Dental Damage During Anaesthesia UHL Anaesthetic Guideline	University Hospitals of Leicester NHS NHS Trust Trust Reference C130/2016

Introduction

Dental injuries are one of the commonest areas of complaint and litigation against the anaesthetist. It accounts for one-third of all the claims against the anaesthetist. The trust provides guidelines on dental injuries with an aim to help anaesthetists to document accurate preoperative dental assessments, obtain appropriate consent, minimise the risk of dental injury and manage it correctly, should it occur.

Important risk factors for dental injury under anaesthetics are

Dental Factors

1. Limited mouth opening
2. Prominent upper incisors (Buck Teeth)
3. Baby teeth, loose teeth
4. Poor dental health (Periodontitis, Caries)
5. Restorative Dentistry- eg: fillings, caps, crowns, veneers, bridges, implants, dentures, dental braces and metal work
   Risk of injury is higher with
   - Anterior Restorations
   - Brittle restorative materials like porcelain, composite resin
   - Recent restorative/orthodontic work
   - Temporary fillings

Procedural Factors

1. Direct laryngoscopy
2. Difficult intubation
3. Forceful insertion and removal of guedel airway
4. Forceful insertion and removal of supraglottic airway devices
5. Suction with Yankeurs
6. Shared airway procedures during ENT, Maxillo-facial and upper GI procedures involving insertion of retractors, gags and bite blocks.
7. Introduction of nasogastric tube with the aid of laryngoscope & Magill's forceps

The risk of dental damage continues into the recovery period with removal of airway devices. Clear communication is essential to avoid adverse events.

Scope

The guideline applies to all anaesthetists, ODPs and theatre staff including recovery nurses dealing with patients undergoing general anaesthetics. This is also applicable to ENT and maxillo-facial surgeons who perform shared airway procedures and to GI surgeons, and gastroenterologists, performing upper GI endoscopies.

Guidelines Standards and Procedures

- Identification of patients at risk of dental injury at pre-operative assessment.
- Informed consent on Dental damage during pre-assessment- Explain the incidence of dental injuries during anaesthesia (1:4500) and also explain the reason for the higher likelihood of dental damage by the anaesthetic/surgical team, if it exists.
- Concerns must be communicated with the team members at the time of WHO brief and airway management planned accordingly.
- Details of the events should be recorded with date and time.
- The maxillofacial team should be asked to review the patient urgently.
- The patient should be told what has happened as soon as reasonably possible and given a duty of candour letter by the responsible anaesthetist. (Appendix 2)
- An account of the events should be recorded in the hospital notes, together with details of what the patient has been told. Date, time and the Anaesthetist's name should be recorded.
- Complete Datix reporting

In a patient at high risk of dental damage, if no dental damage has occurred during the conduct of anaesthesia and surgery, it is good practice to document the same with the ODP or PACU nurse as witness.

MANAGEMENT OF AVULSED TOOTH

Laryngoscopy and retrieval of avulsed teeth using Magill's forceps

If retrieved, reimplant by pushing the tooth into the socket for several minutes. Urgent dental referral as the risk of aspiration of the reimplanted tooth exists

Avoid reimplantation in children, immunocompromised and those with severe periodontal disease.

Alternatively, place the tooth in cold saline, milk or tissue culture transport media within 60 minutes. Do not handle the root.

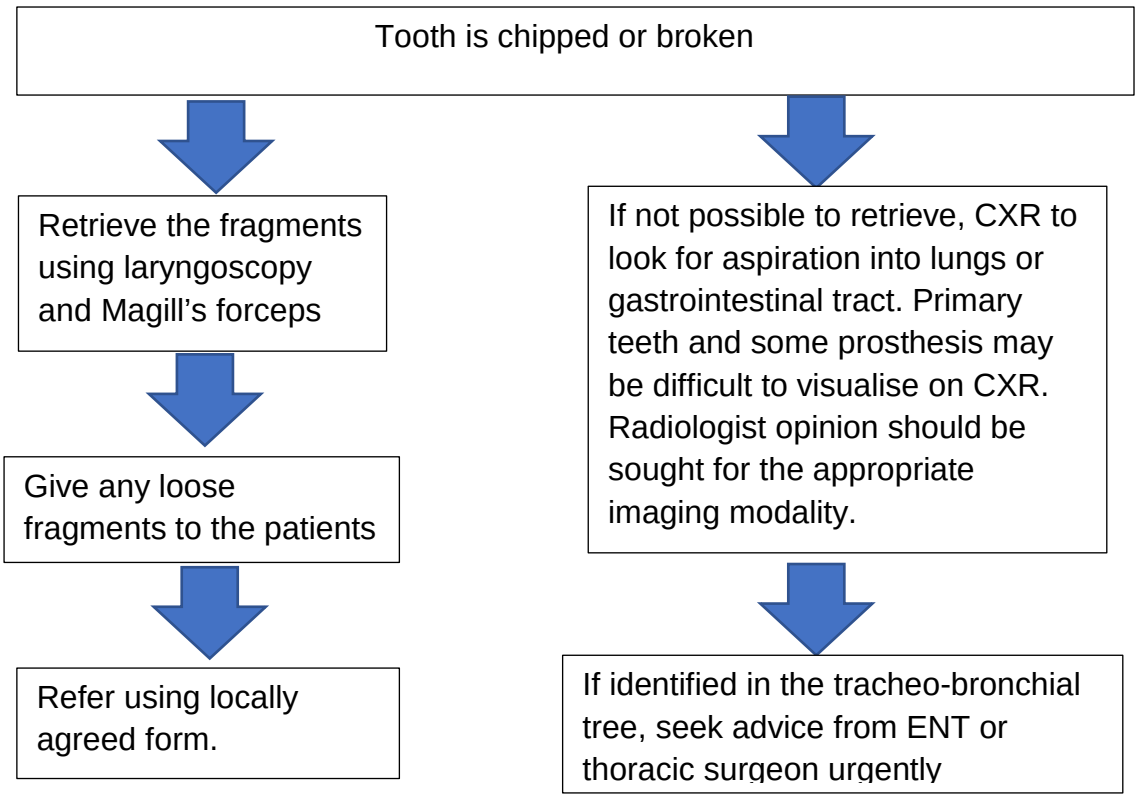
If not possible to retrieve, CXR to look for aspiration into lungs or gastrointestinal tract. Primary teeth and some prosthesis may be difficult to visualise on CXR. Radiologist opinion should be sought for the appropriate imaging modality.

If identified in the tracheo-bronchial tree, seek advice from ENT or thoracic surgeon urgently.

In children, reimplantation of the avulsed tooth could damage the successor. Reimplantation in immunocompromised and those with periodontal disease could lead to bacterial seeding.

The viability of the tooth depends on the specialised Periodontal Ligament (PDL) cells on the root of the tooth. These cells are damaged with handling and prolonged dry time (the length of time they are outside the mouth or culture media/milk/saline).

MANAGEMENT OF DAMAGED TOOTH



Education and Training

None

Monitoring and audit standards

Elements to be monitored	Lead	Method	Frequency	Reporting arrangements
Dental Injury	ITAPS Q&S Lead	Datix reporting and Audits	All incidents	ITAPS Q&S Board

Supporting References

1.Abeysundara, A.Creedon, D.Soltanifar. Dental Knowledge for Anaesthetics. BJA Education 2016,16(11):362-368

2.Risks associated with your anaesthetic Section 4: Damage to teeth, lips and tongue. RCoA 2016. Dr Karen Darragh, Dr Tom Cripps.

3. Risks of Dental Damage during Anaesthesia. MPS Guidelines 2016

Key Words

Dental injury, dental trauma, broken teeth, poor dentition

Contact and Review Details

Guideline Lead (Name and Title) Dr. Lohita Rilesh Nanda, ST6 Anaesthetics, Airway Fellow Dr. Chandra Pradhan, Consultant Anaesthetist and Airway Lead	**Lead Committee or Executive Lead** **ITAPS Clinical Effectiveness Lead**
Date of Next Review by Approval Committee: June 2022	**Details of Changes made during review:** Detailed explanation of the risk factors and management at time of the event Referenced to BJA Journal Article 2016, RCOA guidelines 2016 and MPS guidelines 2016.

Appendix 1

Patient Referral Form

Date:

To: Hospital Dental Service, Local Dentist, or Patient's own dentist

Name:
Age:
DOB:
NHS No./Hospital No.

The patient has sustained dental injury during

_____
_____
_____

Action taken:

Analgesia
Re-implantation
Splinting

Name of the referring Doctor:
Grade:
Contact Information:

Care After Dental Damage- Patient Information Leaflet

If you have sustained dental damage/injury during the anaesthetic/surgical procedure,

It is important to avoid agitating the affected site. Avoid spicy or hot food which might cause more discomfort and start bleeding

Bleeding can be controlled by applying pressure with some gauze or clean handkerchief for 5 minutes. If it does not stop contact_____.

When a tooth has been lost, the area will heal naturally. It is important to avoid disturbing the blood clot that has formed at that site. If there is excessive bleeding from the area, it can be controlled by biting on a clean gauze or handkerchief for 20 minutes. If it persists contact _____.

When your tooth has been removed or re-implanted: You need to see a dentist as soon as possible. In the meantime, keep the area clean by use of a soft brush. Use chlorhexidine mouthwash two or three times a day or warm saline wash upto 5 times a day.

Take adequate pain relief as prescribed by your doctor.

Department Contact numbers and person to contact:

_____

_____

Appendix 2

Duty of Candour Letter Templates
Example Letter to be sent to the patient affected by the incident
NB: This is provided purely for guidance. All letters must be personalised and tailored to the individual needs of the person receiving the letter.

(Insert contact address and telephone number)

PRIVATE AND CONFIDENTIAL
(Insert date)
(Insert name and address)

Dear [name the person likes to be known as - based on nursing documentation]

You were recently receiving care at [site] hospital and as Dr/Nurse [name and designation] explained to you, [brief description of the incident and what has previously been discussed] whilst you were a patient on [ward].
I would like to take this opportunity to express my sincere apologies that this event has occurred while you were under our care and to assure you that the Trust aims to provide a quality service to all our patients. The incident is being reviewed in an effort to understand exactly what happened and to find out whether there is something that we could do differently in future to stop this happening to anyone else.
We would like the opportunity to discuss and share our findings with you and therefore, I would like to invite you to come to a meeting, and this can be arranged at a mutually convenient time. I am more than happy for you to bring a relative or friend with you if this would help. Alternatively, it may be that you do not feel a meeting would be of any help, either now or in the future and that is, of course, your decision. There is absolutely no pressure for you to come and talk to us. We just wanted to give you the opportunity, should you wish to do so.
The process of root cause analysis can take up to 60 working days to complete. xxx will be your lead contact during this time and, whether you wish to attend a meeting or not, he/she should be grateful if you would ring [his/her secretary] on the number at the top of this letter. We can then make any necessary arrangements. If you feel that you do not wish to telephone, xxx will be more than happy to hear from you by letter.

Yours Sincerely,
Name

Title