

40 Prevent Needle Stick and Sharp Object Injuries

Situation

Needle stick and sharp object injuries pose a serious occupational risk to healthcare workers. The provision of a safe and healthy working environment is a fundamental right of every employee in Japan. Duty of care provisions within occupational health and safety legislation aim to protect people from all types of hazards and risks arising from work activities. Therefore, it is reasonable to expect that healthcare workers should be protected from exposure to dangerous blood-borne viruses, including hepatitis B and C viruses and HIV. Even the smallest puncture of the skin can expose a healthcare worker to more than 30 blood-borne pathogens,¹ bacteria, and parasites, any of which can cause serious and potentially life-threatening infections. The majority of these injuries are suffered by nurses and doctors and occur in patient rooms and operating rooms. However, other medical staff can also become victims. Ancillary staff such as hospital orderlies, cleaners and laundry staff, and other downstream workers also suffer needle stick injuries.

In Japan, it is estimated that between 450,000 and 600,000 sharp object injuries occur every year, which means that one in two doctors or nurses experience sharp object injuries every year. According to the Research Group of Occupational Infection Control and Prevention, in Japan in 2014, among those suffering the reported sharp object injuries, 50 percent were nurses and 36 percent were doctors, with the percentage increasing for doctors.² Categorized by profession, incident rates were 14.4 percent for residents, 4.6 percent for doctors, and 3.0 percent for nurses and clinical technologists.

In terms of the number of reported cases, in 2010 the incidence of needle stick injuries was 6.4 per 100 occupied beds, with a significantly higher ($p < 0.01$) rate of 7.9 at university hospitals compared with 5.3 at other hospitals, but for 2012, 6.2 per 100 occupied beds (7.5 at

university hospitals and 5.5 at other hospitals) which did not significantly decrease. There has been a continuous notable increase in the number of sharp object injuries caused by pre-filled cartridge needles (insulin injection pen needles). The delay in the universal utilization of safety-engineered devices for various types of sharps that cause injuries was pointed out in a 2013 report as a persistent problem in Japan.³

Current Policy

In June 2011, a ministerial ordinance official notice was issued by the Ministry of Health, Labour and Welfare (MHLW), regarding infection prevention in healthcare facilities. It made specific recommendations for occupational safety regarding the prevention of sharp object injuries, which include prohibiting the recapping of needles; requiring puncture-resistant sharp object collectors at bedsides; and recommending the use of safety devices.⁴ This is the same as the recommendation issued in February 2005, which was the first time that the recommended use of safety devices was incorporated into an official health ministry notification.

Policy Changes in the Past Year

Despite repeated efforts to enhance safety and infection control, there are no mandated public policies or legislation requiring the use of safety-engineered devices or enforcement of the MHLW notification to prevent sharp object injuries in Japan.

Recommendations

- Educate and train healthcare workers in infection control techniques. In order to encourage compliance with infection control guidelines, infection prevention education and training programs must be developed that target healthcare workers and address sharp object injury prevention and proper disposal programs.
- Mandate safer working practices. Employers must develop and implement an exposure

control plan to eliminate or minimize worker exposure to blood-borne pathogens if workers are required to handle, use, or produce an infectious material or infectious organisms, or if they are likely to be exposed to such a material or organisms at a place of employment.

- Require the use and assessment of appropriate medical devices that incorporate safety engineered technology to prevent sharp object injury. The use of devices incorporating such technology can greatly reduce the incidence of needle stick injuries and exposure to blood-borne pathogens. Healthcare facilities should be required to adopt and regularly evaluate engineering controls designed to prevent percutaneous injuries.
- Promote the use of blunt suture needles to prevent needle stick injuries in operating rooms.
- Promote the use of safety engineered insulin pen needle devices to prevent needle stick

injuries during in-patient care of diabetic patients. Provide additional medical fees to cover the cost of enhanced safety.

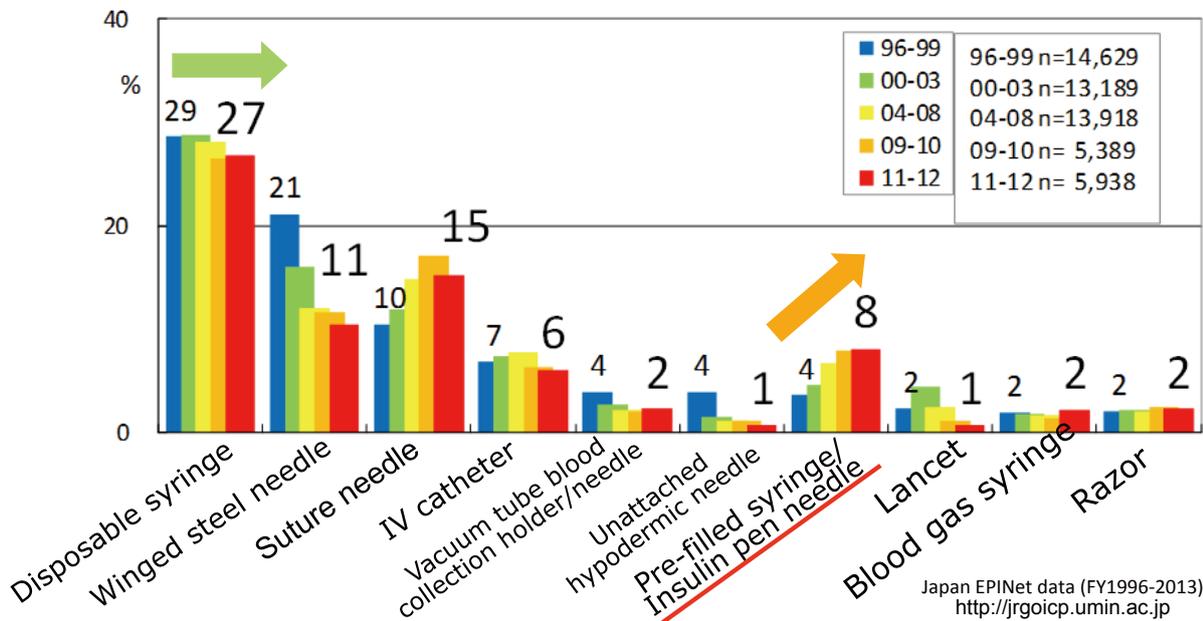
- Eliminate the use of needles where safe and effective alternatives are available. Whenever possible, encourage the use of devices that eliminate the need for needles in order to reduce the potential for occupational exposure to blood-borne pathogens due to percutaneous injuries from contaminated sharp objects.
- Enact and enforce occupational health and safety legislation that mandates the use of safety-engineered devices whenever possible. The United States, the 26 countries of the EU, as well as Canada and Taiwan have all enacted laws that provide a safer workplace for healthcare workers by reducing the risk of deadly blood-borne infection transmissions. Many other countries are now considering similar healthcare work occupational health and safety legislation.

References

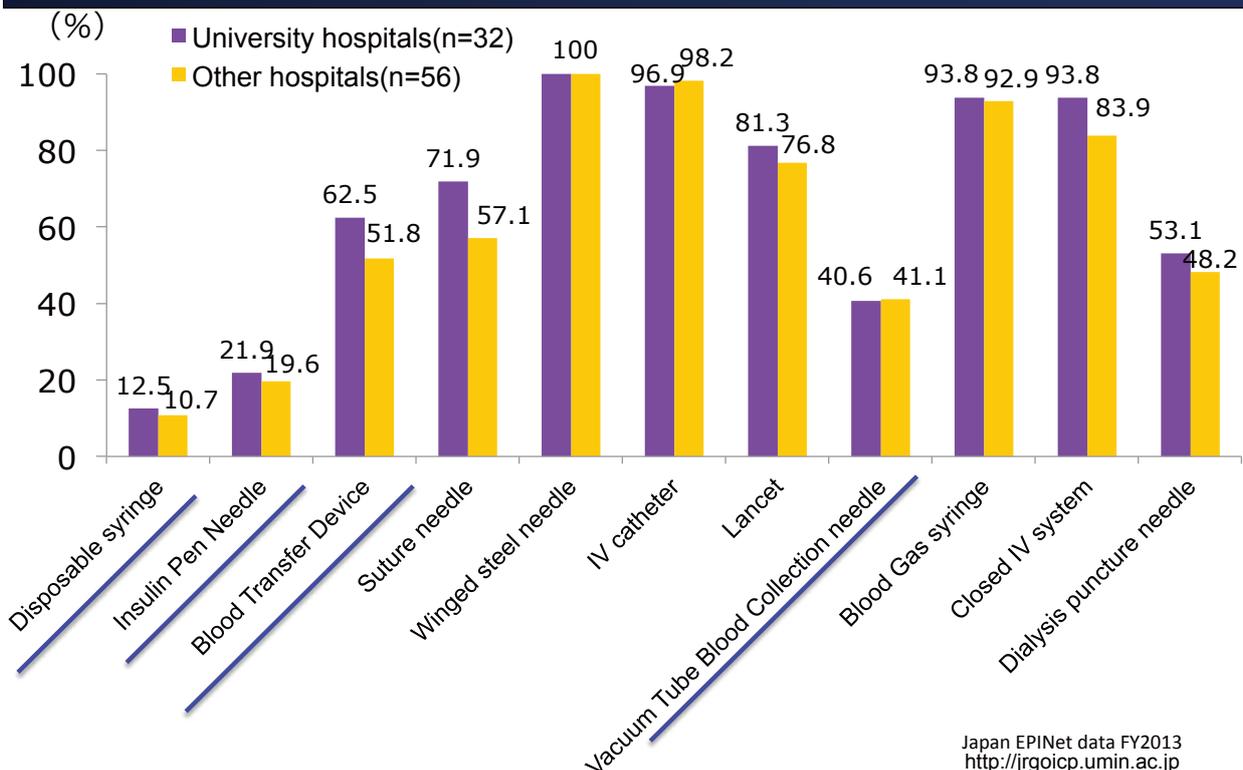
1. Tarantola, A., Abiteboul, D., Rachline, A. 2006. Infection risks following accidental exposure to blood or body fluids in healthcare workers: A review of pathogens transmitted in published cases. *American Journal of Infection Control*. 34:367 - 75.
2. Kimura, S. 2003. Research of the status of needlestick injuries and prevention among healthcare workers. Japan Ministry of Health, Labour, and Welfare science research grant project (March):3 - 7.
3. Japan-EPINet Survey Working Group. 2013. Summary of the survey published by the Research Group of Occupational Infection Control and Prevention in Japan. <http://jrgoicp.umin.ac.jp/>.
4. Ministry of Health, Labour and Welfare. Iseishihatsu-0617.

40. Sharps Injuries Caused by Pre-filled Cartridge (Insulin Pen) Needles are Increasing

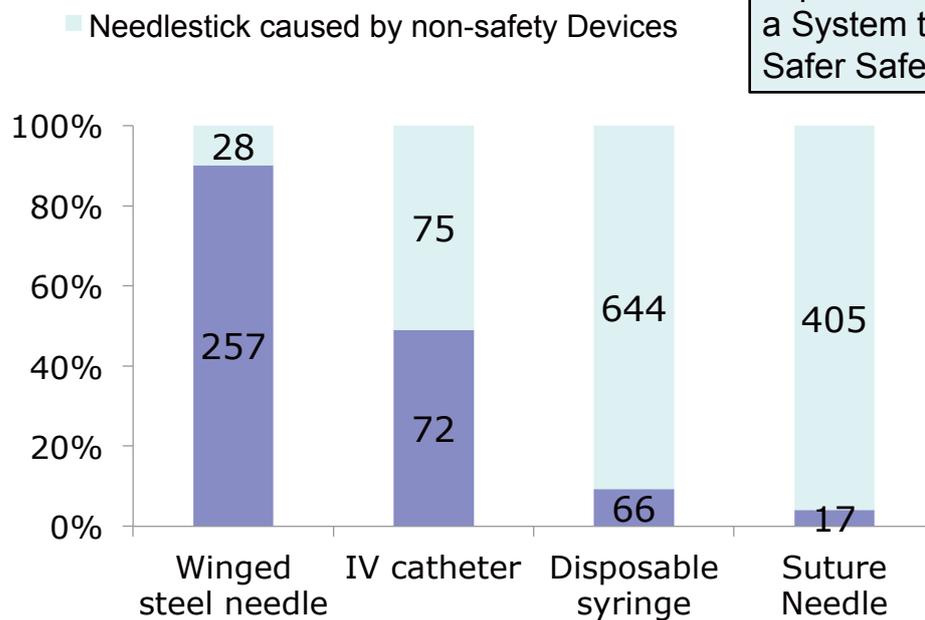
- Suture needle injuries have been decreasing slightly since JES2013
- Injuries by pre-filled cartridge (Insulin Pen) needles are still increasing
- Disposable syringes remain the most frequent cause of injury



40. Low Dissemination of Safety Engineered Devices is an Issue



40. Many Needlestick Injuries Occur By Safety Devices for Winged Steel Needles



Japan Needs to Create a System to Evaluate Safer Safety Devices.

Japan EPINet data FY2013
<http://jrgoicp.umin.ac.jp>

40. Reducing Risks for Patients, Healthcare Workers and the Public

Examples of Safety-Engineering



What is a Safety-Engineered Device? “a non-needle sharp or a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, with a built-in safety feature or mechanism that effectively reduces the risk of an exposure” OSHA 29CFR 1910.1030(b)