

## Infection Prevention Control (IPC) Topic: Safe Injection Practices

**Introduction:** Injection safety are practices intended to prevent the spread of infectious diseases between one patient and another, or between a patient and healthcare provider, and to prevent harms such as needlestick injuries.

**What is the risk?** Unsafe injection practices put patients and healthcare workers at risk of diseases, including bacterial infections or bloodborne pathogens. Blood is one of the reservoirs in our body, where germs can grow. It is an essential infection control action to prevent the spread of germs from the reservoir, blood.<sup>1</sup> Viruses including Hepatitis B (HBV), Hepatitis C (HCV), and Human Immunodeficiency Virus (HIV) can be present even in the absence of visible blood.

### Highlights:

- What is Injection Safety?<sup>2</sup>
  - ◆ Injection safety, or safe injection practices, is a set of measures taken to perform injections in an optimally safe manner for patients, healthcare personnel, and others.
  - ◆ A safe injection –
    - ◇ does not harm the recipient.
    - ◇ does not expose the provider to any avoidable risks.
    - ◇ does not result in waste that is dangerous for the community.
- Common injection safety breaks:
  - ◆ Syringe reuse<sup>3</sup>
    - ◇ Direct – using same syringe from patient to another patient.
    - ◇ Indirect – using same syringe to access medications from vials to be used on patients.
  - ◆ Reinsertion of used needles into a multiple-dose vial or solution container
  - ◆ Access of a medication vial or bag with a syringe that has already been used to administer medication to a patient, then using the remaining contents from that vial or bag for another patient
  - ◆ Using medications packaged as single-dose or single-use for more than one patient.
  - ◆ Failure to use aseptic technique when preparing and administering injections.
- Recommendations for Safe Injection Practices<sup>4</sup>
  - ◆ DO's
    - ◇ Use aseptic technique to avoid contamination of sterile injection equipment.
    - ◇ Use fluid infusion and administration sets (i.e., intravenous bags, tubing and connectors) for 1 patient only and dispose appropriately after use.
    - ◇ Use single-dose vials whenever possible.
    - ◇ If multidose vials must be used, both the needle or cannula and syringe used to access the multidose vial must be sterile.
  - ◇ A good rule to always remember is one syringe, one needle, only one time.<sup>5</sup>
  - ◆ DONT's

- ◇ Do not administer medications from a syringe to multiple patients, even if the needle or cannula on the syringe is changed.
- ◇ Do not administer medications from single-dose vials or ampules to multiple patients or combine leftover contents for later use.
- ◇ Do not keep multidose vials in the immediate patient treatment area.
- ◇ Store multidose vials 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.

#### □ Injection and Medication Safety<sup>6</sup>

- ◆ Prepare medications in an assigned clean medication preparation area, away from reservoir areas such as sinks or other water sources.<sup>7</sup>
- ◆ Use aseptic technique when preparing and administering medications.
- ◆ Disinfect the rubber stopper of medication vials before inserting a device into the vial.
- ◆ Use needles and syringes for **one patient only** (manufactured prefilled syringes and insulin pens).
- ◆ Enter medication containers with a **new needle and a new syringe**, even for the same patient.
- ◆ Ensure single-dose or single-use vials, ampules, and bags or bottles of intravenous solution are used for **one patient only**.
- ◆ Use fluid infusion or administration sets (e.g., intravenous tubing) for **one patient only**.
- ◆ Set aside multidose vials to a single patient whenever possible.
  - ◇ If multidose vials are used for more than one patient, contain the medication vials to a dedicated medication area and do not bring them into the immediate patient treatment area.

**Summary:** Injection safety is every healthcare worker's responsibility. The unsafe injection practices by some healthcare workers are related to outbreaks of Hepatitis B and C, and rarely HIV.<sup>8,9</sup> To prevent the spread of bloodborne pathogens, never re-use a syringe or needle, even if you don't see blood in it<sup>10</sup>. Remember, one syringe, one needle, one time.

#### References:

1. [Germs can live in blood \(cdc.gov\)](https://www.cdc.gov/germscanliveinblood/)
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3. [Schaefer M- NC APIC 2009 - Injection Safety - Nov 1 \(cdc.gov\)](https://www.cdc.gov/injectionsafety/schaefer-m-nc-apic-2009/)
4. [Safe Injection Practices to Prevent Transmission of Infections to Patients | Injection Safety | CDC](https://www.cdc.gov/injectionsafety/safe-injection-practices-to-prevent-transmission-of-infections-to-patients/)
5. [One and Only Campaign | Injection Safety | CDC](https://www.cdc.gov/injectionsafety/one-and-only-campaign/)
6. [CDC's Core Infection Prevention and Control Practices for Safe Healthcare Delivery in All Settings | Infection Control | CDC](https://www.cdc.gov/infectioncontrol/core-practices-for-safe-healthcare-delivery-in-all-settings/)
7. [Germs live in water and on wet surfaces \(cdc.gov\)](https://www.cdc.gov/germsliveinwaterandonwetsurfaces/)
8. [Reported Health care-Associated Hepatitis B and C Outbreaks | CDC](https://www.cdc.gov/hepatitis/b/c-outbreaks/)
9. [Human Immunodeficiency Virus \(HIV\) in Healthcare Settings | HAI | CDC](https://www.cdc.gov/hai/infections/hiv/)
10. [Medication Administration Questions | Injection Safety | CDC](https://www.cdc.gov/injectionsafety/medication-administration-questions/)
11. [One and Only Campaign](https://www.cdc.gov/injectionsafety/one-and-only-campaign/)