

MULTI-DISCIPLINARY EMERGENCY MANAGEMENT OF DELAYED SEVERE INTRUSION INJURY

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BACKGROUND

- History: A 22-year-old female referred from Primary Care for intruded upper incisors following a fall from her bed over 2 weeks prior, during the COVID-19 pandemic.
- Medical history: Spastic cerebral palsy with involuntary movements, lower limb paralysis, mild learning disability, non-verbal communication and wheelchair user.
- Capacity assessment: Patient was deemed to have capacity to consent to treatment. Communication was achieved with computer assistance and with support from her parents.
- Clinical findings: Approximately 11mm intrusion of the UR1 and UL1 which were non mobile. Existing class II incisal relationship with increased overjet allowing for improved access and favourable for repositioning.



Figure 1. Pre-trauma photograph provided by patient's parents.

INTRUSION INJURIES result in the most complex crushing PDL injury¹ and 100% loss of vitality. There is therefore increased risk of root resorption and infection with **significant reduction in 5-year survival**². Prognosis is worsened when multiple adjacent teeth are involved³. Repositioning the teeth and endodontic access are essential to improving survival and preserving hard and soft tissue architecture for future prosthetic rehabilitation.

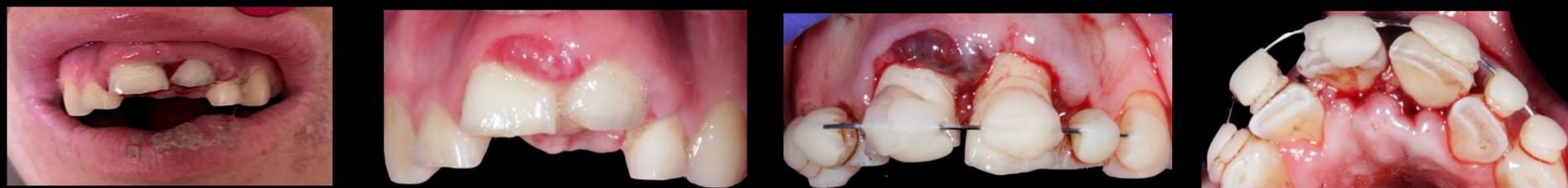


Figure 2. Photographs demonstrating clinical presentation followed by mid-treatment after surgical repositioning and splint placement

MANAGEMENT

- Combined management by **Restorative Dentistry** and **Special Care** teams.
- In line with IADT⁴ guidance, due to severe (>7mm) intrusion, surgical repositioning was carried out followed by 1° endodontic therapy at 2 weeks with non-setting calcium hydroxide intra-canal dressing. Minimal surgical manipulation was ensured to improve healing and outcomes⁵.
- Treatment was only possible with intravenous midazolam to reduce uncontrolled limb and head movements. Close monitoring, low level clinical holding and management of airway was required to achieve safe care.
- A flexible splint was secured for 4 weeks and oral hygiene measures reinforced. Future care will include further oral hygiene support and consideration of composite build ups incisally to improve the aesthetics.
- Optimal short-term outcomes were achieved by restoring aesthetics and functional however long term follow-up of the upper anterior teeth is paramount to maintain healthy hard and soft tissues.

For this patient, if the incisors were not repositioned, **endodontic access would have been impossible if an infection presented**. Extraction would be the only option which could be complicated by ankylosis. **Timely and combined management** was essential to reduce the risk of infection and encourage replacement resorption rather than inflammatory. Despite the increased risk of resorption compared to orthodontic repositioning⁶, this provided the quickest and most appropriate solution for this patient.



Figure 3. Favourable early clinical healing achieved at review.

CONCLUSION

Retaining the patient's own teeth was key in terms of function and appearance; reducing the need for complex care in the future. MDT input was essential to achieve the best dental health outcomes for patients with uncontrolled movements and learning disabilities. Often, skills and knowledge from both specialities are required, hence training exposure to such cases is necessary in both dental specialties to improve the skillset of future specialists, especially during national crises where access to dental care may be limited.

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