A common outcome of dental trauma is fracture of the incisors. Since the advent of adhesive dentistry, re-attachment of the fragment has been reported.1 It is a technique that can easily restore a fractured tooth, arguably giving a quicker and more aesthetic outcome than the average composite restoration.2 Yet, in the author’s experience, this technique is not performed in general practice as often as it could be. A simple case is presented with a summary of the technique used; it only required materials readily available in most general practices.

It is assumed that standard guidelines would be followed in all trauma cases (www.dentaltraumaguide.org). Obviously, this technique is only suitable if the fragment is intact and can be located onto the tooth stump. Pulpal protection was unnecessary in this case but must be considered.

**Case report**

The following case presented 5 days after a sports injury (Figure 1). The patient had attended hospital where two tooth fragments were recovered from his lower lip; they were stored dry. Clinical and radiographic examination revealed little of note except enamel dentine fractures of the LR21 LL1. The teeth were slightly sensitive to cold air. At the initial appointment it was decided to bond the fragments back, then a week later review and restore the LR2 with composite.

The treatment protocol in this case was:
- The teeth were isolated with Optragate (Ivoclar Vivadent) and cotton wool. The use of a lip retraction system such as rubber dam or Optragate is invaluable as it can free up a hand as well as maintain isolation.
- It was established that local anaesthetic was unnecessary as the patient could tolerate water and air spray.
- Identification and orientation of the fragments requires care. Handling of
such small fragments, especially lower incisors, can be very difficult. Sticky dental applicators (such as Micro-Stix by Microbrush) are invaluable but, if not available, then a standard applicator with a tiny blob of Blu-Tack (Bostik) is a reasonable, less effective substitute. It is recommended to have everything to hand and in position prior to proceeding, eg you do not want to try and re-orientate the fragments once bond is applied, as it will stick to your fingers then fall off the applicator at the crucial moment! Practice putting the fragments into position with a dry run or two.

- The fitting surface of the fragments was etched and bonding agent applied as per manufacturer's instructions. It is suggested that this be done over a surface or tray as the fragments can easily drop.
- The fitting surface of the teeth was etched and bond applied, as above.
- A layer of flowable composite was applied to the tooth (appropriate matching shade) and the fragment was immediately placed. The area was light-cured for about two seconds to tack into position. Then the sticky applicator was removed, the fragment position checked, excess flowable flicked off, and the composite fully cured.
- In this case, it was decided to allow the composite to flow interproximally as to place any interproximal medium may have prevented proper seating. Once cured, the thinnest available IPR strip (interproximal reduction, 0.06 mm) was cut through to remove any excess composite. Other methods could easily be used in different cases; PTFE tape is commonly advised.
- Excess composite was removed and finished with fine diamonds.
- The occlusion was carefully checked and a high spot identified and reduced. Although, in theory, the tooth should be exactly the same morphology, in practice two factors can subtly change this. First, precise seating of the fragment can be difficult. Secondly, during the trauma a slight lateral luxation may occur.
- Figure 2 was photographed at this point. Note the marked colour change in the fragments due to dehydration. The patient was simply reassured that the colour would normalize over time.
- At review a week later, the patient was symptomless. The LR2 was restored with a single shade composite (Majesty Aesthetic, Kuraray) (Figure 3).
- Reasonable longevity of re-attached fragments has been reported, in excess of 7 years. Also, more complex cases have been described, involving the pulp and root, although there is much less long-term data in these cases. Overall, the consensus seems to be that this is at least a successful short- and medium-term treatment, with good potential for long-term results. Even if the technique does not result in long-term success, it remains an elegant solution for the younger patient in order to buy time for maturation of the dentition and the individual.

**References**