

Managing Dental Injury

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Dental injury including broken, chipped, loosened teeth or teeth which have been knocked out are remarkably common. Usually affecting upper, permanent, front teeth of children aged between 10 - 15 years these injuries are unexpected, immediate, distressing and disfiguring. Community organisations however are surprisingly under-equipped to cope effectively with this.

Can treatment for all dental injury be delayed?

Immediate care is the treatment of choice advocated by dental schools, dental clinicians and their professional associations for traumatic dental injury (1). In particular, successful dental treatment for a permanent tooth which has been knocked out is determined by the actions of those at the scene of the accident not afterwards by the dentist. The longer this time interval the poorer the likelihood of long-term tooth survival as shown below (2).

Delay in Care	Long-term Tooth Survival
Immediate Care	85% - 97%
Within 5 minutes post-injury	20% - 84%
5 - 20 minutes post-injury	8% - 66%
Greater than 20 minutes post-injury	3% - 21%

A mouthguard does not eliminate dental injury

Dental injury is usually associated with sport. Traditionally mouthguards are offered as a totally effective solution for preventing dental injury. Currently an array of products labelled "mouthguards" are available ranging from 'boil & bite' to 'custom fit', not surprisingly there is great confusion about their use and suitability. Encouraging sports participants to wear mouthguards, preferably custom-fitted is commendable but unlikely to eliminate dental injuries from occurring according to dental studies. During 1991 and 1992 football seasons 36% - 43% of amateur Australian Rules Football players experienced dental injury despite wearing a mouthguard (3,4). Not all contact sport participants wear a mouthguard, at least 64% of Australian Rules Football players wear a mouthguard during matches but mouthguard usage drops to less than 2% during training at all levels and ages despite the possibility of injury (5).

Other causes of dental injury

Leisure activities account for 50% of all head and facial injury (6). Accidents due to children playing are responsible for most of these cases whilst sport is involved in less than 6% of cases. (1, 7)

Who can treat dental injury?

Successful management of traumatic dental injury is determined by the care provided immediately at the time of the injury. The timing of suitable care is critical for the long-term success of treating permanent teeth which have been knocked out. Suitable temporary care ensures the success of subsequent professional dental care and reduces post-injury complications keeping professional costs low. First aid areas and dental practitioners are not often close to the accident, readily located or immediately accessible therefore

teachers, physical education and outdoor education staff will have to provide primary care for dental injury until qualified help can be located.

What to do when a permanent tooth has been knocked out.

Don't

- ✘ Panic
- ✘ Scrub or disturb the yellow part (root) of the tooth.
- ✘ Rinse the tooth in water.

Do

- ✓ Remain calm
- ✓ Wear gloves to protect yourself from blood-borne infection
- ✓ Locate the tooth as quickly as possible
- ✓ Handle the tooth only by the white part (crown) at all times
- ✓ Immediately replace the tooth in its socket using the other teeth as guides
- ✓ Immobilise any loosened teeth
- ✓ Attend dentist immediately
- ✓ If the tooth cannot be re-inserted back into its socket in the mouth transport the injured to the dentist with the tooth completely submerged in a container of saline or milk.

What else can we do?

Surveys amongst English physical education teachers and school nurses found that despite first aid instruction 57% did not know what to do if a permanent tooth was knocked out (8) more than 80% lacked the confidence and training to manage if a permanent tooth was knocked out (9). Dental injury is often managed by well-meaning but dentally inexperienced staff relying on first aid kits containing no relevant instructions nor materials for managing this type of injury (5).

Review how you manage dental injury particularly the suitability of your current first aid kit to manage dental injury. Dentist In A Box Tooth Trauma Care is a compact first aid kit for dental injury which I created several years ago to provide both accurate information and suitable materials for managing dental injury.

Dental injury is unexpected, distressing and immediate not confined exclusively to sport participation so that mouthguards are only of limited value. Could you imagine the devastating effect on appearance and self-image a broken or missing front tooth has on teenagers and young adults? As some of this group are most concerned with their appearance (10) it is vital to improve initial care of dental injury to ensure the long-term success of dental treatment for this disfiguring injury.

Priced from \$38.00 per kit both ACHPER and Sports Medicine Australia recommend Dentist In A Box™ Tooth Trauma Care should be included in all school first aid kits.

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