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Journal homepage: www.ijceo.org**Short Communication****Eye wash devices in dentistry: A brief review of safety protocols and best practices****Ravi Gupta^{1*}, A R Vivekananda Pai¹, Lipika Jain², Pevanjit Kaur³**¹Faculty of Dentistry, Manipal University College Malaysia (MUCM), Melaka, Malaysia²The Oxford Dental College, Bengaluru, Karnataka, India³Klinik Pergigian Kuala Sg. Baru, Malaysia**ARTICLE INFO***Article history:*

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ABSTRACT

Dentistry is a challenging profession that requires precision and commitment to patient safety. To ensure the well-being of dental professionals and patients, using eyewash devices has become an indispensable practice. This review explains the vital role of eyewash devices in dentistry, the various types available, and their significance in maintaining a safe dental practice.

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For reprints contact: reprint@ipinnovative.com**1. Introduction**

Dentistry requires precision and dedication toward patient treatment and safety. Dental professionals are responsible for restoring the tooth and preserving the oral health of their patients. Dentists are often exposed to potential hazards in the quest for clinical excellence. Most are exposed to chemicals and filling materials that might cause irritation and injury to the dentist's eye in case of accidental exposure. It is within this fine balance that the role of eyewash devices in dentistry emerges as a fundamental and indispensable safeguard.¹

2. The Importance of Eye Wash Devices in Dentistry

Dental professionals and their dedicated team members are not only responsible for oral health but also the safety of patients. They work diligently, often under intense time constraints, utilizing a diverse array of materials, chemicals, and instruments. All these components, inadvertently pose a threat to the ocular well-being of the dental team.

The dental environment and clinics can be particularly prone to incidents involving chemical splashes, bloodborne pathogens, or accidental contamination. Chemical burn in the eye is the only type of injury that requires immediate action without first taking a history and conducting a clinical examination.²

In such scenarios, the significance of eyewash devices becomes palpable. These devices provide a crucial and immediate response mechanism, offering a rapid means of flushing the eyes, thus reducing the chances of severe damage such as permanent loss of vision.^{3,4} Minimum flushing time is 5 minutes and can extend to 20 minutes or more depending on the nature of chemical exposure. Inadequate flushing of the eyes can further worsen the situation.

Eyewash devices in the dental setting are mandatory in the dental clinic as per guidelines of various organizations such as OSHA and CDC. As per recent guidelines such eyewash stations or devices are also installed in the preclinical student area in case of accidental eye exposure to chemicals or amalgam. They cater to specific requirements and operational environments, ensuring that the dental

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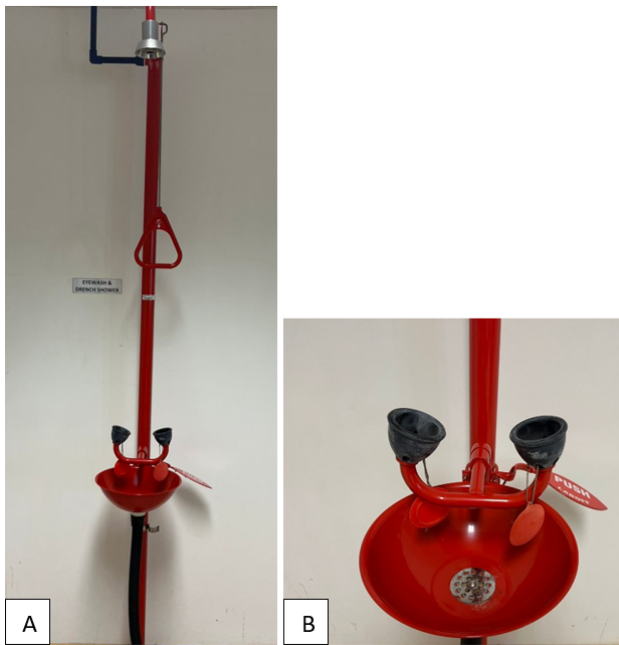


Figure 1: A): Complete eye wash assembly; B): Eye wash station

practice is equipped to address ocular emergencies effectively. This includes fixed or mobile eyewash stations. These stations comprise a sink or basin integrated with specialized nozzles that emit a continuous flow of sterile saline solution. Positioned strategically within treatment areas, these stations ensure immediate access during critical emergencies.^{5,6}

Here are some potential uses of eye wash devices in dentistry:

2.1. Splash protection

Dental procedures often involve the use of various chemicals, such as dental materials, disinfectants, and cleaning agents. Accidental splashes or spills of these chemicals can occur, and eye wash devices provide a quick and effective way to flush the eyes and minimize the risk of injury.

2.2. Foreign object removal

Dental procedures may involve the use of instruments and equipment that could inadvertently cause foreign objects to enter the eyes. An eye wash station can be used to quickly flush out any debris or particles that may have entered the eyes during dental work.

2.3. Emergency response

In the event of an emergency, such as a fire or other hazardous situations, eye wash devices can be crucial for immediate eye irrigation. Quick access to an eye

wash station ensures that dental professionals can respond promptly to any eye injuries and prevent further damage.

2.4. Patient safety

Patients undergoing dental procedures may experience discomfort or irritation in their eyes due to the proximity of dental instruments and materials. Having an eye wash device readily available allows for immediate relief in case a patient's eyes need to be rinsed during or after a procedure.

2.5. Compliance with safety regulations

Occupational safety regulations often require workplaces, including dental offices, to have adequate eye wash facilities to protect employees. Compliance with these regulations helps ensure a safe working environment and can prevent potential legal and regulatory issues.

2.6. Training and preparedness

Dental professionals undergo training on safety protocols, including the proper use of eye wash stations. Having these devices in the dental office promotes a culture of safety, and dental staff are more likely to be prepared to respond effectively to potential eye injuries.

2.7. Post-exposure decontamination

In situations where dental professionals come into contact with blood or other potentially infectious materials, quick eye irrigation can help minimize the risk of infection. Eye wash devices play a role in post-exposure decontamination procedures.^{5,6}

3. Conclusion

These devices provide immediate and effective responses to chemical splashes and ocular emergencies, upholding compliance with regulatory standards. Eyewash devices offer a safe working environment to the dental team and peace of mind to dental professionals. Within the delicate realm of dentistry, where precision and patient care converge, eye wash devices stand as essential devices, ensuring the safety of both the dental team and the patients.

4. Conflict of Interest

None.

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