

Presentation Type:

Poster Presentation - Poster Presentation

Subject Category: Occupational Health

Occupational percutaneous injuries and exposures at a dental teaching institution from 2017 to 2023

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Background: All dental professionals face the risk of occupational percutaneous injuries and exposures. Previous studies have reported high incidents of percutaneous injuries among dentists. This study examined injury data over six years at a large teaching institution for trends to increase awareness and to design appropriate interventions to reduce injury rates. **Method:** Study injury data was collected for the department of employee and occupational health. The data was entered into an electronic incident reporting system from 2017-2023. Statistical analysis was performed with Openepi to determine injury trend by year and overall association by activity type. **Result:** There was a total of 168 injuries reported between 2017 and 2023. A majority of the injuries (54%) were caused by a needle or sutures followed by instruments at 41%. Most of the injuries (44%) occurred during treatment and while cleaning the surgical spaces at 15%. Only 13% of the injuries were attributed to handling or recapping needles. Chi-square test 0.2618 ($p > .05$) indicated there was no significant difference between years and number of injuries. Overall chi-square $p < 0.001$ by activity type was significant indicating risk was not equal across all activities. **Conclusion:** Injuries declined during COVID-19 but soared back up in 2023. Needles, sutures, and instruments were the predominant source of injuries. Injuries occurred during treatment (43%), while cleaning the surgical space (15%) and while recapping or handling needles (13%). This study is the first step in understanding the trend and factors attributing to injuries to implement appropriate corrective actions. Further analysis should be conducted to identify specific procedures or clinical activities exposing employees to Occupational percutaneous injuries.

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Table 1. Injuries per activity type

Activity	# of injuries	# of injuries per 100,000 procedures	Chi square pvalue
During Treatment	73 (43%)	4.9	
Cleaning Operatory	26 (15%)	1.7	
Recapping/ Handling Needle	22 (13%)	1.5	
After Treatment	19(11%)	1.3	
Handling Cassettes/ Instruments	17 (10%)	1.1	
Before Treatment	2 (1.1%)	0.1	
Unidentified	9 (5.3%)	0.6	
Total # of injuries injuries	168		<0.001

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Characterization and Evaluation of a Government Health Center's Bloodborne Pathogen Exposures (BBPE) Monitoring Program

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Background: A vital role of hospital employee health is the management, characterization, and targeted prevention of bloodborne pathogen

exposures (BPPE) among healthcare workers. A comprehensive review of a health center's BPPE over time was conducted to identify areas for improvement and target education and training, given changes in BPPE standard operating procedures (SOPs) over time. **Methods:** A retrospective descriptive analysis was conducted on deidentified BPPE cases reported to employee health at VA Connecticut Healthcare System from 1995-2023 (N=296) using R statistical software. **Results:** The highest number of BBPE occurred among trainee physicians (N=103, 34.8%, especially surgery and internal medicine), registered nurses (N=60, 20.3%), and non-trainee physicians (N=45, 15.2%). The most frequently implicated devices were hollow-bore (N=103, 34.8%) and suture needles (N=60, 20.3%). Most BBPE occurred during surgical procedures (N=114, 38.5%) or medication administration (N=52, 17.6%). Over half of BBPE occurred during afternoons/nights (N=172, 58.1%). Over half occurred with use of personal protective equipment (PPE) (N=181, 61.1%). The majority of BBPE implicated finger injuries (N=220, 74.3%). Blood was the most frequently reported exposure (N=127, 42.9%), a similar percentage of records did not specifically name a body fluid type (N=121) or whether PPE was used (N=110). In most cases, the source patient was identified (N=282, 95.3%) and tested

