

## Knowledge And Attitude Of General Dentist Towards Avulsion

Research Article

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### Abstract

Dental avulsion is the complete dislocation of the tooth from its tooth socket, one of the most common dental traumas. Since there is adequate information on the dentist's knowledge towards the Avulsed tooth, we are mainly concentrating in Vepery, Chennai. The main aim of this research to be taken up was to assess the knowledge and attitude of the dentist working in and around Vepery area. A cross sectional questionnaire-based study, which was conducted on a sample of 100 dentists and postgraduates. Out of 100 participants, 55 were male and 45 were female. Figure 1 show the distribution of the sample of the gender and the age considered. All of the results are characterised which while considering the factors that may influence the outcome of replantation (57%), considered all the three factors (extra-alveolar period, storage medium, injury to the periodontal ligament), while other 43% considered only one factor. To conclude the General dentists are very aware and have adequate knowledge towards avulsion. The best treatment for tooth avulsion is re-implantation with excellent long-term retention. Since they have enough knowledge on this subject, there is no need of education programs in this field to improve the quality of life of patients with dental trauma.

**Keywords:** Avulsion; Dental Injury; Dental Trauma; Chennai; Dentists.

### Introduction

A dental avulsion is defined as the complete displacement of tooth out of sockets along with severed ligament without disintegration of the alveolar bone. Being the most serious form of dental trauma, it occurs recurrent in the society with an incidence of 0.5%-3% of all distressing injuries of the permanent dentition. [1]. Dental avulsion brings elegant, functional, and psychological consequences on humans. When the aesthetics harmony is insulted by dental avulsion, there is often a responsive effort of people to avoid smiling. As the cost of dental treatment following trauma is high, dental avulsion causes a responsibility to the society's economy.

Dental avulsion can be controlled by various treatment modalities, such as restorative replacement of the avulsed tooth, treatment by minor orthodontic movements, and instant reimplantation of the avulsed tooth, trailed by endodontic treatment. Though dental avulsion can be managed by other treatment modalities, the

role of immediate reimplantation can never be overemphasised enough as it carries more psychological bene.

The main reason to prevent Avulsion is to preserve the surrounding periodontal cells [2]. So replantation of this avulsed tooth is the best accepted treatment [3]. It restores the lost tooth and aesthetics and function of the patient and improves their self-esteem [4, 5]. Other studies showed that 83.3% had no knowledge and attitude towards avulsed tooth [6].

Therefore, this study was conducted in order to assess the knowledge and attitude of general dentists towards avulsion in Vepery, Chennai.

### Materials and Method

This study was conducted as a cross sectional study with a sample of 100 dentists in Vepery in Tamil Nadu. The participants were chosen according to their willingness and also who volunteered.

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Ethical clearance and consent were taken before the start of this study.

The materials used were a questionnaire in English. It consisted of medical based questions mainly on the treatment and diagnosis of avulsion, this was done to evaluate the knowledge and attitude of dental staff and post graduates in case of having to undergo an emergency of avulsion.

It is a self-administered questionnaire study with only one investigator to collect the data. The questions from the questionnaire were asked during lunch breaks and free hours when there were no patients around. The results were collected during the month of January and February, 2016. Using the excel sheet the final data was entered.

## Results

Out of 100 participants in the survey all of them responded, of whom 55 were female and 45 male (Figure 1). Considering the factors that may influence outcome of replantation, (57%) considered all three factors (extra-alveolar period, storage medium, injury to the periodontal ligaments); and only one factor was considered by 43%. All of the results are characterised in table 1.

## Discussion

This study gives a clear outline on the knowledge and attitude towards avulsion of general dentists in and around Vepey. This

**Table 1. Results of questionnaire.**

Questionnaire	Valid percentage (%)
1. Should an avulsed permanent tooth be replaced in its socket	
Yes, in all cases	62
No, in all cases	30
Never	8
2. Factors that may influence the outcome of replantation of the avulsed tooth	
Storage medium	15
Extra-alveolar period	22
Injury to periodontal ligament	16
All of the above	47
3. Best storage medium	
Patient saliva	17
Milk	14
Physiological saline solution	11
Hanks balanced solution	58
4. Ideal extra-alveolar time	
Less than 30 minutes	24
30 mins - 1 hour	62
More than 1 hour	14
5. Tooth management before replantation	
Hold the crown and wash with antiseptic solution	34
Hold the crown and wash with physiological saline solution	20
Hold the crown and wash with tap water	31
Hold the root and wash with physiological saline solution	15
6. Types of splinting	
Flexible	36
Rigid	58
No need for splinting	6
7. Splinting duration	
Less than 7 days	35
7-14 days	57
More than 14 days	8
8. Endodontic treatment	
Pulpectomy and root canal filling after 15 days	25
Depends on extra-alveolar	49
Depends on extra-alveolar time and stages of root formation	19
Immediate pulpectomy and calcium hydroxide therapy	7
9. Systemic medication	
Anti-inflammatory drugs only	23
Antibiotics, anti-inflammatory and tetanus prevention	65
No medication required	12
10. Follow up by clinical and radiography examination	
1 year	56
3 years	35
5 years	9

is the questionnaire used in this study.

More than half of the current dentists are aware of the basic procedures to be followed in case of dental avulsion of deciduous and permanent teeth without gaining exquisite knowledge from their professional experience.

58% of the participants, a very high percentage reported that avulsed tooth should be re-implanted. In another study conducted by Westphalen et al., [7] reported that 100% of participants considered replantation, among them (67%) regarded replantation after extra-alveolar time, this coincides with the result of this study showing that most dentists suggested dental replantation. [7, 8]. In a study conducted by Nabil M. Al-Zubair in Yemen, A very high percentage of participants (44%) reported that avulsed tooth cannot be replanted. Whereas our study had a higher percentage of participants in favour of implantation after a tooth avulsion. This increase can be due to a lot of reasons, such as; self-education by reading books and articles, continuing educational courses and more information is taught to the students during dental school.

Tooth management before replantation, 34% of dentists chose to wash their teeth with tap water than saline solution. Less than half of the participants chose saline solution (15%). This causes a confusion whether these procedures could be performed in site of accident.

Even though re-implantation is the best treatment for avulsed teeth, it is not approachable for various reasons, such as; the people present at the site of accident will not do it or will not be able to do it as they might not be dental healthcare workers and in case of multiple teeth avulsion or any other complications, people might not know which tooth will go into which socket [9].

Considering factors that may influence outcome of replantation, (57%) considered all three factors; while 43% considered only one factor, which also reflects the increased quality of their graduation courses. A previous research has shown that three factors contribute to the success of re-implanted avulsed teeth: The physiologic status of the storage medium, the remaining periodontal ligament (PDL) cells on the root surface, and the length of extra-oral time. [9, 10].

60% of the dentists chose hanks balanced salt solution as storage medium than patients saliva (17%), even though hanks solution might be more appealing and better than patients saliva, it is a bad choice for various reasons, such as; It is often not available at accident scenes such as car accidents, hospital operating rooms, schools, and playgrounds and it is a very expensive medium to use and so not readily available for all the dentists.

For the question regarding ideal extra-alveolar period, 62% of the participants chose the incorrect extra-alveolar period as 30 minutes to 1 hour, while 24% suggested the correct answer which is within 30 minutes. Which reveals that there is about three out of five who responded with inadequate attitude and knowledge regarding the most important factor to be considered in avulsion treatment. An avulsed permanent tooth should be replanted as soon as possible. If the tooth cannot be replanted within five minutes it should be stored in a medium that will maintain life of periodontal ligament fibres.

The suggestion for the type of splinting was not the same as the recent published articles, which established the use of flexible splinting for 2 weeks. In the current study the majority selected rigid splinting and 36% suggested flexible splinting. The semirigid splint allows some mobility to the traumatised teeth and is recommended for teeth that has both closed and open apex.

The years of working experience of dentists was recorded in this study. It showed that not only the dentists with more than 5 years of experience have knowledge but even the ones with below 5 years have adequate knowledge, since the majority have below 5 years of experience.

The majority of participants (61%) were about the splinting period, saying it should be between 7-14 days. The lowest was of 9% that selected more than 30 days. International Association for Dental Traumatology (IADT) suggested up to two weeks splinting for an avulsed tooth decrease the risk for ankylosis [5, 10]. As a conclusion to this study, we can suggest that the knowledge of general dentist about the emergency management of dental avulsion in Vepery is adequate. However, attending CDE programs by the practicing dentist will help in updating their knowledge towards recent developments.

## Conclusion

To conclude, the general dentists are very aware and have adequate knowledge towards avulsion. The best treatment for tooth avulsion is re-implantation with excellent long-term retention. Since this is an emergency treatment, they do enough knowledge on this subject, But there are still a few that haven't got adequate knowledge on this subject, so for them there is a need of education programs in this field, to improve the knowledge and ability to treat trauma or injury leading to an avulsed tooth and make the quality of the lives of dental patients better.

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