

How to Decrease Needlestick Injuries at Arden Park Dental

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I. ABSTRACT

Arden Park Dental employees are susceptible to life threatening diseases that can be contracted by a single needlestick injury. This study aims to determine how the occurrences of needlestick injuries can be decreased at Arden Park Dental. Surveys were completed by 21 clinical employees, as well as semi-structured mini interviews with the health and safety representatives and employees who have previously incurred a needlestick injury while working at Arden Park Dental. Analysis of the responses shows that employees are confident that they have all the required necessities to perform their job without a needlestick injury from occurring, but most employees are not following the policies and guidelines set in place for preventative measures. Based on these results, a few recommendations were given such as: updating the needlestick injury policy and guidelines and providing training annually to all clinical employees.

II. INTRODUCTION

Needlestick Injury Problem at Arden Park Dental

Among many healthcare workers, dental professionals are at the top of the list for professions who are most at risk for contracting diseases (Kiersz). With this statistic, dental employers and employees should adhere to all precautionary measures when working with a needlestick. Arden Park Dental is a very busy practice with 7 different operatories. They provide dental services such as: cosmetic, restorative, endodontic, orthodontics, oral surgeries and preventative therapies such as cleanings- which means there are many sources of needlesticks. The dental clinicians schedule can see upwards of 15 patients a day, with multiple clinicians working at the same time. Thus, there are ample opportunities for an accident or near miss regarding needle stick injuries among more than 20 clinical staff at Arden Park Dental. Like other healthcare professions there are certain institutional policies and guidelines set in place to avoid needlestick injuries from occurring, but injuries remain to be an issue.

Background on Health Issues Related to Needlestick Injuries

The most prevalent blood borne diseases that are contracted when working in the dental field are: HIV, Hepatitis C and Hepatitis B, which is reviewed in the data section of the report (Sawyer M et al. 7). Although the risk of contraction is low, there is still a possibility to contract these diseases, no matter what experience or skills the dental clinician has. Every clinical member working at Arden Park Dental must follow strict procedures to protect themselves from contracting a disease caused by a needlestick injury.

Purpose of Report

The purpose of this report is to examine and evaluate Arden Park Dental's policies and guidelines that are currently in place to prevent their clinical employees from needlestick injuries. After investigation and data collection, recommendations will be provided to help decrease the rate of incidences of needlestick injuries from occurring.

Description of Data Sources

The sources investigated in this report include both primary and secondary data. Primary data will consist of surveys to all clinical employees, as well as interviews with the health and safety representatives and employees who have incurred a needlestick injury. Furthermore, primary data will also include the policies and guidelines that Arden Park Dental currently has in place for the prevention of needlestick injuries. Secondary data will consist of existing academic literature, as well as government publications that are relevant to needlestick injuries in the dental profession.

Method of Research

Twenty-one employees of Arden Park dental responded to a short survey designed to analyze needlestick injuries at Arden Park Dental, as well as gauge their interest in potentially generating a solution to decrease the problem. In addition, interviews were conducted with two health and safety representatives and two employees who had incurred a needlestick injury at Arden Park Dental to help understand the cause of why needlestick injuries continue to occur. An analysis of employee awareness regarding needlestick injuries was performed to determine the feasibility of

implementing a solution to help with needlestick injuries such as; more training, and implementation of revised policies and guidelines.

Scope of Inquiry

The scope of inquiry will be to assess the possibility of decreasing the amount of needlestick injuries that occur at Arden Park Dental. This report will investigate the policies and procedures set in place already by Arden Park Dental and gain insight from the clinical employees on their experiences with needlesticks. From there, recommendations will be provided on how to help decrease needlestick injuries.

III. DATA SECTION

Sources of Needlestick Injuries

Needlesticks are found in every operatory, sterilization centre, storage closet and even in the back office at Arden Park Dental. This poses a risk for everyone at the office, not just clinical employees.

1. Needles- used for giving patients local anaesthesia

This type of needlestick was found in all operatories, including sterilization centre, and the storage closet. They come in an assortment of sizes and do have a protective capping on them. This needle is very common in this dental practice as most patients seeing the dentist require local anaesthesia.

2. Scalers - used by hygienists to clean teeth

This type of needlestick was found in all hygiene operatories and the sterilization area.

The sterilized ones are in a puncture proof pouch, containing about five in each package.

A hygienist will use two pouches per person on average for the appointment.

3. Scalpels – used for dissection of tissue by dentists and oral surgeon

This type of needlestick was found in the storage closet only. Scalpels are only used in certain cases and come packaged in single use with the cutting edge covered by plastic.

4. Suture Needle – used for suturing by dentists and oral surgeon

This type of needlestick was found in the storage closet and in 2 operatories. Suture needles are only used in certain cases such as: suturing tooth extraction site, suturing after a biopsy or a wound.

Health Effects After Needlestick Injury Occurs

A common scare in any dental practice for clinicians is contracting a disease. The most common types of disease one can contract by a needlestick injury include: HIV, hepatitis C and hepatitis B. Though the transmission rate with contracting these diseases are very low, clinical employees must not take any chances.

1. HIV – studies have shown that there is a 0.3% transmission rate when a healthcare worker incurs a needlestick injury from a needlestick used on an infected person (Sawyer M et al. 7). If HIV goes untreated, the immune system weakens, and the person can develop AIDS which will then allow different life-threatening diseases and cancers to develop which leads to death (“HIV Basics”).

2. Hepatitis C- the rate of transmission is 1.8%, and seems to be an insidious, mild and slow progressing infection (Sawyer M et al. 7). There are some cases where people who are exposed to hepatitis C have a short-term infection as the virus clears from their body without any treatment, but for others this can be a lifelong infection that can lead to other health problems such as liver damage, liver cancer and even death (“Hepatitis C Questions and Answers for the Public”).
3. Hepatitis B- the transmission rate is 6-30%, making this the highest rate and is dependent on the state of the carrier (Sawyer M et al. 7). Much like hep C, some cases of hep B will only be an acute infection, but for others this will become a lifelong infection that can lead to liver damage, liver scarring, liver cancer and death (“Hepatitis B Questions and Answers for the Public”).

What Practices Does Arden Park Dental Currently Have in Place for Prevention of Needlestick Injuries?

Arden Park Dental does have a policy statement in place that ensures a safe and healthy working environment for all clients and staff. They demonstrate their commitment by providing financial, physical and human resources to reduce to the risks of injury from needlestick injuries and will implement the use of safety engineered medical sharps and other safe work practices aimed at reducing the risks of a needlestick injury wherever possible. (Jankowski Corp.) Currently, Arden Park has committed to resources such as: personal protective equipment (including safety glasses, masks and gloves), tray covers with locks, puncture proof sterilization gloves, puncture proof pouches for sterilization of instruments, a medical sharps container in every operatory and a sharps disposable program.



Figure 1. Images of Preventative Measures at Arden Park Dental. Left to right. Sharps disposal in operatory room, tray cover, puncture proof gloves and personal protective equipment including mask, gloves and safety glasses.

Survey Results

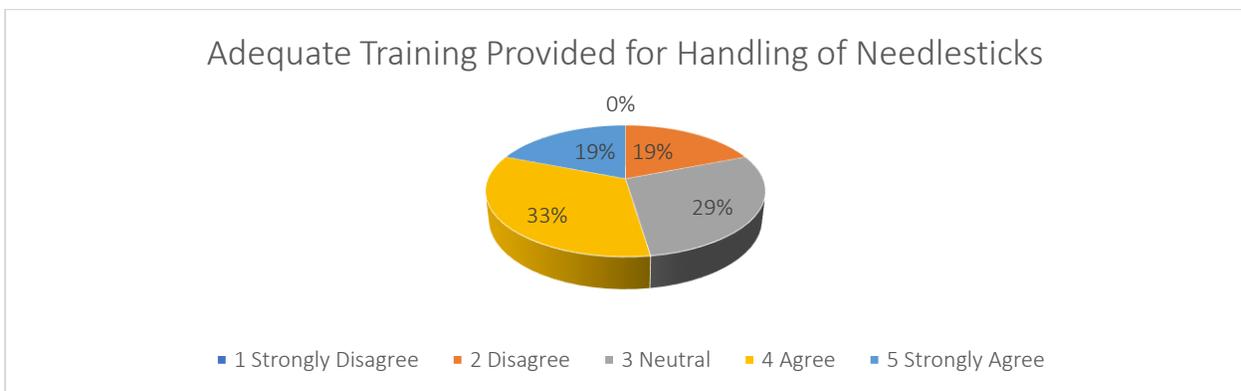


Figure 2. Evaluation of Employees Opinion on Having Adequate Training. Only 62% of employees are confident to agree that there has been adequate training provided.

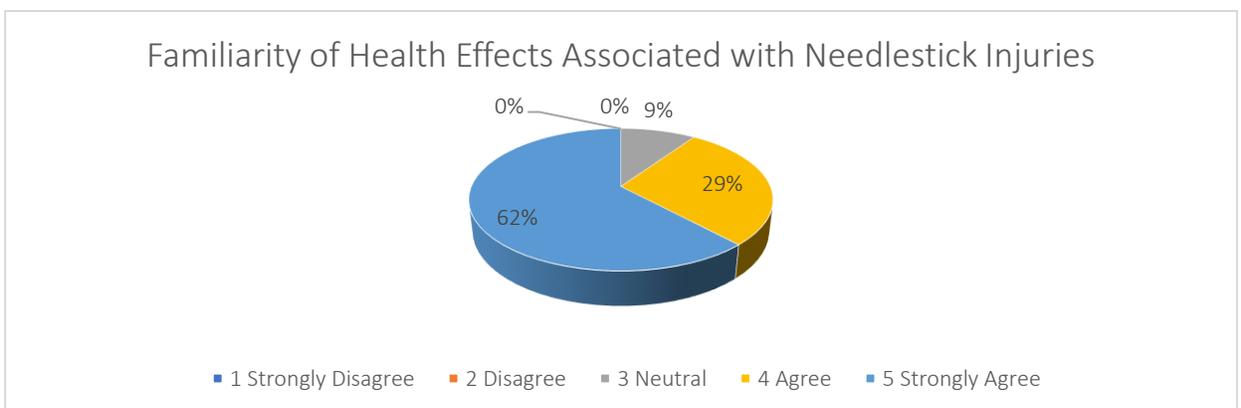


Figure 3. Evaluation of Employees Familiarity with Health Effects Associated with Needlestick Injuries. Over 90% of the employees are confident with their understanding of known health effects associated with needlestick injuries.

Have you Incurred a Needlestick Injury at Arden Park Dental?

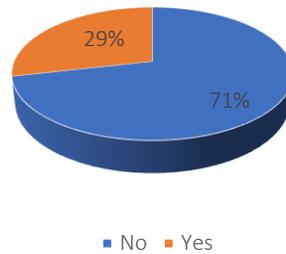


Figure 4. Evaluation of Needlestick Injuries of Employees at Arden Park Dental. Almost 30% of employees have incurred a needlestick injury while working at Arden Park Dental.

Adequate Measures are in Place for the Prevention of Needlestick Injuries

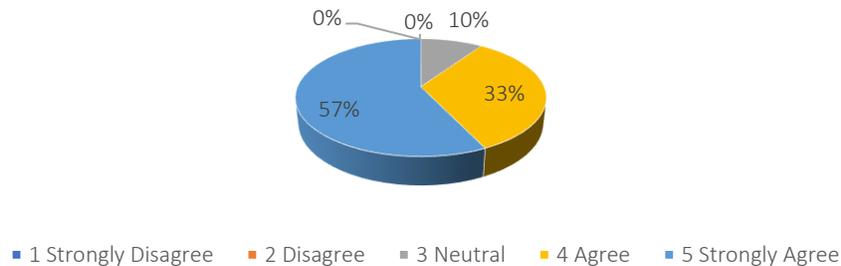


Figure 5. Evaluation of Adequate Measures Available to Prevent Needlestick Injuries. 90% of the employees feel there are adequate measures set in place at Arden Park Dental to prevent needlestick injuries.

Set Protocols and Guidelines set by Arden Park Dental are Being Followed

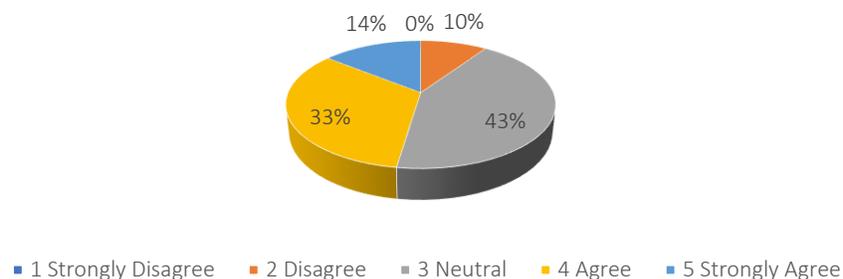


Figure 6. Evaluation of Protocols and Guidelines Being Followed Regarding the Prevention of Needlesticks Injuries. Just about 50% of employees recognize that all protocols and guidelines are not being followed to prevent needlestick injuries at Arden Park Dental.

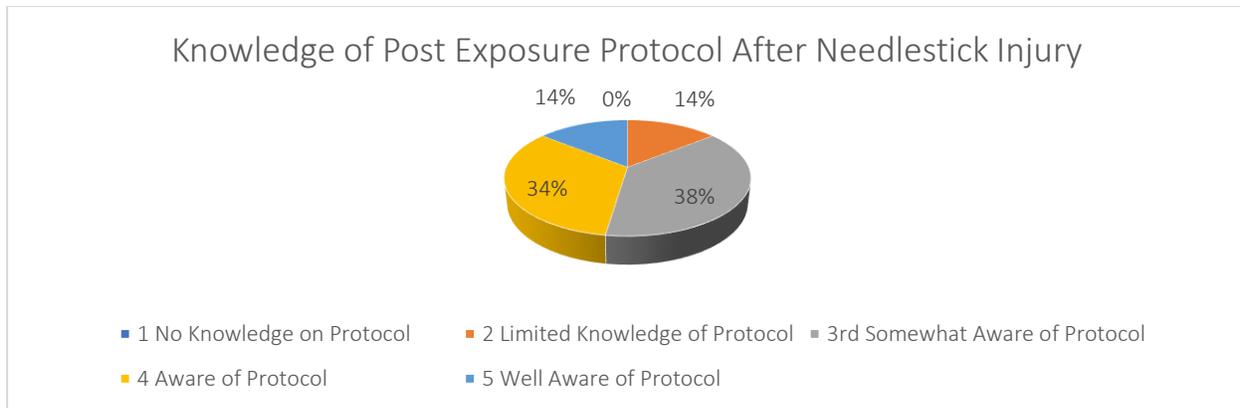


Figure 7. Evaluation of Employees Knowledge of Post Exposure Protocol After Needlestick Injury Occurs. Just over 50% of employees don't have confidence in the post exposure protocol after a needlestick injury occurs.

The survey had a total of 21 responses by employees at Arden Park Dental, including participation from dentists, dental hygienists, dental assistants and sterilization technicians. About 38% of the employees who filled out the survey feel that adequate training has not been provided by Arden Park Dental on the handling of needlesticks (Figure 2). Over 90% of employees feel confident in their familiarity with health risks associated with needlestick injuries, meaning less than 10% of employees aren't familiar with the associated risks (Figure 3). About 30% of the employees who responded have incurred a needlestick injury while working at Arden Park Dental (Figure 4). Overall, over 90% of the employees believe there are adequate measures and resources available provided by Arden Park Dental to prevent the injury of a needlestick (Figure 5), but just under 50% of the employees report that all protocols and guidelines are not being followed thoroughly (Figure 6). Lastly, there were just over 50% of employees who expressed their lack of confidence with the post exposure protocol of a needlestick injury occurrence (Figure 7).

Interview Results with Health and Safety Representatives

After completing two separate interviews with each of the health and safety representatives of Arden Park Dental, discrepancy was observed between the two participants. Both agreed that the highest number of needlestick injuries ever recorded in the ten years of practice was two. The representatives concurred that most of the training is done at the dental clinicians' school for the prevention of needlestick injuries, but when first hired the employee will get a quick refresher of the preventative measures. However, the two participants provided different answers for how often the protocols and guidelines for needlestick injuries are updated, one representative answered with 'as needed' and the other wasn't aware of the document ever needing to be updated. Lastly, both representatives agreed that all staff at Arden Park Dental have proper equipment and training to prevent needlestick injuries from occurring.

Interview Results with Employees who Have Previously Incurred a Needlestick Injury

Following the answers of two employees who have incurred a needlestick injury while working at Arden Park Dental, they each had reported that the proper protocols were not being followed. In one case the needlestick injury was reported to the health and safety representative in a timely manner but no report at all in the second case. Both employees believed that the post exposure protocol was easy to follow but agreed on the annoyance of having to get blood work done and wait for the results. The answers as to why they feel the injury happened were from rushing and not paying attention. In the one case, the employee stated they are now stricter on making sure the proper protocols are being followed because they do not want to go through the experience of incurring a needlestick injury again. The second case, the employee expressed that only sometimes they are a bit more cautious of following the proper protocols on this matter. Lastly,

both employees feel that Arden Park Dental could not have helped in anyway to prevent this from happening – as they both take responsibility for not following the protocols and guidelines.

IV. CONCLUSION

Summary and Interpretations of Findings

As seen under the results of the surveys and interviews conducted, there seems to be a deficit of understanding the importance of preventing needlestick injuries from occurring. While most employees have never incurred a needlestick injury at Arden Park Dental, six employees admitted to experiencing one. After careful data analysis, most employees are confident and knowledgeable of the protocols, guidelines and preventative measures set in place at Arden Park Dental for needlestick injuries but adhering to these protocols and measurements is not always the case for roughly half of the employees. There was also a gap in the reporting of needlestick injuries. After collecting the data from the surveys and interviews, there are only two reported cases of needlestick injuries to the health and safety representatives, yet there were six employees who have experienced a needlestick injury- meaning four cases were not reported. Another issue noted was that just over half of the employees are lacking confidence regarding the steps for post exposure protocol following a needlestick injury. Lastly, there was an inconsistency noted between the health and safety representatives and the roles and responsibilities they have in the policy make up on the needlestick injury program at Arden Park Dental. In the policy, the Jankowski Corporation states that ongoing staff training is to be provided and that the needlestick injury program should be evaluated and updated annually, but

in the answers collected from the health and safety representative interviews – they admit to not following their roles and responsibilities as laid out in this policy.

Recommendations

Based on the findings from all surveys and interviews conducted, Arden Park Dental is to consider the following recommendations to help decrease the amount of needlestick injury occurrences and keep their employees safe.

1. Update the needlestick injury program policy that is in place. With having a revised policy in place, this will help to refresh the health and safety representatives and the employer responsibilities which will ultimately help the safety of the employees at Arden Park Dental.
2. Provide annual training to all staff in the prevention of needlestick injuries and review the protocols and guidelines with them. Have each employee sign off each year that they have received adequate training and are aware of the protocols, guidelines and preventative measures in place for their safety.
3. Check annually that employees Hepatitis B vaccination is up to date. This would be an easy step to make sure all employees are protected against contracting Hepatitis B if a needlestick injury were to occur.
4. Have the health and safety representatives strongly enforce the policy and protocols for prevention of needlestick injuries. If an employee is seen not adhering to the protocols and policy, remind them the proper way of doing so. If problem persists then management should become involved.

VI. Works Cited

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VII. Appendices

Appendix A. Survey Questionnaire for Employees at Arden Park Dental

Adequate training on handling needlesticks has been provided by Arden Park Dental

1 2 3 4 5

Strongly Disagree

Strongly Agree

You are familiar with the possible health effects associated with needlestick injuries

1 2 3 4 5

Strongly Disagree

Strongly Agree

Have you incurred a needlestick injury at Arden Park Dental?

No Yes

There are adequate measures set in place to prevent needlestick injuries from happening at Arden Park Dental (including training, protocols, personal protective equipment, etc.)

1 2 3 4 5

Strongly Disagree

Strongly Agree

All protocols and guidelines set out by Arden Park Dental are being followed thoroughly to prevent needlestick injuries from occurring

1 2 3 4 5

Strongly Disagree

Strongly Agree

Please rank your knowledge level on post exposure protocol after a needlestick injury has occurred. 1 being no knowledge and 5 being well aware of the protocol

1 2 3 4 5

Appendix B. Interview Questions for Health and Safety Representatives at Arden Park Dental

1. Since being in the role of Health and Safety representative, how many cases of needlestick injuries have occurred?
2. How often is training provided to staff for prevention of needlestick injuries?
3. How often are the protocols and guidelines for needlestick injuries updated?

4. Do you feel all staff have the proper equipment and training to prevent needlestick injuries from occurring?

Appendix C. Interview Questions for Employees who Have Incurred a Needlestick Injury at Arden Park Dental

1. Was proper protocol being followed when the needlestick injury occurred?
2. Was the needlestick injury reported to the Health & Safety representative in a timely manner?
3. Was the post exposure protocol easy to follow?
4. What do you feel caused the needlestick injury to occur?
5. Are you more preventative regarding following proper protocols when handling needlesticks?
6. Do you feel like Arden Park Dental could have helped in any way to prevent the injury from happening?