C·A·C SPECIALTY

Healthcare

Preventing Needlestick Injuries

A Comprehensive Approach to Protecting Healthcare Workers

Globally, it's estimated that millions of healthcare workers experience needlestick injuries (NSIs) annually. Estimates vary, but a common figure cited is that up to half of healthcare workers have experienced at least one NSI in their career. In the U.S., studies have shown that hundreds of thousands of NSIs occur annually and many are unreported, so the actual number is likely higher. A reasonable estimate would be that at least 2-5% of healthcare workers experience an NSI annually.

Impact

The most significant concern is the risk of transmission of bloodborne pathogens, including Hepatitis B Virus (HBV); Hepatitis C Virus (HCV) and Human Immunodeficiency Virus (HIV). The psychological impact of NSIs can cause significant anxiety, fear, and stress, particularly while waiting for test results to rule out infection.

The financial costs of NSIs result in significant costs for medical evaluation and testing, post-exposure prophylaxis (PEP), potential long-term treatment costs if infection occurs, lost work time, and worker's compensation claims.

Prevalence and Impact in Specific Settings – Correctional and Psychiatric

NSIs are believed to be higher in correctional facilities than in general healthcare settings due to several factors. Precise estimates are difficult to obtain, and some older studies and risk assessments suggest the rate could be 1.5 to 3 times higher than in general hospitals. Several factors lead to this increased risk and may be related to higher prevalence of bloodborne pathogens among the inmate population, intentional needle use, and challenges in maintaining security and control over sharps.

There are unique challenges related to NSIs in correctional facilities. Some of these challenges are difficulty in tracking and managing inmates who may be sources of infection; legal and ethical issues related to testing and treatment inmates, security concerns that can complicate post-exposure management, and potential for medical sharps to be used as a weapon or for intimidation.

NSI data specific to psychiatric facilities are limited. However, the risk is likely elevated due to the potential for patient aggression, self-harm attempts, and challenges in medication administration. There may be increased risks of tampering with sharps and challenges in monitoring use of sharps.

The psychological impact of NSIs can be serious in psychiatric settings, given the stressful work environment. There is risk for potential disruption of therapeutic relationships if staff members are injured by patients using the medical sharp devices.

Factors influencing NSI Prevalence

Facilities that have fully implemented Safety-Engineered Devices (SEDs) typically have lower NSI rates. SEDs are designed to minimize exposure to potentially infectious materials or hazardous chemicals by inactivating the needle or blade after use. Examples include syringes with retractable needles, sliding shield scalpels, and blunt needles.

Staff training and preparation can reduce the risk of NSI through comprehensive training programs on safe injection practices and sharps disposal and robust NSI reporting systems to track incidents and identify areas for improvement. A safety-conscious culture prioritizing worker safety is essential with adherence to standard precautions for preventing NSIs. Workload and staffing levels should be assessed to identify potential impact on NSI rates.

Mitigation Strategies

Across all settings, the following strategies are crucial for mitigating the risk and impact of NSIs:

- Develop and implement comprehensive NSI prevention programs including engineering controls, work practice controls, administrative controls, and ongoing training.
- Creating a culture of safety encouraging reports of NSIs and prioritizes worker safety. A culture of safety provides workers with prompt access to post-exposure prophylaxis (PEP) after an NSA.
- Regularly monitoring NSI rates and evaluating the effectiveness of prevention strategies and involving staff members in selection and implementation of safety devices and prevention programs can help mitigate NSI.

Conclusion

Needlestick injuries remain a significant occupational hazard for healthcare workers, particularly in high-risk settings like correctional facilities, nursing homes, and psychiatric facilities.

While precise prevalence data is challenging to obtain, a comprehensive and proactive approach to NSI prevention is essential for protecting workers, reducing costs, and ensuring a safe healthcare environment.

Continued research, improved reporting systems, and a commitment to safety are needed to further reduce NSIs in healthcare.

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