SUPPLEMENT ARTICLE

Compliance with contemporary paediatric trauma guidance specific to the SARS-CoV-2 pandemic

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INTRODUCTION

The “Acute Management of Traumatic Injuries and Follow-up Care during the COVID-19 Pandemic” guidelines represent evidence-based good clinical practice and were published by the British Society of Paediatric Dentistry (BSPD) following a collaboration with Dental Trauma UK, to be read in conjunction with the 2020 International Association of Dental Traumatology (IADT) guidelines. The guidelines, which have been published during the SARS-CoV-2 pandemic and are likely to evolve, aim to maintain and deliver a high quality of care to patients with dental trauma, whilst minimising the number of face-to-face clinic appointments and aerosol-generating procedures (AGPs).1,2 The addition of “remote consultation” is one of the most significant changes to guidelines during this time. Remote consultation has proven to be an effective method of assessment, aiding diagnosis and facilitating discussions, thus improving communication (“mask-free interaction”) and reducing time in face-to-face contact.1,2,3

This revised version of the guidelines for traumatised teeth was introduced during a time of rapidly changing circumstances and evolving environment for the dental profession. It was felt that an audit could be used to determine how well the guidelines specific to SARS-CoV-2, regarding the follow-up and review period of traumatised primary and permanent teeth, were being followed at this time.

Aim

To assess whether the guidelines regarding the recommended follow-up and review period during the SARS-CoV-2 pandemic for traumatised primary and permanent teeth are being followed.

Standards

It was deemed that 100% of the time, the BSPD Acute Management of Traumatic Injuries and Follow-up Care during the COVID-19 Pandemic guidelines for follow-up and review of traumatised primary and permanent teeth should be followed.

MATERIALS AND METHODS

This was an audit of all paediatric patients who fit the inclusion criteria as below:

- Patients aged between 0 and 16 years
- Patients referred into the community dental service (CDS) in Hull specifically regarding a new dental trauma to the primary or permanent dentition

For the first cycle, the records were taken chronologically for the patients who fulfilled the inclusion criteria and attended within the assessment period, commencing April 2020 to October 2020. A second cycle was conducted between October 2020 and November 2020. This audit did not include patients who were already undergoing treatment for dental trauma at the time of audit.

Patients were seen by a varying number of clinicians, including a dental paediatric consultant, a specialty trainee in paediatric dentistry, dental officers, and dental core trainees.

RESULTS

Cycle one

Fourteen patient records were assessed by a single examiner who recorded the data, using a piloted data collection sheet, against the trauma guidelines published at the time of the audit.

Three patients had traumatic dental injuries to the primary dentition, all of which were lateral luxation injuries. The remaining dental injuries occurred to the permanent dentition and included a range of injuries, including avulsion, luxation, and complicated enamel-dentine fractures.

Of the fourteen patients, seven (50%) patient records followed the guidelines on review and follow-up completely. These patient records adhered to the recommended follow-up for the specific traumatic injury and subsequently were reviewed either as a clinic consultation or as a remote consultation as per the guidelines, at the correct time post-injury. A further four patient records were identified which, according to guidelines, should have had a remote consultation prior to their
attendance at the clinic for face-to-face review post-injury, to follow the guidelines in full. The final three patient records were deemed not to follow the guidance, as they did not follow the recommended remote consultation as part of the review process. One of these records did state that there was a language barrier, and this may have been an influencing factor in conducting a remote consultation. Two patient records had slightly altered the recommended follow-up as the patients were seen clinically rather than as a remote assessment, and the review period was altered slightly with no clear justification recorded in the notes.

Findings from the first audit cycle demonstrated that the standard was clearly not being met, for a variety of possible reasons, with the opportunity for remote consultation being highlighted as the area that is often overlooked or missed. These findings were presented back to all dentists within the paediatric department in the CDS in Hull, along with the guidelines and recommendations for follow-up and review of traumatised primary and permanent teeth. Clinicians were able to discuss the results and offer any feedback prior to the second cycle of the audit.

**Cycle two**

A second audit cycle was then conducted, using the same methods as described above, for 12 patients. Results from this cycle showed an improvement in the adherence to the review and follow-up trauma guidelines. Ten (83.3%) patient records followed the guidance in full, which included providing a clinical justification as to why there may be slight differences in clinical review time for cases with concerns. Data included patients who were since discharged from the CDS for further follow-up to be completed by the general dental practitioner. Two of these records represented patients whose treatment was ongoing throughout the follow-up period due to the complexity of the injury. One of these injuries was a complicated subgingival crown-root fracture, and the other was an avulsion injury of a very immature central incisor with an extended extra-oral period. For this reason, these records may not be a true reflection of adherence or non-compliance to the guidance, as they had more face-to-face interaction for treatment purposes and closer review during the follow-up period, which was justified in the patient notes.

**DISCUSSION**

Overall, there was an improvement in conformity with the current trauma guidelines between the first and second audit cycles. There was a particular improvement in utilisation of the remote consultation in particular in the second audit cycle. Analysis of the data revealed the significance of the clinician’s clinical judgement for certain cases, where a face-to-face consultation may be needed sooner than recommended. Therefore, the 100% standard of meeting these guidelines may be inappropriate, and the importance of clinical judgement to be used alongside these guidelines should not be underestimated.

As this is an evolving document, it is important that clinicians remain up to date with the recommended evidence-based practice during the SARS-CoV-2 pandemic, and significant improvements regarding compliance with the trauma guidelines were noted throughout this audit.

A limitation to this audit was that there were a relatively low number of records assessed in each cycle. This was possibly due to receiving a lower number of trauma referrals during the first national lockdown, and studies have suggested a lower incidence in dental trauma during the pandemic, hypothesising that this is due to the decrease in sporting and outdoor activities.\(^4\) This also explains why the first audit cycle spans a period of six months, whereas the second audit cycle was conducted over the period of one month, with similar numbers of patients. The increased rate of new trauma referrals into the CDS occurred after the easing of national restrictions, at a time when the second audit cycle was completed.

The opportunity and recommendation for remote consultation is an adaptation to clinical practice in this unprecedented situation. It aims to adhere to the increased infection control measures in dental practices, along with the reduced capacity for clinical appointments due to social distancing guidelines and the dental standard operating procedure.\(^5\) This is also a time when access to dental care for a face-to-face consultation may cause for

| TABLE 1 | Results from the first and second audit cycles |
|---------|---------------------------------------------|
| **Follow-up and review appointments correctly followed** | **In clinic consultation** | **Remote consultation** | **Number of cases which followed guidelines entirely** |
| Audit cycle | Number of patients |  |  |  |  |
| 1 | 14 | 12 (85%) | 7 (50%) | 7 (50%) |
| 2 | 12 | 12 (100%) | 10 (83.3%) | 10 (83.3%) |
concern for patients. Based on the findings of this audit, it is clear that remote consultation is an effective method for the review and follow-up of certain trauma patients, particularly during the current climate. The rapidly evolving environment requires clinicians to remain flexible in their approach for follow-up and review of patients at this time. Following this guidance, particularly regarding remote consultation, is an extremely useful and effective tool for reviewing dental trauma patients during the pandemic.

The importance of following the evidence-based guidance in the changing environment of a global pandemic allows for the delivery of consistent high-quality patient care.

Action plan
Upon presentation of these findings to the CDS, the following recommendations were implemented:

1. To ensure appropriate training for all clinicians regarding the revised trauma guidelines and to stay aware of the revised and developing information and recommendations.
2. To conduct a third audit cycle in 6 months.

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