# AN OVERVIEW DENTIST AND THE ROLES OF PARAMEDICS, SOCIAL SERVICES, RADIOLOGY, ANAESTHESIA AND PHARMACY TEAMS IN MANAGEMENT OF DENTAL TRAUMAS

**Alhussain Yahya Asiri[1*], Nimah Abdulrahman Alsomali[2], Mohammad Hawran H Alanazi[3], Meshal Safar Alotibi[4], Hussain Habeeb Aldandan[5], Ghaida Siraj Mubarak[5], Nezar Habib Aldandan[5], Khaled Fares Alsubaie[6], Abdulmajeed Shadad Alotaibi[7], Abdulmajeed Mabruk B Alharbi[8], Shujaa Diffalluh Hajari Aljabri[8] , Alaa Mohammed Almarwani[9], Afaf Mohammed Alosaimi[10], Nasser Salah Alhulafi[11], Faiza Saeed Ismail[12]**

**Abstract:**
Injuries to the teeth that are traumatic are abrupt and severe, and they frequently require immediate medical attention. Paramedics are frequently the first people to arrive at the scene of an emergency. When they are treated promptly and appropriately, they have the potential to have a considerable impact on the prognosis of the tooth that has been injured. The initial management of oral trauma ought to be incorporated into the training that paramedics receive. When it comes to ambulances, dental rescue kits have to be considered standard equipment. In general, it is important to look for a positive long-term prognosis for individuals who have experienced dental trauma. When it comes to the treatment of dental trauma patients, team members from paramedics, anesthesia, radiology, and pharmacy, in addition to social services, could potentially play a significant role.

[1*]General dentist, Bariq health sector
[2]specialist dental assistant, Al-Rabieh and Al-Tawfiq Health Center
[3]Technician-Anesthesia, Hafar Al-Batin Central Hospital
[4]Radiology technician, Environmental health department
[5]Pharmacist, Salwa & Hera General Hospitals
[6]social specialist, Remah General Hospital
[7]Paramedics, King Abdulaziz Hospitial, Makkah-Saudi Arabia
[8]Technician-Nursing, Eradah Complex for Mental Health & King Fahd general hospital in Jeddah
[9]Umlijj general hospital, Nursing specialist
[10]NURSING SPECIALIST, KING SAUD MEDICAL CITY
[11]Nursing technician, Jalil primary health center
[12] Technician Pharmacy at Hera General Hospital

***Corresponding Author:** Alhussain Yahya Asiri
*****General dentist, Bariq health sector

**DOI:** 10.53555/ecb/2022.11.5.047

**Introduction:**

For dental practitioners at any level, the thought of handling oral trauma in adults can be something that is both tough and intimidating. To achieve the best possible results, it is necessary to make solid decisions from the very beginning. This will assist in avoiding complications and long-term consequences. Repeated practice and familiarity are two factors that contribute to the development of confidence in clinical practice. The unfortunate reality is that tooth trauma might not be experienced as frequently as other types of medical issues. Comparable to the handling of medical emergencies, the initial treatment can have a significant impact on the prognosis [1]. It is essential for practitioners to have a fundamental understanding of the fundamental principles involved in the management of acute dental trauma presentations.Oral health outcomes, such as periodontal disease, caries, and tooth loss, are poor among individuals with mental and developmental disabilities [2]. This is because insufficient dental treatment is the cause of these poor outcomes. Individuals who have special needs are dependent, to a greater or lesser extent, on the commitment of their caregivers in terms of the performance of domestic oral hygiene and the maintaining of appointments with the dentist. The daily teeth cleaning needs to be either aided or carried out completely by attending private carers or professional nursing professionals, depending on the nature of the individual disability (whether it be physical, intellectual, psychological, or a combination of these) and the degree of the respective disability. Within the context of private caretaking, it is common for a small group of caregivers or family members to be responsible for a single individual. In a shift-based system, the staff members who are responsible for the care of many foster home residents share attendance. Because of this, the emotional attachment and approach that private caretakers and professionals take towards the people they care for are likely to be slightly different from one another. When it comes to oral hygiene, it is important to take into account the knowledge of professionals, as well as the requirements and preferences of the person with a disability and the people who care for them [3]. It is possible that the provision of professional domiciliary oral hygiene services, which, to the best of the authors' knowledge, are generally absent in Austria, could lead to an increase in patient acceptability of routine dental care [4].

**Review:**

The term "traumatic dental injury" (TDI) refers to an acute transmission of kinetic energy to the tooth (or teeth), soft tissues, and supporting structures. This transmission of energy can lead to the tooth (or teeth) being fractured and/or displaced, as well as the separation or crushing of the supporting gingival tissues and alveolar bone. In the permanent dentition, the majority of traumatic dental injuries (TDI) occur in the anterior (front) teeth, with a significantly higher incidence of TDI in the upper anterior teeth than in the latter. It is [5]. The frequency of dental trauma was observed to be between 20% and 30% in young children who had permanent teeth. The prevalence of traumatic dental injuries (TDI) reached its highest between the ages of 9 and 10 years old, with boys experiencing significantly more TDI to permanent teeth than girls. It is dependent on the following combination of causal factors that determine the type of traumatic dental injury (TDI) that is clinically experienced with dental trauma patients: (a) the energy impact; (b) the resilience of the impacting item; (c) the shape of the impacting object; and (d) the angle of direction of the impacting force and its direction. Continuing to be a large contributor to oral trauma are contact sports like rugby and football, followed by trauma induced by a direct impact like tripping and falling onto the ground or a hard surface. Contact sports continue to be the leading cause of dental trauma. Late adolescence and young adulthood are the age groups that are most frequently affected by injuries sustained as a result of attacks and accidents involving motor vehicles. [6–7] *

There are other categories of TDIs that have been described in the literature; however, the classification proposed by Andreasen is the one that is utilized the most frequently by dentists. When it comes to oral trauma, every categorization is a variant of the classification that was developed by the World Health Organization. An articular dislocation (TDI) can be a standalone injury or it might be a component of a more severe maxillofacial injury. In order to achieve optimal treatment and the most favorable outcomes, one of the goals of overall management is to be able to diagnose the many forms of TDI. This is because the accurate diagnosis makes it possible to achieve ideal treatment. When it comes to referring patients to dental colleagues for further continuous and permanent care, medical doctors would be able to better manage and communicate with dental colleagues if they had the knowledge and understanding to classify acute traumatic dental injuries using the classification of dental injuries

that is most commonly used among dentists. The aims and principles of treating TDIs depends on the type of dental trauma diagnosed by the medical doctor after their initial examination, and can be broadly categorized into: (a) Emergency management, for example maintaining the viability of the fractured or displaced tooth and treating the exposed pulp (soft tissues form- ing the inner structure of a tooth containing nerves and blood ves- sels) or splinting displaced teeth etc; (b) Intermediate management, for example emergency pulp removal, pulpotomy, dental restoration etc; and (c) Permanent management, for example complete end- odontic therapy, apexification, crowning, etc. In most cases, medical professionals are only obliged to address the emergency treatment phase of traumatic dental injury (TDI) before referring patients to a dentist, endodontist, paediatric dentist, or oral and maxillofacial surgeon for ongoing care [8,9].

It is estimated that mouth injuries account for around five percent of all injuries sustained by adults, despite the fact that the oral region only accounts for one percent of the total body surface area [10]. TDI are still overlooked, which is unfortunate. This is largely due to the fact that there are no standardized diagnosis, classification, or registration methods. They are ranked fifth among the most prevalent diseases and acute injuries, and they are given the appropriate registration. The prognosis of a tooth that has been injured is contingent upon the beginning of appropriate treatment of dental trauma as quickly as possible. [1] Delaying treatment results in an increase in the number of problems as well as other costs. When it comes to the care of traumatic brain injury (TDI), emergency physicians have been demonstrated to have inadequate abilities and a lack of knowledge in worldwide research [11]. Nevertheless, paramedics typically arrive at the scene of the accident before the emergency physician does. The timely and appropriate treatment of these conditions can have a significant influence on the prognosis of the tooth that has been harmed. According to the findings of one study [11], none of the emergency paramedics who took part in the study had received any training on the management of TDI. Even though dental trauma is not typically the primary concern in an emergency situation, it is still essential for paramedics to have a fundamental understanding of the initial management of dental trauma. This includes having knowledge of a dental rescue box. Other injuries that require care and, in some instances, life-threatening injuries need to be evaluated and treated. This is also reflected in the content of the current AWMF S3 guideline, which is titled "Poly-trauma/Treatment of Severely Injured." This guideline covers protocols for the treatment of dental and facial injuries, as well as recommendations on first aid [11]. However, not all patients who have dental trauma are also patients who have polytrauma, and it would be desirable to have knowledge and abilities in the treatment of traumatic dental injuries (TDI) outside of the context of polytrauma care.It is recommended that trauma patients get an intraoral examination on a regular basis, particularly in the event that they have had a head injury. Seventy-nine percent of the people who took part in the survey felt that an intraoral examination is an important component of the trauma patient evaluation; however, only fifteen point six percent of them were aware of the process for an intraoral examination [12].

**Conslusion:**

When it comes to the care of dental trauma in adults, practitioners at any level may find themselves facing a formidable obstacle. Initial management, much like the handling of medical emergencies, can have a significant impact on the prognosis. It is essential for practitioners to have a fundamental understanding of the fundamental principles involved in the management of acute dental trauma presentations. The purpose of this article is to provide an illustration of a step-by-step technique that can be utilized to enhance the management strategies inside general dental practices in order to achieve better results for patients. In order to enhance information on the assessment and management of traumatic dental injuries (TDI), education in dental trauma is crucial. Such training should be held on a regular basis in order to maintain a good level of clinical competence that will provide medical professionals the confidence to treat dental injuries efficiently. Appropriate training in dental trauma can strengthen the understanding of paraametics and pharmacists, as well as the radiology team and social services. By receiving comprehensive dental trauma education, medical professionals will be able to acquire the required knowledge for the right assessment and emergency care of traumatic dental injuries. This is because medical doctors serve as a critical link between patients who have dental injuries and dentists.

**References:**

1. Morgan, J.P.; Minihan, P.M.; Stark, P.C.; Finkelman, M.D.; Yantsides, K.E.; Park, A.; Nobles, C.J.; Tao, W.; Must, A. The oral health status of 4,732 adults with intellectual and

developmental disabilities. *J. Am. Dent. Assoc.*2012, *143*, 838–846.
2. da Silva, S.N.; Gimenez, T.; Souza, R.C.; Mello-Moura, A.C.V.; Raggio, D.P.; Morimoto, S.; Lara, J.S.; Soares, G.C.; Tedesco, T.K. Oral health status of children and young adults with autism spectrum disorders: Systematic review and meta-analysis. *Int. J. Paediatr. Dent.* 2017, *27*, 388–398.
3. Waldron, C.; Nunn, J.; Phadraig, C.M.G.; Comiskey, C.; Guerin, S.; van Harten, M.T.; Donnelly-Swift, E.; Clarke, M.J. Oral Hygiene Interventions for people with intellectual disabilities. *Cochrane Database Syst. Rev.* 2019, *5*, CD012628.
4. Hopcraft, M.S.; Morgan, M.V.; Satur, J.G.; Wright, F.A. Utilizing dental hygienists to undertake dental examination and referral in residential aged care facilities. *Community Dent. Oral Epidemiol.* 2011, *39*, 378–384.
5. Barbe, A.G.; Kottmann, H.E.; Hamacher, S.; Derman, S.H.M.; Noack, M.J. Efficacy and acceptance of professional dental cleaning among nursing home residents. *Clin. Oral Investig.* 2019, *23*, 707–713.
6. Croonquist, C.G.; Dalum, J.; Skott, P.; Sjögren, P.; Wårdh, I.; Morén, E. Effects of Domiciliary Professional Oral Care for Care-Dependent Elderly in Nursing Homes—Oral Hygiene, Gingival Bleeding, Root Caries and Nursing Staff's Oral Health Knowledge and Attitudes. *Clin. Interv. Aging* 2020, *15*, 1305–1315.
7. Leroy, R.; Declerck, D. Oral health-care utilization in adults with disabilities in Belgium. *Eur. J. Oral Sci.* 2013, *121*, 36–42.
8. Ummer-Christian, R.; Iacono, T.; Grills, N.; Pradhan, A.; Hughes, N.; Gussy, M. Access to dental services for children with intellectual and developmental disabilities—A scoping review. *Res. Dev. Disabil.* 2018, *74*, 1–13.
9. Phlypo, I.; Janssens, L.; Palmers, E.; Declerck, D.; Marks, L. Review of the dental treatment backlog of people with disabilities in Europe. *J. Forensic. Odontostomatol.* 2019, *3*, 42–49.
10. Pradhan, A.; Slade, G.D.; Spencer, A.J. Factors influencing caries experience among adults with physical and intellectual disabilities. *Community Dent. Oral Epidemiol.* 2009, *37*, 143–154.
11. Lim, M.A.W.T.; Borromeo, G.L. The use of general anesthesia to facilitate dental treatment in adult patients with special needs. *J. Dent. Anesth. Pain Med.* 2017, *17*, 91–103.
12. Jockusch, J.; Sobotta, B.A.J.; Nitschke, I. Outpatient dental care for people with disabilities under general anaesthesia in Switzerland. BMC Oral Health 2020, 20, 225.