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SHARPS SAFETY CASE STUDIES

CORRECTIONAL HEALTH PROGRAM NEEDLESTICK SAFETY STUDY

By Candice McLamb, BSN, RN

Healthcare workers (HCWs) in correctional settings are exposed to bloodborne pathogens, especially hepatitis B (HBV), hepatitis C (HCV), and human immunodeficiency virus (HIV) through job-related risk factors like needlesticks, stabbings, scratches or other bloody injuries. Needlestick injuries can be prevented by safer devices. The purpose of this study was to investigate the frequency and causes of needlestick injuries in a statewide correctional health program with the use of safety-engineered devices, to determine the incidence of needlesticks among healthcare workers and provide to administrators documentation to support purchase decisions.

The Occupational Safety and Health Administration (OSHA) Standard 1910.1030 establishes that devices must be selected based on employee feedback. The devices must be evaluated for appropriateness for each procedure and effectiveness in preventing occupational exposure to blood and other potentially infectious material. If the availability of a variety of devices is restricted, the employer may be in violation, which carries a very hefty fine. This continues to drive the need to evaluate whenever safer devices become available on the market.

> “This program has decreased the money spent on medical evaluation, follow-up, and expensive medications routinely given by providers for prophylactic treatment following a sharps injury.

Needlestick injuries within correctional systems are an ongoing challenge. Nursing units throughout the state correctional system involved in this study accounted for 57 percent of needlestick injures in 2006, prior to the implementation of new safety technology. A prevention strategy was proposed to consider replacement of the syringe in use, which had a manually activated safety feature, with a new device maintaining compliance with OSHA, specifically one with updated safety features. A survey to evaluate three competitive devices with engineered sharps injury prevention features was implemented. As result, medical staff overwhelmingly requested a comprehensive trial using

VanishPoint syringes, which feature automated, pre-removal retraction technology.

VanishPoint syringes were evaluated and compared to the existing syringes in use during the 2007 influenza vaccination program for incarcerated individuals. Representatives from the manufacturer, Retractable Technologies, Inc., provided instructions on how to use the syringe. In addition to onsite training, a training video on how to properly use VanishPoint syringes was sent to all facilities; this provided suitable training to staff prior to using the new device.

Seventy (88 percent) of the 80 facilities provided data. Evaluation forms were completed by approximately 300 nurses with about twenty excluded because their reported usage of this syringe was less than 10 times, leaving 280 (93 percent) of the 300 for analysis. The analysis was based on the experiences of 280 nurses who each used the device 10 times or more. The total number of syringes used in this evaluation was in excess of 5,500. No needlesticks were incurred during the trial from the use of the device, providing proof to administration this was a good choice by the staff. Furthermore, in response to the question, "Based on your evaluation, which device would you rather use?" 231 (83 percent) indicated the new device being tested was their choice. In conclusion, the correctional healthcare nurses overwhelmingly preferred VanishPoint syringes over the previous syringe and other syringes evaluated.

This trial was not without risks. The medical staff was well aware of the challenges of working with a high-risk, unpredictable patient population. However, the cost and anxiety associated with sharps injuries due to the risk of HIV, HBV and HCV were certainly a consideration for a much-needed change.

In June of 2008, VanishPoint syringes were implemented for all TB testing, medication and insulin injections throughout the system. Pre-drawn syringes and specialty trays (suture trays) were excluded. This was a huge accomplishment for this state correctional medical staff.

At the end of 2009 through 2013, a tremendous decrease in needlesticks continued. The few sharps injuries noted were due to situational error involving an incarcerated individual. This program has decreased the money spent on medical evaluation, follow-up, and expensive medications routinely given by providers for prophylactic treatment following a sharps injury. Using the VanishPoint syringe resulted in substantial savings, while complying with state and federal regulations.

Candice McLamb, BSN, RN, has served in emergency medicine, infectious diseases, emergency preparedness, in-service education, occupational, environmental and correctional health. She is certified in intravenous therapy, chemotherapy, and infection control.

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