

# FAST FACTS: UNSAFE INJECTION PRACTICES

## The Impact of Unsafe Injection Practices

Although safe injection practices are basic infection control measures, they are not always followed.

- More than 150,000 patients have been impacted by unsafe injection practices since 2001. Breakdowns in proper infection control often involve providers reusing needles, syringes or single-dose medication vials, all of which are meant for one patient and one procedure. These breaches can cause irreparable damage exposing patients to bloodborne illnesses, such as hepatitis and HIV, and to life-threatening bacterial infections. Although safe injection practices represent very basic infection control measures, CDC routinely investigates outbreaks associated with deficient practices.
- As highlighted in a recent report from the U.S. Government Accountability Office (GAO) these data show that from 2001 through 2011, there were at least 18 outbreaks of viral hepatitis associated with unsafe injection practices in ambulatory settings, such as physician offices or ambulatory surgical centers (ASC). This does not include outbreaks of bacterial infections.
- A table from the Centers for Disease Control and Prevention includes examples of recent outbreaks and patient notification events occurring in a variety of outpatient settings, including primary care clinics, pediatric offices, ambulatory surgical centers, pain remediation clinics, imaging facilities, oncology clinics, and even health fairs: [www.OneAndOnlyCampaign.org/outbreaks-table](http://www.OneAndOnlyCampaign.org/outbreaks-table)
- The documented number of patients affected by unsafe injections likely represents only the tip of the iceberg. Some diseases and infections spread through unsafe infection practices can take years to show up. By the time symptoms arise, the disease or infection can cause irreparable damage.
- Consequences of unsafe injection practices include: infection transmission to patients, notification of thousands of patients of possible exposure to bloodborne pathogens, referral of providers to licensing boards for disciplinary action, and malpractice suits filed by patients.

## Lapses in Basic Infection Control

Many documented lapses in basic infection control practices involved healthcare providers reusing syringes when giving patients medication, or when drawing up medication from vials meant for only one use.

- Known outbreaks indicate that several procedures put patients most at risk:
  - The administration of sedatives and anesthetics for surgical, diagnostic, and pain management procedures
  - The administration of IV medications for chemotherapy, imaging studies, cosmetic procedures, and alternative medicine therapies (e.g., contrast medium)
  - The use of saline from an IV administration bag to flush IV lines and catheters



- The following practices are dangerous and have resulted in disease transmission:
  - Using the same syringe to administer medication to more than one patient, even if the needle was changed or the injection was administered through an intervening length of intravenous (IV) tubing <sup>1,2</sup>
  - Accessing medication with a syringe that has already been used to administer medication to a patient, then reusing the contaminated medication for another patient <sup>3,4,5,6</sup>
  - Using medications packaged as single-dose or single-use for more than one patient <sup>7,8,9</sup>
  - Failing to use aseptic technique when preparing and administering injections <sup>10,11,12</sup>
- A single-dose vial should only be used for one patient and any remaining contents should be discarded. There are options for working with high-quality pharmacies or pharmaceutical compounding companies when customized doses are needed. In such cases, it is critical that the pharmacy or company strictly adheres to USP 797 standards.

## Cases and Consequences of Unsafe Injection Practices

- **ARIZONA:** In April 2012, an outbreak of methicillin-resistant *Staphylococcus aureus* (MRSA) occurred at an outpatient pain management clinic in Arizona, where patients had been injected with a diluted contrast medium for radiologic imaging. Due partly to the difficulty in obtaining a reliable supply of a low-concentration contrast medium, the clinic staff prepared two batches of contrast medium, taken from a single-dose vial, and diluted with saline solution. One batch was used for all of the morning's patients and a second was used in the afternoon. All of the patients who contracted MRSA received an injection on the same day from the same batch of medication. Three patients were treated for severe infections, requiring hospitalization ranging from 9 – 41 days.<sup>14</sup> A fourth patient died from multiple drug overdose but invasive MRSA infection could not be ruled out.



- **DELAWARE:** In March of 2012, seven patients who had received joint injections at an outpatient orthopedic clinic in Delaware contracted a methicillin-susceptible *Staphylococcus aureus*. The only breach of safe practice that had taken place at the clinic was the reuse of single-dose vials (SDVs) of the anesthetic bupivacaine for multiple patients. Clinic staff had until recently been using 10 mL SDVs for single-patient use. However, a national drug shortage disrupted this supply and prompted the use of 30 mL SDVs for multiple patients, with staff drawing from the same vial until it was empty and occasionally storing it overnight for use the following day. The infected patients required an average hospital stay of six days to combat the infection. <sup>13</sup>



- **NEVADA:** A 2008 outbreak of hepatitis C at an endoscopy clinic in Nevada occurred because syringes used to access medication vials were reused for multiple patients. The resulting public health notification of approximately 50,000 people was the largest of its kind in United States healthcare. The Southern Nevada Health District estimated total public health costs including investigation, testing, and medical counseling at \$16-\$21 million. The doctor and two nurses involved in the outbreak face a loss of livelihood and reputation, as well as criminal charges that their malpractice insurance does not cover.



- **NEW JERSEY:** A 2009 outbreak of Hepatitis B at an oncology practice occurred as a result of a variety of unsafe injection practices. These practices included reuse of single-dose vials for multiple patients and use of a common source saline bag for multiple patients. The resulting public health notification affected 4,600 patients, and 29 cancer patients were infected with hepatitis B as a result of this outbreak. The State of New Jersey revoked the medical license of the physician who operated the oncology practice in 2011.



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14. Ibid.

For injection safety guidelines, checklists, frequently asked questions, and other resources visit **OneAndOnlyCampaign.org**. For the latest news and updates follow us on Twitter **@injectionsafety** and Facebook/**OneandOnlyCampaign**

