Review

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Given the recent outbreak in Las Vegas involving Hepatitis C due to improper vial use, we thought it would be a good idea to do a quick review of safe injection practices. As a result of the Las Vegas outbreak and other similar outbreaks, The Center's for Disease Control (CDC) recently published safe injection practice reminders on its web site. We encourage you share this adapted version with your staff and also review your unit/office practices.

The following recommendations apply to the use of needles, cannulas that replace needles, vials, and, where applicable intravenous delivery systems:

- Use aseptic technique to avoid contamination of sterile injection equipment.
- 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 not be reused for another patient nor to access a medication or solution that might be used for a subsequent patient.
- 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 multidose vials must be used, both the needle or cannula and syringe used to access the multidose vial must be sterile.
- Do not keep multidose vials in the immediate patient treatment area. Store in accordance with the manufacturer's recommendations; discard if sterility is compromised or questionable. If a vial looks cloudy or has particulate, please save the vial and contact Infection Control for further instructions.
- Do not use bags or bottles of intravenous solution as a common source of supply for multiple patients.
- Why it is necessary to clean the tops of vials with alcohol even when they have lids or caps? Is it really necessary? Aren't they already sterile?
 - Did you know that while manufacturers guarantee the sterility of IV solutions themselves, this does not include the outside of the container, including the rubber stopper? In addition, flip-off caps are not designed to be hermetic, and the presence of a drop of condensation what on the cap is not uncommon after sterilization and is even inherent in the design of the flip-off cap. A nation wide epidemic of *Enterobacter* septicemia occurred in the US in the 1970's due to contamination of the inner surface of screw-cap closures of various infusion bottles after autoclaving.
 - More recently, a pediatric hospital reported an outbreak of *Burkholderia cepacia* bacteremia due to contamination of the top of the stoppers on lipid bottles. The contamination was traced to a defective sterilizer (that also grew the *B. cepacia*) which led to contamination of the water used for the cooling process (post-sterilization) during which time the organism gained access to the top of the stopper under the lid.
 - So, the next time you remove the foil or the flip-top from a vial, remember to scrub the rubber stopper with alcohol and friction for 15 seconds before entering the stopper with a needle, IV tubing spike, etc. Do not assume these come sterile!