A hand is shown holding a clear plastic syringe with a needle. The syringe has markings on the barrel, with the number '20' visible. The background is a soft, out-of-focus blue. The text 'SYRINGE REUSE ENDANGERS PATIENTS' is overlaid on the right side of the image in a large, bold, black, serif font.

SYRINGE REUSE ENDANGERS PATIENTS



*Gina Pugliese, RN, MS
 Vice president
 Premier Safety Institute*

Gina Pugliese, RN, MS, is the vice president of the Premier Safety Institute®. She has more than 25 years of healthcare safety experience, eight of those as director of safety at the American Hospital Association (AHA). Pugliese is the author of more than 140 publications and is a frequent national and international speaker on healthcare safety-related topics. She holds faculty appointments at Rush University College of Nursing and the University of Illinois School of Public

Health, as well as numerous editorial positions with medical journals. She is currently a member of the HHS Healthcare Infection Control Practices Advisory Committee (HICPAC) and the National Quality Forum Steering Committee for Patient Safety Measures: Complications.

It has been more than 20 years since I first learned about the problem of reusing syringes on multiple patients. Soon thereafter, I saw a flurry of guidelines cautioning about the practice and recommending the use of a single syringe for each patient. Even so, continued outbreaks of hepatitis C and other diseases among patients indicate that some providers are failing to follow these guidelines.

Safe injection practices, which include the use of a syringe or single-dose vial (SDV) only once and only for a single patient, are imperative. Patients have a right to be protected from infection after receiving an injectable medication. Healthcare providers and organizational leaders have a responsibility to ensure the safety of patients receiving injections.

Use of injectable medications

Injection is commonly used in healthcare settings to administer a number of drugs and therapeutic agents, including antibiotics, vaccinations, medications used for sedation and anesthesia, and chemotherapeutic agents. Injections are also administered in conjunction with a variety of procedures, such as endoscopy, imaging studies and pain control interventions.

To ensure the safety of injectable agents, both the medication and the administration must be governed by safe manufacturing and pharmacy practices that ensure the availability of sterile medication. Sterile medication must be safely prepared (e.g., drawn up in a sterile syringe) and administered in a manner that maintains sterility and minimizes the risk of contamination. To prevent contamination at the time of administration, healthcare providers should adhere to the practices outlined in the Centers for Disease Control and Prevention (CDC) evidence-based Standard Precautions guidelines (see Figure 1).

have been at least 49 outbreaks of injection-related infections from unsafe administration practices, with hundreds of patients infected.¹ Twenty-one of these outbreaks involved transmission of hepatitis B virus (HBV) or hepatitis C virus (HCV); the other 28 were of bacterial origin and were primarily invasive bloodstream infections.

Approximately 90 percent of the outbreaks occurred in outpatient settings. Pain management clinics, where injections are often administered into the spine and other sterile spaces using preservative-free medications, and cancer clinics, which typically provide chemotherapy or other infusion services to patients who are immunocompromised, were represented disproportionately relative to the overall volume of services provided.

In one of the largest outbreaks reported to the CDC, 106 patients were infected with HCV in a Nevada ambulatory surgery center. The infections were linked to the reuse of both syringes and single-use

to obtain additional doses of propofol from SDVs for patients who required additional sedation.

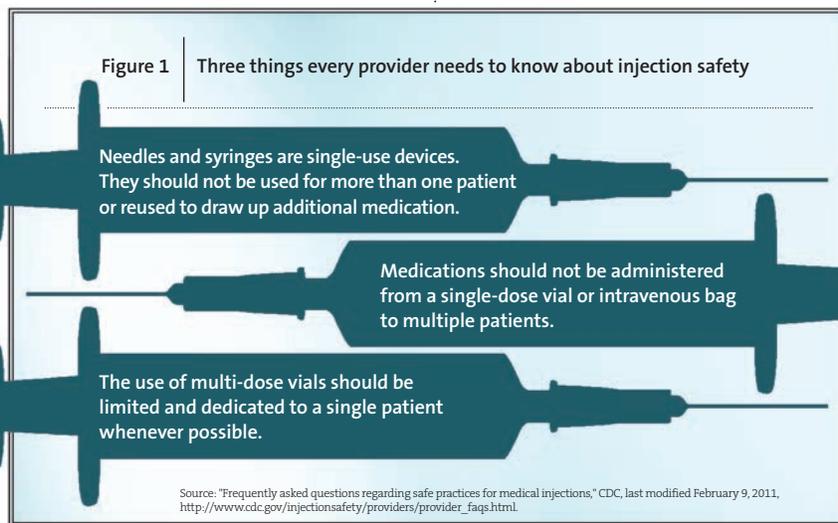
Although the syringe was discarded at the end of the procedure, medication remaining in the single-dose propofol vial, which may have been contaminated, was used for subsequent patients. The outbreak cost the health department nearly \$21 million for outbreak investigation, response, and notification and testing of 63,000 potentially exposed patients.²

In addition to the hundreds of patients who became infected during these outbreaks over the past decade, an additional 150,000 patients required notification advising them to undergo bloodborne pathogen testing after possible exposure to unsafe injections.³ In response, the CDC has released a new patient notification toolkit to help with patient notification for any infection control lapse or potential disease transmission during medical care.⁴

Root causes of unsafe injection practices

Healthcare providers do not come to work intending to harm patients. Yet lack of awareness and mistaken beliefs about safe injection practices can lead some providers to unwittingly put their patients at risk. For example, it is not true that contamination only affects the needle, leaving the syringe sterile; simply changing the needle and reusing the syringe is unsafe. Likewise, it is unsafe to reuse an SDV for multiple patients or reuse a syringe, even if it was only used to inject medication into intravenous tubing.

Although the vast majority of the 5,500 U.S. healthcare professionals surveyed by the Premier healthcare alliance's Safety Institute reported that they follow recommended safe injection practices, a minority reported reusing syringes (1 percent) and single-dose vials (6 percent), unsafe practices linked to outbreaks and necessary patient notifications.⁵



Evidence of unsafe practices

Though not widespread, evidence suggests that some providers to this day fail to consistently follow safe injection practices. According to the CDC, since 2001 there

propofol medication vials on multiple patients during endoscopy.

According to the CDC report, the long-standing practice at the center was to reuse a syringe after changing needles

CMS prohibits reuse of single-dose vials

Concerned about the continuing safety risk associated with SDV reuse, the Centers for Medicare & Medicaid Services (CMS) issued a memorandum in June 2012 reiterating its existing policy about SDVs, noting that a citation would be issued if SDVs are re-entered and used for multiple patients.⁶ In clarifying its policy, CMS said that the risk of infection associated with using SDVs for multiple patients is well documented with evidence from the investigation of multiple outbreaks. CMS also emphasized that the practice of reuse conflicts with nationally recognized standards, such as those issued by the CDC.⁷

CMS added that it shares the concern of providers and suppliers about patient access to critical medications that are in short supply. But since the practice of SDV reuse is not in compliance with infection control requirements, the agency would not change its policy. CMS cited several examples of inappropriate SDV reuse, including:

- Preparation of multiple doses for multiple patients from one SDV;
- A syringe with a single dose from an SDV prepared on a patient/resident care unit that will be administered more than one hour after preparation;
- Use of an SDV to administer injections to more than one patient/resident; and
- Use of an SDV to administer anesthesia, moderate sedation or other medication to more than one patient.⁸

Premier collaboration

To support improved patient safety practices regarding injection medication, the Premier healthcare alliance is collaborating with the CDC and its Safe Injection Practices Coalition (SIPC) on their “One and Only Campaign.” The goal of the SIPC is increasing awareness among the general public and providers about safe injection practices.⁹

At a 2011 meeting convened by Premier

and SIPC, stakeholders including clinicians, patients, manufacturers and representatives from government, public health, and professional and accreditation organizations identified vital needs in the effort.¹⁰ These included increased use of existing innovations, additional product innovations, improvements in related regulatory standards, and increased education and empowerment of both patients and clinicians regarding safe practices.

Meeting participants agreed that although significant strides have been made, much work still remains to eliminate unsafe injection practices. The group speculated that cost pressures would continue to be a challenge and require greater clinician involvement in purchasing decisions across all healthcare delivery settings.

Role of organizational leaders

A culture of safety includes empowering patients to speak up and healthcare professionals to follow and promote safe injection practices. Because it takes just one individual to put hundreds of patients at risk, healthcare leaders must develop and enforce policies and procedures regarding safe injection practices for all relevant staff, including agency and contract personnel, in all care settings. These policies should encompass mandatory education, competency training and ongoing observation of practices.

Some organizations have taken additional steps to address unsafe injection practices by eliminating devices and products that pose a significant danger. To reduce the risk of reuse, some hospitals are no longer using large-volume, single-dose vials of medications and instead have stocked medication vials in sizes most appropriate for specific procedures.

Ultimately, prevention of injection-related infections will require a comprehensive approach that includes greater attention by all healthcare personnel to basic

infection control coupled with adoption of technological advances. The solution will also require continued partnerships among professional, governmental and non-governmental organizations, with a focus on education and redesigning devices, products and processes.

Unsafe injections increase the financial and emotional burden borne by patients, healthcare providers, and our public health and medical care systems. The harm related to unsafe injection practices is entirely preventable.

Additional information and recommendations are available on the Premier Safety Institute website: www.premierinc.com/safety.

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