

# Primary care dentists' experience of treating avulsed permanent teeth

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## FULL PAPER DETAILS

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**Introduction** An avulsed permanent tooth is one of the few true emergencies in dentistry. Children who suffer this injury require urgent dental care and prompt follow-up care. There is very limited evidence available regarding the provision of treatment for avulsion injuries in primary dental care. **Objectives** To explore the experience of UK dentists in relation to the management of avulsed permanent teeth. **Method** A self-completion questionnaire was designed and piloted. Questionnaires were sent to a random selection of one thousand GPs with a stamped addressed return envelope. A second mailshot was sent to non-responders after eight weeks. Simple descriptive analysis was undertaken using Microsoft Excel. The results were compared with those from an earlier, similar study in Wales. **Results** A total response rate of 61% was achieved. Just over 40% of responding dentists recalled replanting an avulsed permanent tooth in a child. **Conclusions** Many dentists have limited or no experience of treating children with avulsed permanent teeth. Thirty-four percent of dentists have children with avulsion injuries under their care. Children with these traumatic injuries may benefit from shared care involving an interdisciplinary specialist team, in line with recommendations from the British Society of Paediatric Dentistry National Clinical Guidelines for Management of Avulsed Permanent Teeth in Children.

## EDITOR'S SUMMARY

With the 2015 Rugby Union World Cup coming to England and just about to start later in September, this paper discussing avulsed teeth is timely. Rugby is certainly a common cause of this relatively rare occurrence in the general population. In addition to the clamour around how the teams will do (come on Ireland!), there is also lot of talk around safety in the sport. Avulsed teeth might be secondary to brain injuries as a rugby-related issue but dental trauma is a problem nonetheless. Indeed, the World Cup might provide an opportunity for the dental profession to raise the issue of gum shields with rugby-playing patients. However, I digress, as this particular research study focuses on paediatric cases of avulsed permanent teeth.

When my sister was about 8 years old, she almost knocked one of her teeth out. I can't remember which tooth it was, but I can clearly remember the panic it caused in our house – lots of running around, tears and frantic phone calls. My parents

immediately called our family dentist and ended up at his house on a Sunday evening, where he calmly popped the tooth back in and solved the problem.

Interestingly, thinking back it was to primary care they turned in the first instance. Their instinct was not to go to A&E but to our dentist. Indeed, as the authors of this paper point out, a previous study has shown that most of the dental trauma cases seen in the secondary care setting had initially presented in general dental practice. So why are there so few studies investigating whether or not primary care dentists have sufficient training in order to manage dental trauma injuries? Indeed, many of the studies which do examine this issue concern the knowledge of primary school teachers. This is important but surely we also need to explore the experience of actual dentists in relation to the management of avulsed teeth?

The study reported in this *BDJ* paper does just that by using a questionnaire sent to GPs in Yorkshire to determine their experience in relation to the man-

agement of this particular dental emergency. The study showed, unsurprisingly considering its rarity, that many dentists in the region had limited or no experience of treating children with avulsed teeth. This means that if and when dentists are faced with an emergency case of tooth avulsion, they often need to draw on academic training – sometimes post-graduate training, perhaps even back as far as undergraduate training.

There are many online refresher guides available to help GPs be as prepared as possible for dealing with dental emergencies such as avulsed teeth. Some examples include: The Dental Trauma Guide (<http://www.dentaltraumaguide.org/>) and BSPD guidelines ([http://bspd.co.uk/Portals/0/Public/Files/Guidelines/avulsion\\_guidelines\\_v7\\_final\\_.pdf](http://bspd.co.uk/Portals/0/Public/Files/Guidelines/avulsion_guidelines_v7_final_.pdf)).

The full paper can be accessed from the *BDJ* website ([www.bdj.co.uk](http://www.bdj.co.uk)), under 'Research' in the table of contents for Volume 219 issue 5.

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**IN BRIEF**

- Highlights that avulsion injuries are rare and that many dentists working in primary care have limited or no experience of treating children with avulsed permanent teeth.
- Discusses the importance of postgraduate training in dental traumatology to maintain up to date knowledge for timely and appropriate care for children who sustain traumatic dental injuries.

**COMMENTARY**

Avulsion of a tooth occurs rarely; however, appropriate and timely management is critical to the prognosis of the tooth. This study aimed to assess the experience primary care dentists in Yorkshire had in managing this injury and to compare these results with a similar study previously performed in Wales. Additionally, the questionnaire used in this study asked participants whether they had attended post-graduate dental trauma courses and whether they used clinical guidelines to inform their management of avulsion injuries.

Thirty-nine percent of the 597 dentists included in the study had experience of replanting an avulsed tooth, slightly lower than found in the Welsh study (46%). It is not surprising that the majority of primary care dentists have no experience of managing avulsed teeth, given how infrequently they occur. Interestingly, 40% of respondents stated that they currently reviewed children with a history of avulsion in their practice. This was higher than in the Welsh study, which is surprising as there are proportionately more paediatric dentistry specialists working in Yorkshire than in Wales. However, it was not clear whether this was a shared care arrangement with a specialist unit. Management of avulsion injuries can be complex and interdisciplinary specialist care is recommended to enable holistic long-term treatment planning.<sup>1</sup> Further investigation of follow-up care arrangements for avulsed teeth may help to ascertain where deficits in service provision exist and how existing specialist services can develop clinical networks with primary dental care providers to aid management of complex dental injuries.

Over half of the dentists who had replaced an avulsed tooth had attended postgraduate training in dental trauma, which was higher than in the overall sample (40%). The authors suggest that, perhaps, their experience in managing the injury may have prompted them to seek training or conversely, that they felt able to manage the injury because of their training. One third of those who had managed an avulsion injury had not consulted a clinical guideline to inform their treatment. This finding is important, as guidance for the management of avulsed teeth has changed significantly over the past decade. Further qualitative inquiry may ascertain the most acceptable format for disseminating new guidance, especially when it concerns conditions which are seldom encountered. Web-based resources, such as [dentaltraumaguide.org](http://dentaltraumaguide.org), may have a role to play as up-to-date guidance and practical advice can easily be accessed when required.

1. Day P F, Greig T A. Treatment of avulsed permanent teeth in children. UK National Guidelines in Paediatric Dentistry. 2012. Available from [http://bspd.co.uk/Portals/0/Public/Files/Guidelines/avulsion\\_guidelines\\_v7\\_final\\_.pdf](http://bspd.co.uk/Portals/0/Public/Files/Guidelines/avulsion_guidelines_v7_final_.pdf) (accessed September 2015).

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**AUTHOR QUESTIONS AND ANSWERS****1. Why did you undertake this research?**

Traumatic dental injuries are common in childhood. Avulsion injuries are rare, though no accurate data exists for the prevalence of these complex injuries in children in England. There is evidence to suggest that, in the UK, only 10% of children receive adequate emergency care for an avulsed permanent tooth within the appropriate timeframe. Little is known about what happens to these children in the medium- and long-term following their injury and what proportion of them are treated solely in primary care.

Hence, this study looked to explore the experience of primary care dentists in managing avulsion injuries.

**2. What would you like to do next in this area to follow on from this work?**

An interesting finding in this study was the relatively large proportion of dentists in Yorkshire who have children with avulsion injuries currently under their care. This is despite the relatively easy access to specialist paediatric dentistry in this region. It may be that these children are under shared care with a specialist team, but further research to identify the reasons why a dentist may choose not to refer for specialist management would be of interest.

Currently, we are undertaking a large, international study to identify a core outcome set for traumatic dental injuries. Use of this set in primary care research should help us to identify the outcomes for children whose traumatic dental injuries are treated solely in primary care, about which there is almost no evidence to date.