Scottish Dental
Clinical Effectiveness Programme

SDCEP

Management of Acute Dental Problems

Guidance for healthcare professionals

March 2013

Scottish Dental
Clinical Effectiveness Programme

The Scottish Dental Clinical Effectiveness Programme (SDCEP) is an initiative of the National Dental Advisory Committee (NDAC) and is supported by the Scottish Government and NHS Education for Scotland. The programme aims to provide user-friendly, evidence-based guidance on topics identified as priorities for oral health care in Scotland.

SDCEP guidance is designed to support improvements in patient care by bringing together, in a structured manner, the best available information that is relevant to the topic and presenting this information in a form that can be interpreted easily and implemented.

'Supporting the provision of quality care'

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Management of Acute Dental Problems

1 Introduction

1.1 Why this guidance has been developed

The clinical services provided for patients with acute dental problems are variable (Ball, 2008; Anderson, 2005; Anderson, 2000). Some patients may have to re-attend for a procedure to be repeated or for alternative treatment because the initial care had provided little or no relief from symptoms. Patients attending for unscheduled care with pain or infection that requires a clinical intervention may be prescribed antibiotics inappropriately (Ellison, 2008; Runyan, 2004; Sweeney, 2004). For less frequently encountered problems, such as dental trauma and certain medical conditions, there might be more uncertainty about the care that should or can be provided (Tulip, 2008).

Notably, a significant proportion of the population only seek dental care when they suffer an acute episode and may initially present to other providers of care (e.g. general medical practitioner, accident and emergency, pharmacy). The World Health Organisation (WHO) has suggested a range of Oral Health targets for 2020 (Hobdell, 2003). These include an increase in the number of health care providers who are competent to recognise and manage a range of acute dental problems (infectious diseases, oral mucosal and salivary gland disorders). The proposed targets also promote the early detection and appropriate referral pathway for a variety of oral conditions, including dental trauma, oro-pharyngeal cancers and oral diseases and disorders.

Recognising the diverse manner in which patients requiring unscheduled clinical care are managed, the Scottish Dental Clinical Effectiveness Programme (SDCEP) convened a guidance development group to support the delivery of safe and effective patient care by providing clinical guidance on best practice for the management of acute dental problems. The guidance developed by this multidisciplinary group builds on the *'Emergency Dental Care'* guidance published by SDCEP in 2007, the experience of managing dental calls within NHS 24 and research evidence on treatment of the wide range of conditions that may present (SDCEP, 2007). Further information about development of this guidance is provided in Appendix 1.

1.2 Scope of the guidance

The guidance aims to

- encourage a consistent approach to the management of acute dental problems to reduce avoidable variation in practice
- improve the quality of unscheduled clinical care for patients with acute dental problems
- provide a standard for the initial management of presenting symptoms for patients with acute dental problems
- ensure patients receive appropriate advice about subsequent care and/or referral to appropriate treatment providers, if applicable

The guidance focuses on initial management and subsequent care to address the presenting problem. Longer term care planning is beyond the scope of this guidance. The guidance is based on guidelines, systematic reviews and other published literature and the opinion of experts and experienced practitioners.

The guidance is applicable to patients of all ages in all population groups, irrespective of the healthcare setting or whether or not they are regular attenders for routine dental care.

1 Introduction

1.3 How the guidance is presented

Overarching Principles are presented in Section 2. Thereafter, the guidance is presented in two main parts. Decision support pathways are illustrated in Section 3 and include summary guidance on initial management. These pathways link to the guidance on a wide range of conditions that may present as acute dental problems, which is provided in Section 4. Supplementary information is provided in the appendices.

Within Section 4, the guidance on each condition or group of conditions includes brief background information, and recommended actions presented as direct instructions marked as 'molar' bullet points. The following headings are used.

Brief description of condition

Key signs and symptoms: signs and symptoms that help initiate an assessment of the patient's condition.

Initial Management: immediate care that any care provider could follow (i.e. dental or non-dental). Given that this guidance is written for a wide range of healthcare workers, it is recognised that some professionals may not be qualified to prescribe drugs. Where prescribing advice is given in this section, these professionals can refer patients to those who are able to prescribe.

Subsequent Care: the follow on care provided by a dental or other healthcare professional. These subsections are deliberately not overly prescriptive because it is recognised that many factors can influence the choice of care options. Instead the range of issues or approaches to be considered are provided, and clinical detail has been kept to a minimum.

References: guidelines, systematic reviews and other published sources considered when developing the guidance text are included as references at the end of each subsection in Section 4. In some cases, references that indicate that an intervention is not supported by evidence are included. If no references are listed, the guidance has been based solely on the opinion of experts and experienced practitioners within the Guidance Development Group. Further information about the evidence overview conducted to support development of this guidance is provided in Appendix 1.

Advice on analgesia is provided in Appendix 2. Advice on adverse drug reactions is provided in Appendix 3.

An interactive electronic decision support tool based on the information contained within this guidance is also available. This can be accessed on the internet via a personal computer, tablet or smartphone at http://madp.sdcep.org.uk. A separate Quick Reference Guide that includes the decision support flowcharts only is also provided.

1.4 Who should use this guidance

This guidance is designed for use by staff within the range of services directly involved in provision of care for patients with acute dental problems, including general dental practice, community and salaried dental practice, out-of-hours services, general medical services, hospital dental services,
emergency departments, pharmacies, and the Scottish Ambulance Service. The guidance is also of relevance to those involved in quality improvement in NHS Boards, health care education and undergraduate training.

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Depending on their current knowledge, users with different professional backgrounds are likely to differ in the way they use the guidance. Some might use the decision support pathways as a means of accessing the appropriate advice on specific conditions. Others might go directly to the advice on specific conditions.

1.5 Statement of Intent

This guidance has resulted from a careful consideration of current legislation, professional regulations, the available evidence and expert opinion where evidence is lacking. The recommendations should be taken into account when managing patients with acute dental problems. As guidance, it does not override the individual responsibility of the healthcare professional to make decisions appropriate to the individual patient. However, it is advised that significant departures from this guidance are fully documented and that this documentation is included in the record of advice given to patients who present with acute dental problems.

References:

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Sweeney LC, Dave J, Chambers PA, Heritage J. Antibiotic resistance in general dental practice – a cause for concern? Journal of Antimicrobial Chemotherapy 2004; 53: 567-576.

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2 Overarching Principles

2.1 Critically Unwell Patients

This guidance is intended for the management of acute dental problems. If the dental problem is secondary to a more significant problem (e.g. a significant facial injury) or is resulting in severe symptoms (e.g. difficulty breathing, severe dehydration), initial contact should be with appropriate emergency medical services via NHS 24 (Tel: 08454 24 24 24).

2.2 Timescales for Treatment

This guidance is based on the Scottish Dental Clinical Effectiveness Programme's guidance on Emergency Dental Care (SDCEP, 2007) which included the timescales for access to treatment services. Based on these timescales, the following categories are used throughout this guidance.

- **Emergency Care** – arrange for the patient to have contact with a clinical advisor within 60 minutes and subsequent treatment within a timescale that is appropriate to the severity of the condition
- **Urgent Care** – advise the patient to seek dental or medical care as indicated within 24 hours unless the condition worsens
- **Non-urgent Care** – advise the patient to see a dentist within 7 days if required unless the condition worsens
- **Self Care** – the patient should be able to manage the problem without the need for further involvement of a healthcare professional. However, advise the patient that if the symptoms persist or worsen, they should contact a dentist or general medical practitioner.

These categories should apply at any time in the 24 hour period. When there is a preferred provider of care, this is also indicated.

During normal working hours, all dental practices have arrangements to provide emergency care for their registered patients. Health Boards also have local emergency dental arrangements in place for non-registered patients and NHS 24 can advise on how to contact these.
In the out-of-hours period (18.00 to 08.00 hours during the week and throughout the weekend), some dental practices have their own emergency arrangements. In addition, a full triage and patient booking service is available through NHS 24.

It should be noted that some allowance on treatment times may need to be made for remoteness, rurality, patient travel and degrees of urgency within each category. Similarly, providers of care may vary depending on location.

2.3 Management of Spreading or Systemic Infection

Health care providers need to be alert to the characteristics of the occasional patient who presents with spreading or systemic infection. There is, for example, an association between cervicofacial infection and acute morbidity and mortality (Byers, 2011; Ellison, 2011).

It is important that the cardinal signs and symptoms of spreading infection (cellulitis, lymph node involvement, swelling) and systemic infection (fever and malaise) are recognised for patients presenting with acute dental problems.

2 Overarching Principles

Antibiotics are only appropriate for oral infections where there is evidence of spreading or systemic infection or for a patient who is immunocompromised. It is suggested that the question 'does the patient look or feel unwell?' is an appropriate way to assess the likelihood of systemic infection.

Local measures are the recommended first option in cases of bacterial infection. Rarely, it might be necessary to prescribe an antibiotic, for example, when swelling is severe and drainage cannot be achieved.

2.4 Drug Interactions

Prescribers need to be aware of potential drug interactions. Some drug interactions could have serious consequences. In the management of dental conditions, the more common of these include:

- interaction of non-steroidal anti-inflammatory drugs (NSAIDs), azole antifungals and antibiotics with warfarin.
- myopathy after prescribing azoles, erythromycin and clarithromycin in those taking statins.
- asthma symptoms exacerbated following the use of NSAIDs.

Therefore, when prescribing drugs, please refer to Appendix 1 of the BNF (www.bnf.org) and BNFC (www.bnfc.org) for comprehensive information on drug interactions. Advice on prescribing relevant to dental health care is provided in the SDCEP *'Drug Prescribing for Dentistry'* guidance (SDCEP, 2011a).

2.5 Adverse Drug Reactions

There is a need to be aware of adverse drug reactions. In clinical practice, the use of certain drugs in the treatment of medical conditions may result in a range of oral health side effects, which may present as an acute dental problem. In certain cases, the side effects are relatively minor and can be simply managed, although there are cases where more urgent action or referral may be required. See Appendix 3 for further details.

2.6 Patient Assessment and Record Keeping

This subsection is primarily aimed at dentists but is also of relevance to other health care providers.

When a patient presents with an acute dental problem, a basic assessment that enables the management of the patient's immediate needs is sufficient. This should always include the following:

- Collection or review and updating of the patient's medical history.
- A clinical assessment tailored towards diagnosing the presenting problem.
- Examination of the oral mucosal tissue.
- Encouraging irregular attenders to return for a full oral health assessment and subsequent regular review.

For more details refer to the SDCEP *Oral Health Assessment and Review* Guidance (SDCEP, 2011b).

Although signs and symptoms that help initiate an assessment of the patient's condition are included in this guidance, some patients with special needs may not exhibit these classic signs or symptoms. In such patients,

2 Overarching Principles

oral health problems might be indicated by changes in behaviour, such as hitting the head with a fist, banging the head, refusal to eat, biting, chewing clothing or an uncharacteristic inability to stay still.

Good record keeping underpins the provision of quality patient care (O'Malley, 2009; British Dental Association, 2009). Increasingly, the care of patients is shared among dental team members and between other professionals. Therefore, it is important to ensure that all relevant information is available to facilitate the provision of safe, shared care of patients. This might also prove useful in the event of complaints or for medico-legal reasons (MDDUS, 2009). For further details visit the SDCEP *'Practice Support Manual'* online (SDCEP, 2010).

References:

British Dental Association. Advice sheet B1: ethics in dentistry, BDA Practice Compendium; 2009 (www.bda.org/pct-healthbody/pcts/advicesheet.aspx)

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O'Malley D. Clinical examination and record keeping: good practice guidelines, 2nd edition. London: Faculty of General Dental Practitioners (UK); 2009.

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SDCEP. Practice support manual 2010 (www.psm.sdcep.org.uk/)

3 Pathways to Providers of Care – Decision Support

When a patient presents with an acute dental problem, the healthcare professional needs to be able to identify the nature of the problem to the extent required for them to provide initial management and to determine the appropriate provider of subsequent care. While many dental professionals are experienced in doing this, for less experienced dental professionals and other healthcare professionals, this can be particularly challenging. The decision support pathways presented in this section as flowcharts are primarily directed towards non-dentists, although they are also of relevance to all users.

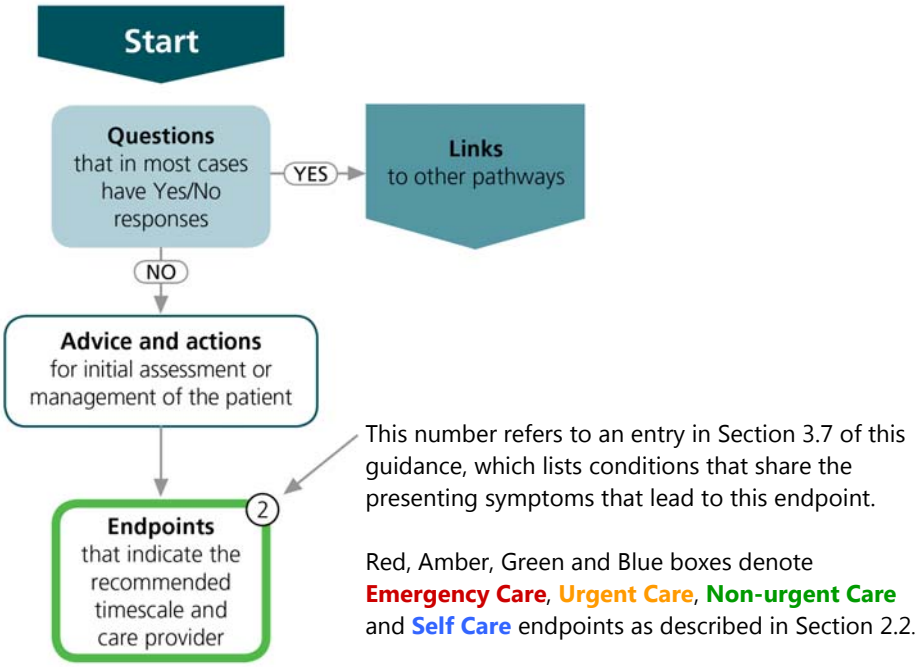
Most patients presenting with an acute dental problem will report pain and/or swelling, bleeding or injury due to trauma. Some patients may present with other symptoms, particularly ulceration, altered sensation or an abnormal lesion, lump or mark (abnormal appearance).

The flowcharts in this section illustrate the pathways to care providers for patients who present with dental problems. The start point is one of the following key presenting symptoms.

- Pain (Section3.1)
- Swelling (Section 3.2)
- Bleeding (Section 3.3)
- Trauma (Section 3.4)
- Ulceration (Section 3.5)
- Altered Sensation / Abnormal Appearance (Section 3.6)

It is recognised that a patient may present with more than one of these symptoms. In this case, the main or first reported symptom is used as the start point.

Pathway key:



These flowcharts are included as a means of illustrating pathways to care providers based on presenting symptoms. An interactive electronic decision support tool based on the information contained within these flowcharts is also provided. This can be accessed on the internet via a personal computer, tablet or smartphone at http://madp.sdcep.org.uk.

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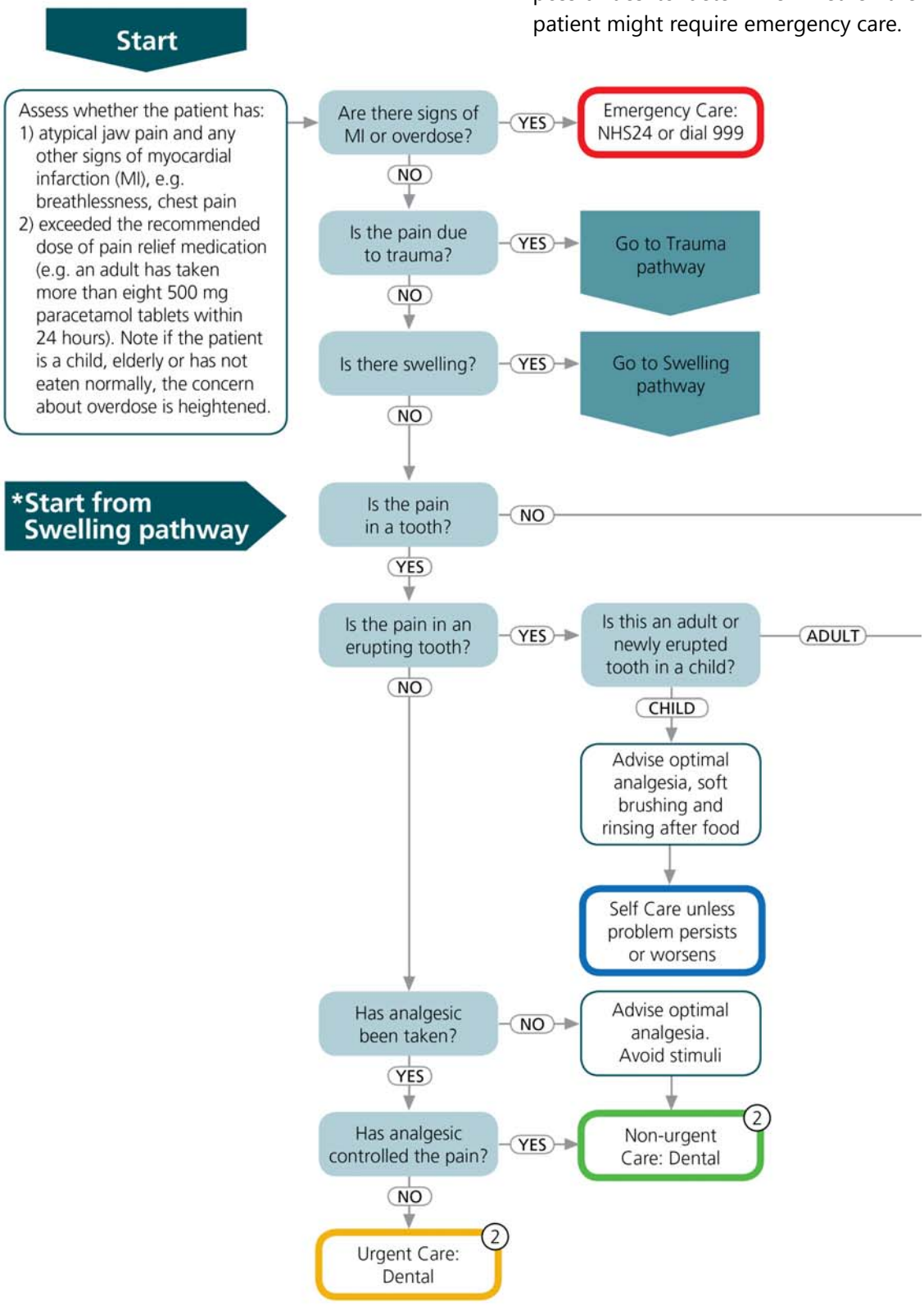
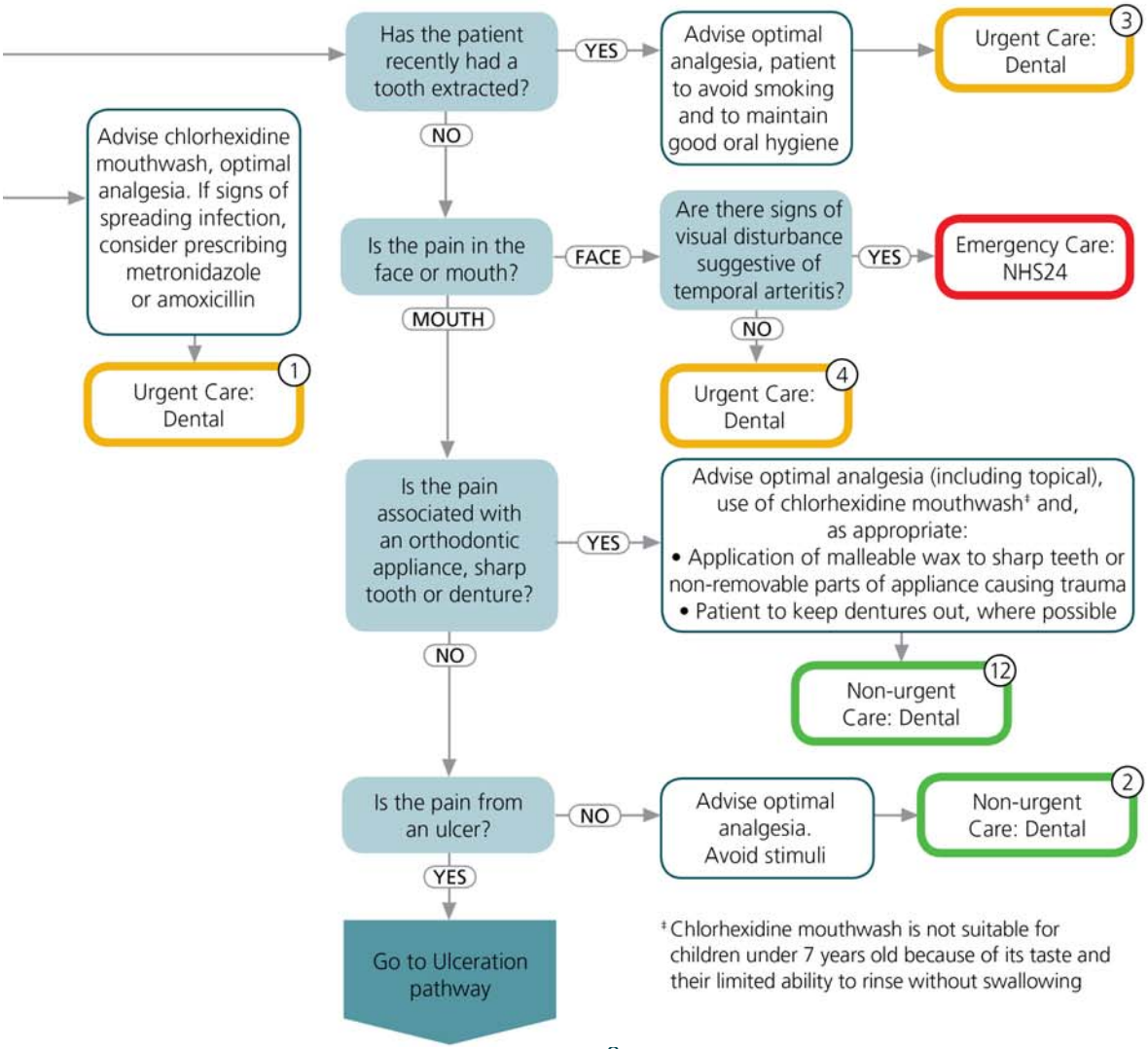
3.1 Patient with Pain

Pain in the mouth or jaw is most commonly related to the teeth. However, myocardial infarction may present with pain in the jaw on rare occasions. Patients suffering from toothache often self-medicate and might have exceeded the recommended dose of analgesics. Therefore, at the outset it is important to consider these possibilities to determine whether the patient might require emergency care.



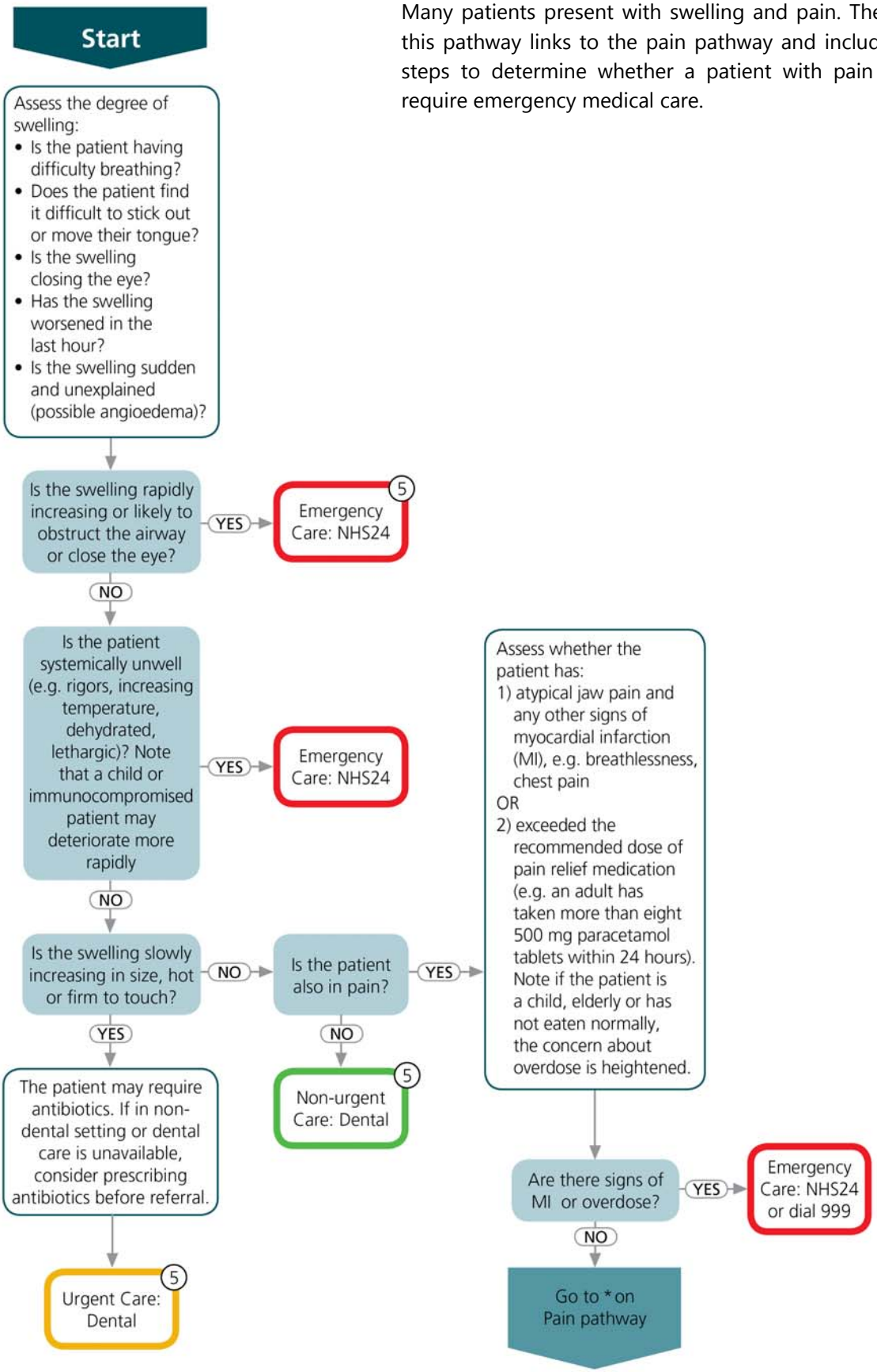
3 Pathways to Providers of Care – Decision Support



3 Pathways to Providers of Care – Decision Support

3.2 Patient with Swelling

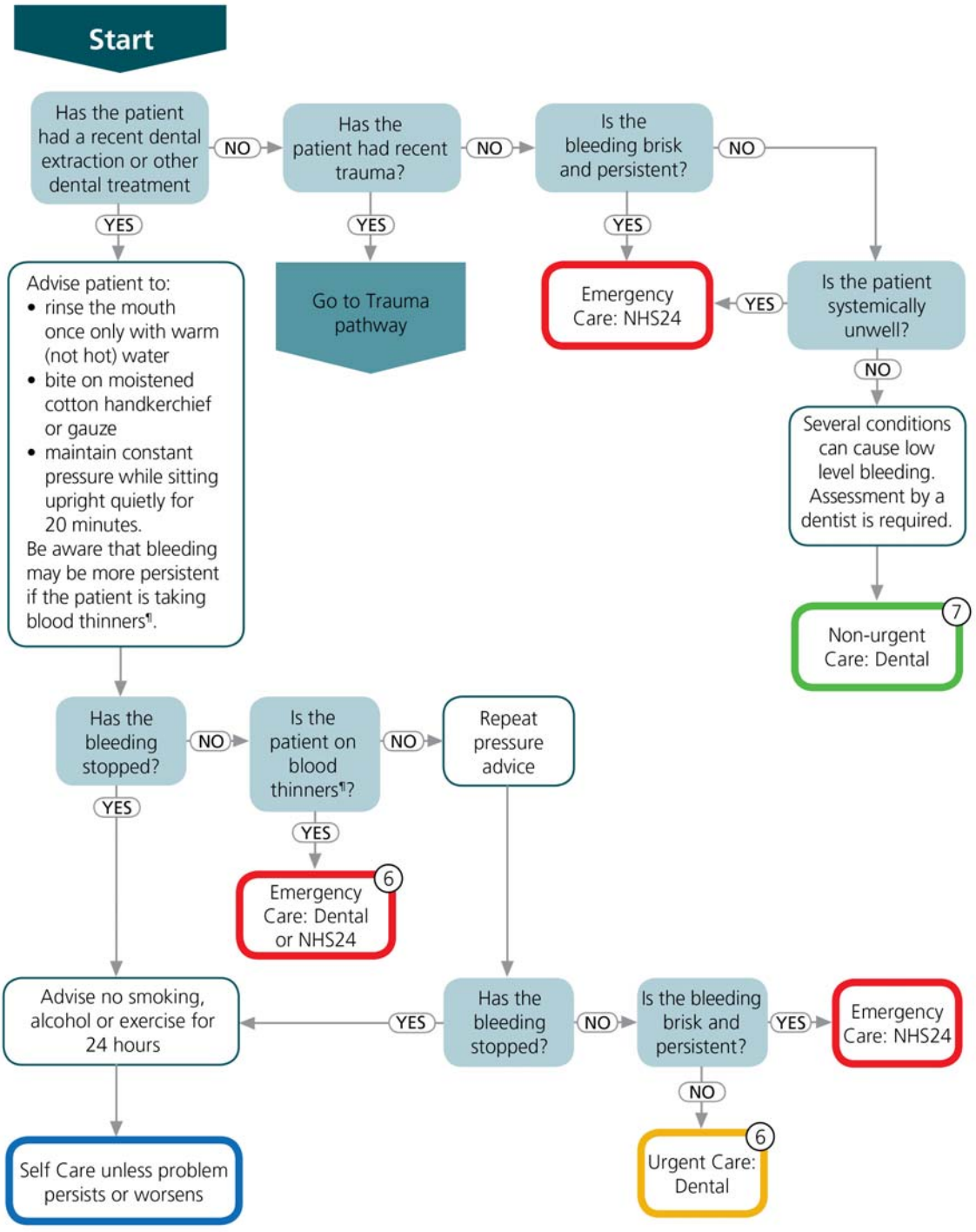
Many patients present with swelling and pain. Therefore this pathway links to the pain pathway and includes the steps to determine whether a patient with pain might require emergency medical care.



3 Pathways to Providers of Care – Decision Support

3.3 Patient with Bleeding

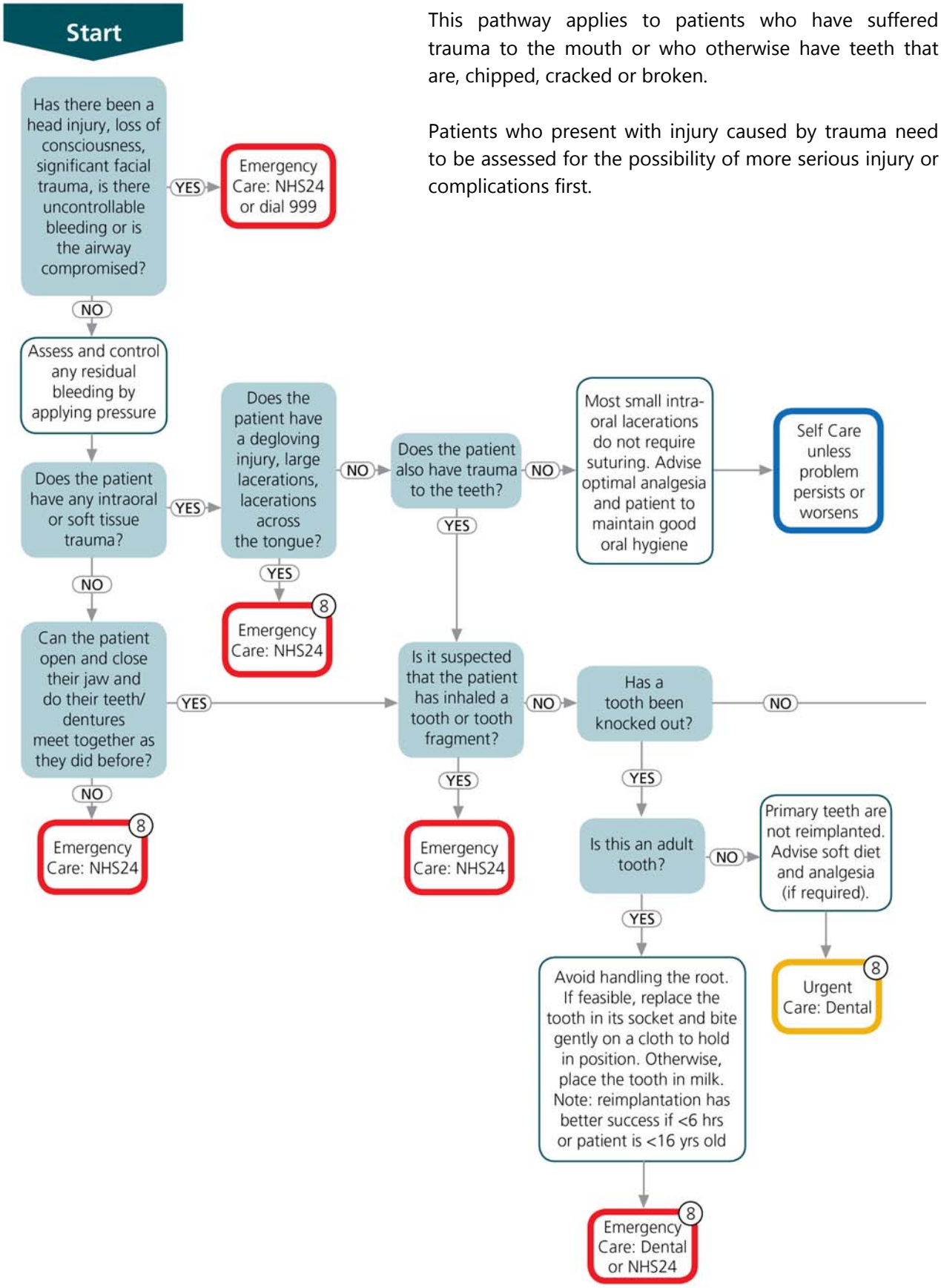
Bleeding following an extraction is fairly common. Other causes of bleeding are less common but need to be considered because, rarely, emergency medical care might be required.



¶ Blood thinners include warfarin, aspirin, clopidogrel

3 Pathways to Providers of Care – Decision Support

3.4 Patient with Trauma

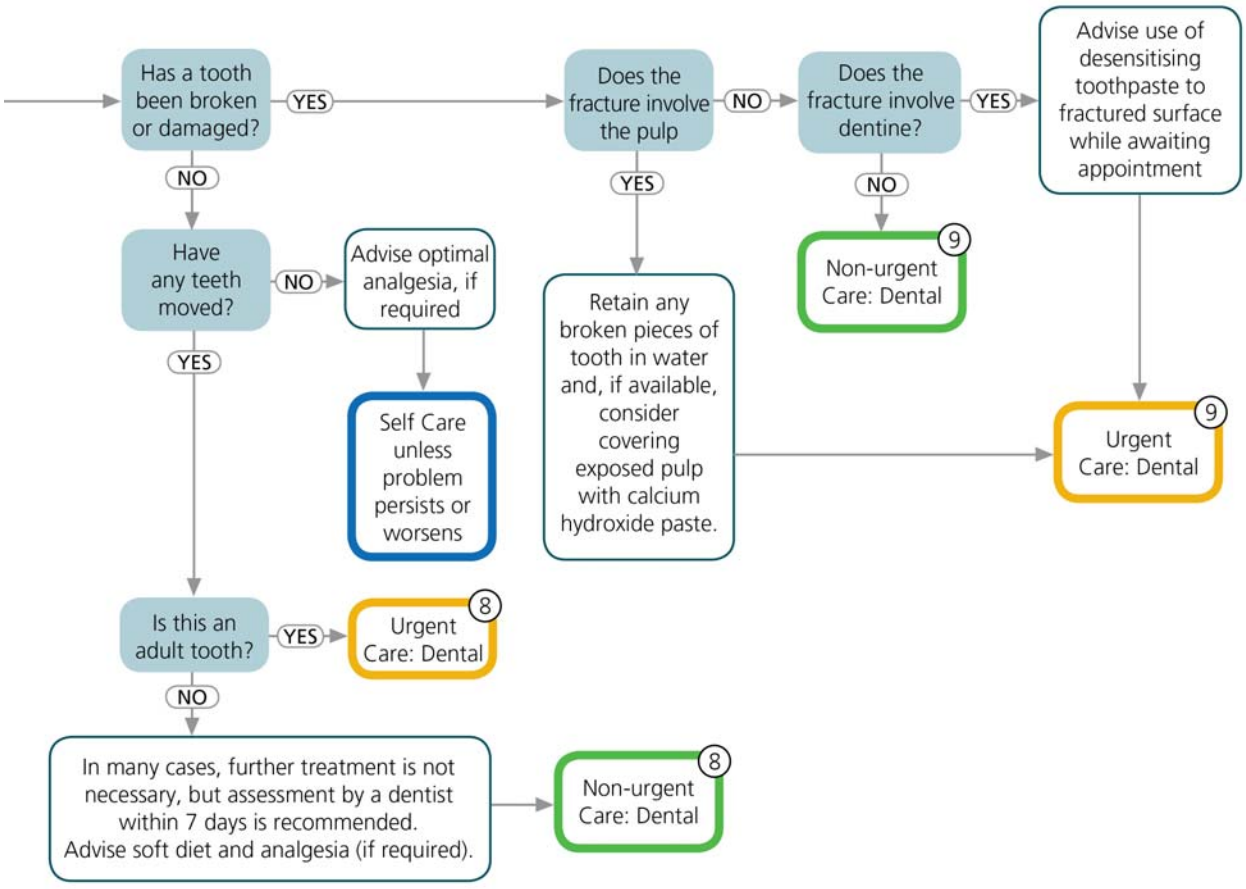


This pathway applies to patients who have suffered trauma to the mouth or who otherwise have teeth that are, chipped, cracked or broken.

Patients who present with injury caused by trauma need to be assessed for the possibility of more serious injury or complications first.

3 Pathways to Providers of Care – Decision Support

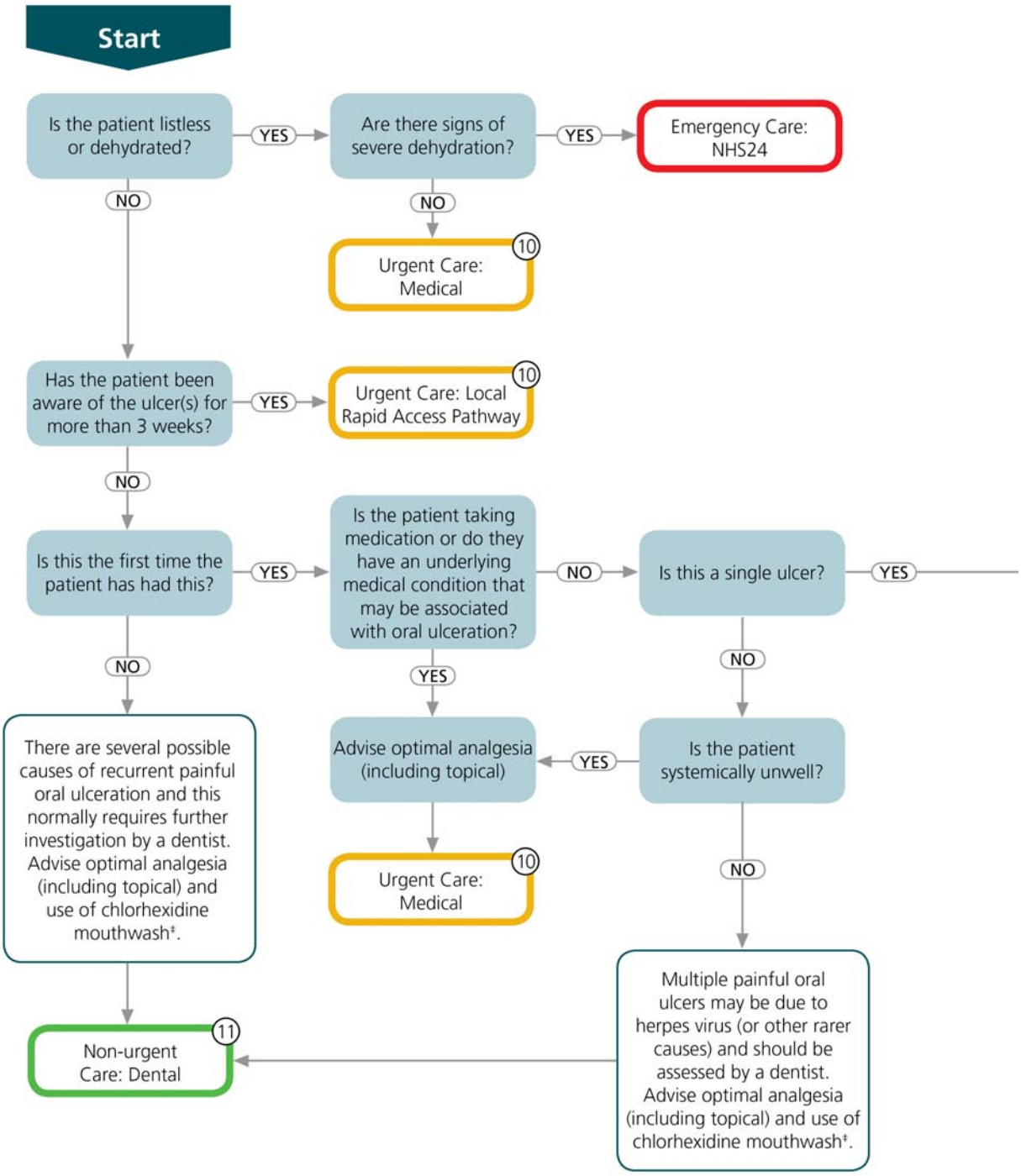
In all cases of trauma, health care providers need to have a high level of suspicion for non-accidental injury (NAI). There is a need to differentiate between NAI and accidental injury, taking into account the behaviour of the patient and, if the patient is a child, also the behaviour of the parent/carer. Consider appropriate local referral if NAI is suspected.



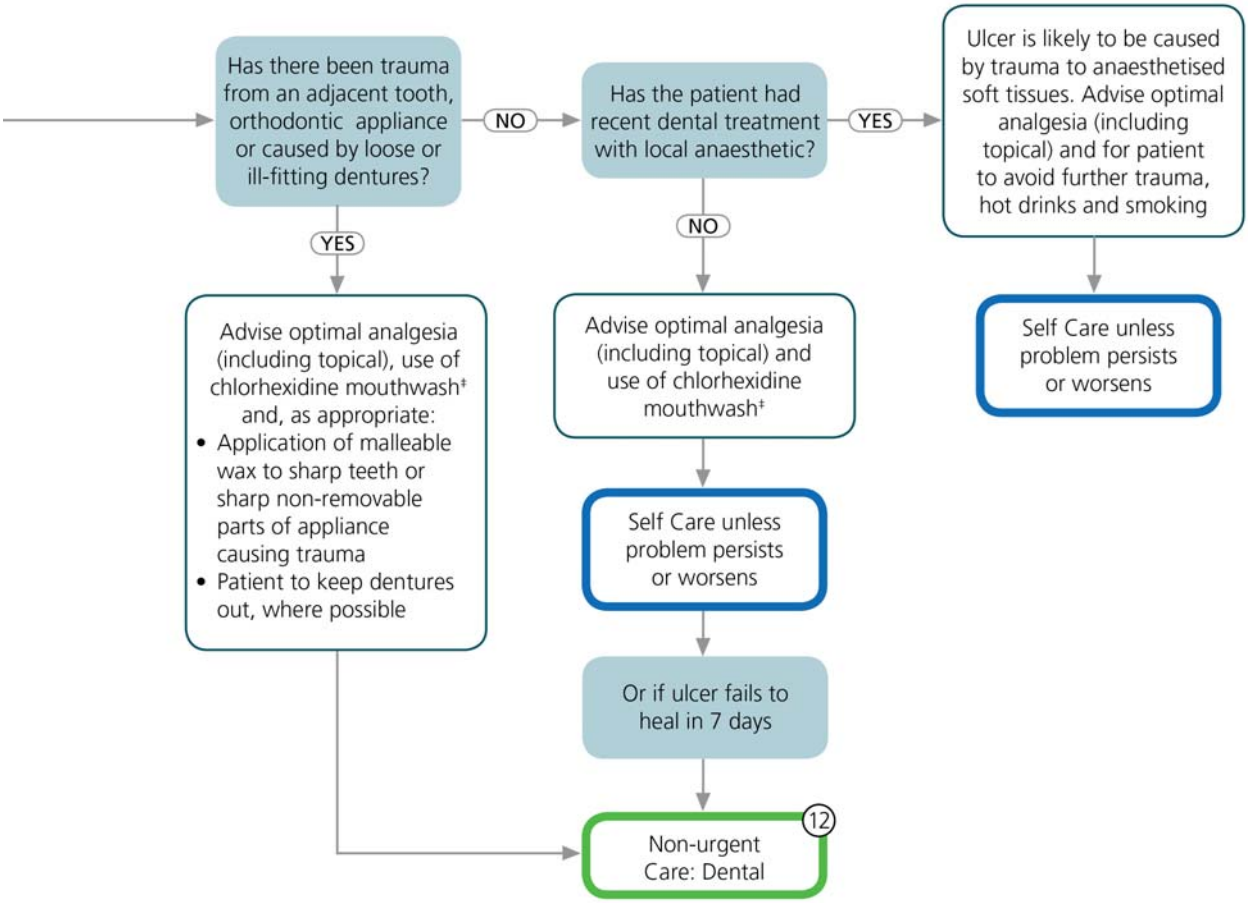
3 Pathways to Providers of Care – Decision Support

3.5 Patient with Ulceration

Most, though not all, oral ulcers are painful. Consequently, because a patient with one or more oral ulcers might first report pain, a link to this pathway is included in the pain pathway (Section 3.1).



3 Pathways to Providers of Care – Decision Support

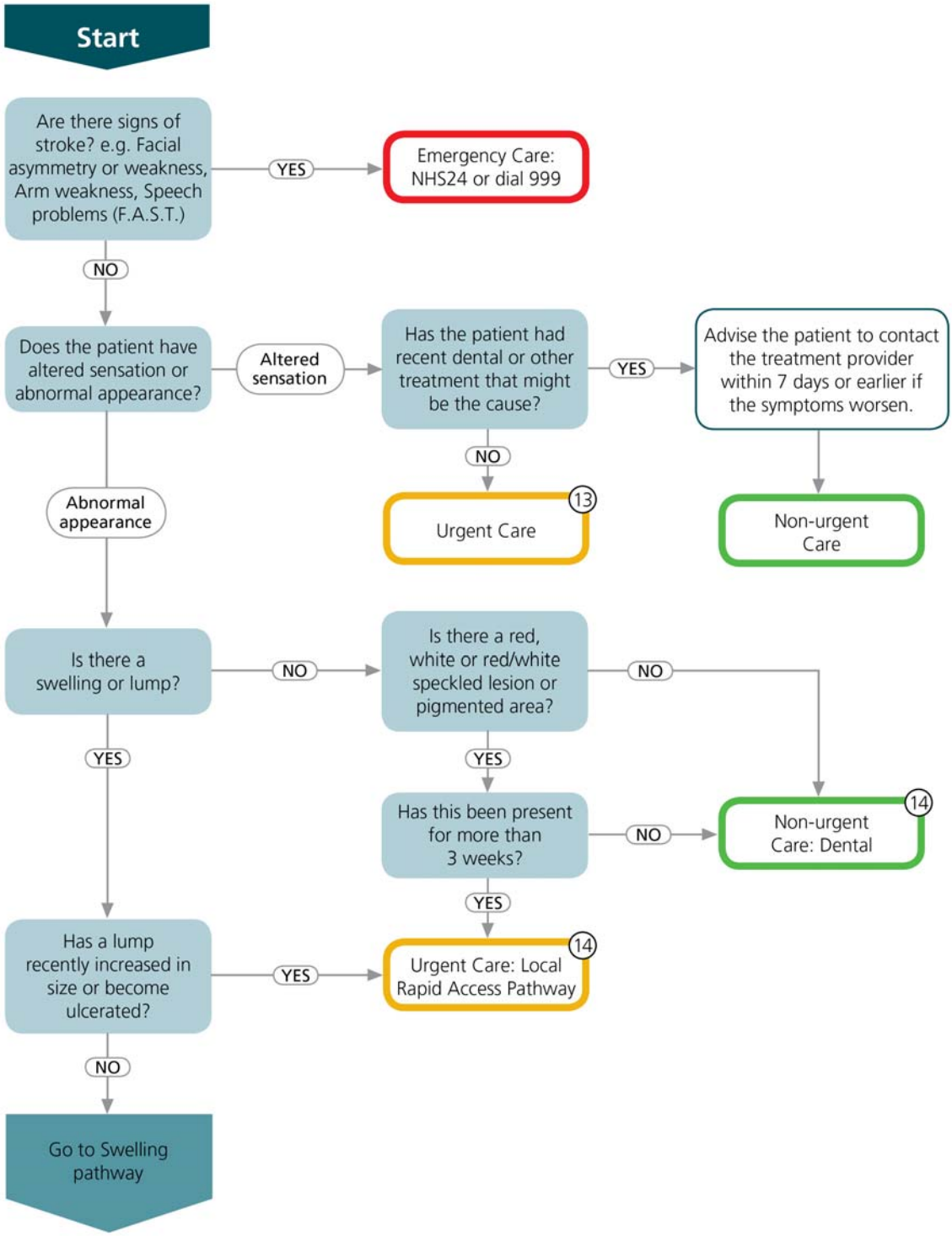


‡ Chlorhexidine mouthwash is not suitable for children under 7 years old because of its taste and their limited ability to rinse without swallowing

3 Pathways to Providers of Care – Decision Support

3.6 Patient with Altered Sensation or Abnormal Appearance in the Head and Neck

Other than pain, swelling, bleeding and trauma caused by injury, the main other head and neck symptoms that patients present with are altered sensation or abnormal appearance (a lesion, mark or lump). In these cases, the following pathway is followed. For these patients, it is essential to first assess for signs of stroke, including facial weakness or asymmetry, arm weakness or speech problems.



3 Pathways to Providers of Care – Decision Support

3.7 Decision Support Pathway Endpoints

Conditions that may be associated with each endpoint are listed and grouped broadly into those that are common, less common or rare. Note that this is a general categorization based on the opinion of the Guidance Development Group and is intended only as a guide that might be helpful when considering diagnostic options. Subsections of the guidance that include a brief description of each condition and guidance on management is included in square brackets. Explanations of terms used are provided in the glossary (see Appendix 4).

1	Acute pericoronitis (including teething in children) [see Section 4.2]	Common
2	Acute apical abscess [see Section 4.1] Acute periodontal conditions [see Section 4.3] Dentine Hypersensitivity [see Section 4.4] Pulpitis [see Section 4.5] Cracked, fractured, loose or displaced tooth fragments and restorations [see Section 4.9] Sinusitis [see Section 4.12]	Common
	Osteonecrosis [see Section 4.21] Peri-implantitis [see Section 4.22]	Rare
3	Alveolar osteitis (Dry socket) [see Section 4.6]	Common
4	Acute apical abscess [see section 4.1] Acute periodontal conditions [see Section 4.3] Dentine Hypersensitivity [see Section 4.4] Pulpitis [see Section 4.5] Oral ulceration [see Section 4.8] Sinusitis [see Section 4.12]	Common
	Acute temporomandibular joint conditions [see Section 4.14] Salivary gland obstruction or infection [see Section 4.16] Candidal infection (Oral thrush) [see Section 4.17]	Less common
	Osteonecrosis [see Section 4.21] Temporal arteritis [see Section 4.23] Trigeminal neuralgia [see Section 4.24]	Rare

3 Pathways to Providers of Care – Decision Support

5	Acute apical abscess [see Section 4.1] Acute pericoronitis (including teething in children) [see Section 4.2] Acute periodontal conditions [see Section 4.3] Alveolar osteitis [see Section 4.6]	Common
	Salivary gland obstruction or infection [see Section 4.16] Intra-oral swellings [see Section 4.18]	Less common
	Angioedema [see Section 4.20] Osteonecrosis [see Section 4.21] Peri-implantitis [see Section 4.22]	Rare
6	Post extraction haemorrhage [see Section 4.7]	Common
7	Acute periodontal conditions [see Section 4.3] Oral ulceration [see Section 4.8] Cracked fractured, loose or displaced tooth fragments and restorations [see Section 4.9] Ill-fitting or loose dentures [see Section 4.10] Orthodontic problems [see Section 4.11]	Common
	Salivary gland obstruction or infection [see Section 4.16] Candidal infection (Oral thrush) [see Section 4.17] Intra-oral swellings [see Section 4.18]	Less Common
	Osteonecrosis [see Section 4.21] Peri-implantitis [see Section 4.22]	Rare
8	Injuries to the mouth, face and jaws [see Section 4.13]	Less common
9	Cracked, fractured, loose or displaced tooth fragments and restorations [see Section 4.9]	Common
	Injuries to the mouth, face and jaws [see Section 4.13]	Less common

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10	Oral ulceration (including acute manifestations of malignant or systemic disease and adverse drug reactions or side effects) [Section 4.8]]	Common
11	Acute pericoronitis (including teething in children) [see Section 4.2] Acute periodontal conditions [see Section 4.3] Oral ulceration [see Section 4.8] Ill-fitting or loose dentures [see Section 4.10]	Common
	Candidal infection (Oral thrush) [see Section 4.17] Intra-oral swellings or abnormal appearance [see Section 4.18]	Less common
12	Oral ulceration [see Section 4.8] Cracked, fractured, loose or displaced tooth fragments and restorations [see Section 4.9] Ill-fitting or loose dentures [see Section 4.10] Orthodontic problems [see Section 4.11]	Common
13	Bell's palsy [see Section 4.15] Intra-oral swellings or abnormal appearance [see Section 4.18]	Common
	Anaesthesia, paraesthesia, dysaesthesia [see Section 4.19] Trigeminal neuralgia [see Section 4.24]	Rare
14	Oral ulceration [see Section 4.8]	Common
	Salivary gland obstruction or infection [see Section 4.16] Intra-oral swellings or abnormal appearance [see Section 4.18]	Less common

4 Management of Oral Conditions

Conditions are broadly grouped into those that are common, less common and rare. Explanations of terms used are provided in the glossary (see Appendix 4).

Common Oral Conditions

4.1 Acute Apical Abscess

Brief description of condition

Acute inflammation of the soft tissues immediately surrounding the tip of the root of a tooth, often caused by tooth decay and subsequent death of the pulp tissue. This can also follow trauma. Common synonyms for the condition include acute periradicular abscess, acute dentoalveolar abscess and acute periapical abscess.

Key signs and symptoms

- Pain (usually localised to a single tooth; often quick onset with varying severity; source easy to ascertain as tooth becomes progressively more sensitive to chewing and touch)
- Swelling of the gingiva (gum), face or neck (swelling caused by abscess often pushes affected tooth against other teeth, creating discomfort in the lower-upper teeth contact and may sometimes cause the tooth to become mobile; indicates spreading infection)
- Fever
- Listlessness, lethargy, loss of appetite for children younger than 16 years old

Initial management

- Determine if the airway is compromised: the patient is unable to swallow their own saliva or they are unable to push their tongue forward out of their mouth.
- If the **airway is compromised**, send the patient immediately to emergency care via NHS 24 or call 999.
- If the **airway is not compromised**:
  - Recommend optimal analgesia (see Appendix 2).
  - Do not prescribe antibiotics unless there are signs of spreading infection (e.g. facial or neck swelling), systemic infection, or for an immunocompromised patient.
  - Advise the patient to seek urgent dental care.

Subsequent care

- Consider:
  - Initiating drainage of the abscess through the affected tooth if possible. If there is an associated fluctuant soft tissue swelling attempt incisional drainage as soon as possible. If able to drain through the tooth, irrigate the canal with either sodium hypochlorite solution (1–5.25%) or 0.2% chlorhexidine gluconate solution before drying and sealing in non-setting Calcium Hydroxide using a temporary dressing material. Note that drainage is not normally carried out for a primary tooth. If drainage of the abscess through endodontic access is persistent, early recall and repeated cleaning of the canal may be necessary. The tooth should not be left on open drainage.
  - Prescribing appropriate analgesia (non-steroidal anti-inflammatory drugs) if attempts to drain the infection are inadequate or if patient or clinician factors preclude immediate initiation of drainage (see Appendix 2).
  - Relieving occlusion on the affected tooth, if appropriate.

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- Extracting the tooth, if appropriate (for a primary tooth this is usually considered as the first option; refer to secondary care for adjunctive sedation if the child is unable to tolerate pain).
- Prescribing non-steroidal anti-inflammatory drugs to control post-operative pain following initial endodontic therapy (see Appendix 2).

References

Matthews DC, Sutherland S, Basrani B. Emergency management of acute apical abscesses in the permanent dentition: a systematic review of the literature. Journal of the Canadian Dental Association 2003; 69: 660.

SDCEP. Drug prescribing for dentistry: dental clinical guidance, 2nd edition. Dundee: Scottish Dental Clinical Effectiveness Programme; 2011 (www.sdcep.org.uk/index.aspx?o=2334)

4.2 Acute Pericoronitis (including Erupting Teeth in Children)

Brief description of condition

Infection under the operculum, i.e. the gingiva (gum) tissue covering a partially erupted tooth. Pain associated with erupting teeth in children (both primary and permanent teeth).

Key signs and symptoms

- Pain (usually well-localised around a partially erupted tooth)
- Swelling (swelling of the gingiva around a partially erupted tooth; can extend to facial swelling, especially with lower molar tooth)
- Discomfort with swallowing
- Limited mouth opening
- Unpleasant taste or odour from the affected area
- Fever
- Nausea
- Fatigue

Initial management

- Determine if the airway is compromised: the patient is unable to swallow their own saliva or they are unable to push their tongue forward out of their mouth.
- If the **airway is compromised**, send the patient immediately to emergency care via NHS 24 or call 999..
- If the **airway is not compromised:**

  For adults:

  - Recommend optimal analgesia (see Appendix 2).
  - Do not prescribe antibiotics unless there are signs of spreading infection (e.g. limited mouth opening, facial swelling), systemic infection, or for an immunocompromised patient.
  - Advise the patient to rinse their mouth with 0.2% chlorhexidine mouthwash.
  - Advise the patient to seek urgent dental care.

  For children:

  - Advise optimal analgesia, soft tooth brushing around affected area and rinsing the mouth after food.

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Subsequent Care

For adults, consider:

- Ultrasonic scaling and/or debridement to remove any foreign body lodged around the partially erupted tooth, under local anaesthesia, where possible.
- Irrigating under damaged tissue with 0.2% chlorhexidine.
- Extracting the tooth if there are repeated episodes of pericoronitis associated with the same tooth.
- Extracting or adjusting an opposing tooth where there is trauma to the inflamed operculum if the position of the tooth suggests that it is unlikely to achieve function in future.

References

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4.3 Acute Periodontal Conditions

Brief description of conditions

The main acute periodontal conditions are (1) Necrotising gingivitis and Necrotising periodontitis, (2) Periodontal abscess, and (3) Perio-endo lesions.

Necrotising gingivitis and **necrotising periodontitis** are severe inflammatory conditions of the gingiva (gum) caused by pathogenic bacteria (Fusiform bacteria and Spirochetes) and are more common in immunocompromised patients. Both involve the same disease process. Necrotising gingivitis relates to lesions limited to gingival tissue. Necrotising periodontitis involves loss of attachment.

A **periodontal abscess** represents an active period of periodontal breakdown which occurs whilst there is marginal closure of the deep periodontal pocket occluding drainage. Such abscesses develop in deep periodontal pockets without external influence and are commonly seen in patients with untreated periodontitis or as a recurrent infection during a course of active treatment.

Perio-endo abscesses (endodontic and periodontal lesions) may affect a single tooth coincidentally leading to abscess formation. Diagnosis requires radiographic examination and vitality tests and treatment of the combined lesion involves both endodontic and periodontal therapy.

Key signs and symptoms

Necrotising periodontal disease:

- Pain (general or localised)
- Swelling
- Bleeding
- Halitosis

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- Ulcerated gingival tissue
- Loss of attachment
- Malaise
- Fever

Periodontal abscess:

- Pain and tenderness of gingival tissue
- Increased tooth mobility
- Fever and swollen or enlarged regional lymph nodes
- Presence of swelling on gingiva
- Suppuration from the gingiva

Perio-endo abscess:

- Generalised periodontal disease may be present with localised pain
- Swelling with or without suppuration on palpation
- Deep pocketing to root apex with bleeding on probing

Initial management

- Determine if the airway is compromised: the patient is unable to swallow their own saliva or they are unable to push their tongue forward out of their mouth.
- If the **airway is compromised**, send the patient immediately to emergency care via NHS 24 or call 999.
- If the **airway is not compromised:**
  - Recommend optimal analgesia (see Appendix 2).
  - Do not prescribe antibiotics unless there are signs of spreading infection, systemic infection, or for an immunocompromised patient if there are signs of necrotising disease.
  - Advise the patient to seek urgent dental care.

Subsequent care

- For all acute periodontal conditions, consider:
  - Arranging appropriate therapy with a hygienist, dentist or periodontist.
  - Scaling teeth as effectively as symptoms allow. Local anaesthesia may be required.
  - Prescribing chemical plaque control (hydrogen peroxide and 0.2% chlorhexidine mouthwash).

Necrotising periodontal disease: Necrotising gingivitis (relating to lesions limited to gingival tissue) and Necrotising periodontitis (where loss of attachment has occurred).

- Also consider giving oral hygiene instruction and, if appropriate, smoking cessation advice.
- Prescribe metronidazole (see SDCEP *'Drug Prescribing for Dentistry'* guidance for dose).

Periodontal abscess

- Also consider:
  - Scaling and irrigating the periodontal pocket.
  - Extraction.

Perio-endo lesions: Tend to be associated with a single tooth leading to abscess formation.

- Also consider root canal treatment or retreatment.

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4.4 Dentine Hypersensitivity

Brief description of condition

Dentine hypersensitivity is caused by exposed dentine resulting in pain in response to an external stimulus (touch, or hot or cold food and drinks). It is a common condition that rarely may present as an urgent problem.

Key signs and symptoms

- Pain (sharp, sudden and short-lived)
- Exposed root surface as a result of gingival (gum) recession

Initial management

- Advise the patient to avoid acidic foods or drinks and to obtain a proprietary desensitising toothpaste and apply a small amount to the affected area with a finger.
- Advise the patient to seek non-urgent dental care to eliminate other causes of dental pain (e.g. dental decay).

Subsequent care

- Eliminate other causes of dental pain (e.g. reversible pulpitis).
- In addition to application of desensitising toothpaste, consider other topical therapies (e.g. fluoride varnish, dentine bonding agents).

Reference:

Poulsen S, Errboe M, Lescay Mevil Y, Glenny A-M. Potassium containing toothpastes for dentine hypersensitivity. Cochrane Database of Systematic Reviews 2006, Issue 3. Art. No.: CD001476. DOI: 10.1002/14651858.CD001476.pub2

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4.5 Pulpitis

Brief description of condition

Inflamed dental pulp with signs and symptoms that vary depending on whether reversible or irreversible pulpitis.

Key signs and symptoms

- Tooth pain - may either be intermittent and associated with stimuli or is longer lasting (up to several hours) and may keep the patient awake at night

Initial management

- Recommend optimal analgesia (see Appendix 2).
- Do not prescribe antibiotics.
- Advise the patient to seek non-urgent dental care or, if analgesia ineffective, to seek urgent dental care.

Subsequent care

- Determine if reversible or irreversible pulpitis.
  - Reversible: Gives a positive or exaggerated response to sensibility test; tooth is not tender to percussion.
  - Irreversible: Pain may be difficult to localise to a single tooth, may last for several hours, may be dull and throbbing, may be worsened by heat, but may also be alleviated by cold. The pain can occur spontaneously, typically keeping the patient awake.
- If reversible pulpitis, consider:
  - Providing a temporary dressing.
  - Restoring the affected tooth.
- If irreversible pulpitis, consider:
  - Providing first stage endodontic therapy (pulpotomy for children's teeth and pulpectomy for adult's teeth). Note that in some cases, achieving anaesthesia is difficult and a corticosteroid-antibiotic paste (e.g. Ledermix®) may be used to reduce inflammation for extirpation at a later date.
  - Extracting the tooth.

References:

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4.6 Alveolar Osteitis (Dry Socket)

Brief description of condition

Osteitis (inflammation) of a socket after a tooth is extracted, most common after molar extraction. Patients who smoke are more at risk of this condition.

Key signs and symptoms

- Pain (onset 24-48 hours after extraction; in vicinity of extraction site; tenderness of alveolar socket wall)
- Unpleasant taste or odour from the affected area
- Swelling (occasionally)

Initial management

- Recommend optimal analgesia (see Appendix 2).
- Advise the patient to avoid smoking and maintain good oral hygiene.
- Advise the patient to seek urgent dental care.

Subsequent care

- Consider:
  - Irrigating with saline*.
  - Applying a suitable material to dress the socket, e.g. Alvogyl.
- Do not prescribe antibiotics unless there are signs of spreading infection, systemic infection, or for an immunocompromised patient.

* Note that chlorhexidine has been reported as a very rare but potentially serious cause of allergic reaction when used for dry socket irrigation. As there is no evidence in favour of its use for treatment of dry socket, it is not recommended.

References:

Kolokythas A, Olech E, Miloro M. Alveolar osteitis: a comprehensive review of concepts and controversies. International Journal of Dentistry 2010; doi:10.1155/2010/249073.

Noroozi AR, Philbert RF. Modern concepts in understanding and management of the "dry socket" syndrome: comprehensive review of the literature. Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology, and Endodontics 2009; 107: 30-35.

Medicines and Healthcare products Regulatory Agency. Drug safety update: Chlorhexidine: reminder of potential for hypersensitivity; 2012 (www.mhra.gov.uk/Safetyinformation/DrugSafetyUpdate/CON140701)

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4.7 Post-extraction Haemorrhage

Brief description of condition

Bleeding following tooth extraction.

Key signs and symptoms

- Bleeding - can be immediate due to failure to secure adequate initial haemostasis, within a few hours (reactionary) or within a week of an extraction (indicative of possible infection)

Initial management

- Gently rinse the mouth once with warm (not hot) water to wash out excess blood.
- Advise the patient to place a rolled up piece of cotton or a gauze swab moistened with saline or water over the socket and to bite firmly on it. Maintain the pressure for 20 minutes before checking whether the bleeding has stopped.
- If necessary, repeat once. If the patient is taking anticoagulant medication (e.g. warfarin, aspirin, clopidogrel) send the patient for emergency care.
- After the bleeding has stopped, advise the patient to avoid drinking alcohol, smoking or exercising for 24 hours and to avoid disturbing the blood clot.
- If the bleeding fails to stop and is brisk and persistent, send the patient immediately to emergency care via NHS 24.
- If the bleeding fails to stop, but is not brisk and persistent, send the patient for urgent dental care.

Subsequent care

- If application of pressure does not work, find the source of the bleeding.
- Consider:
  - Applying a haemostatic dressing to the socket (e.g. oxidised cellulose such as Surgicell or haemocollagene sponge).
  - Suturing the wound to achieve good soft-tissue closure and/or to stabilize the socket edges.
- If the patient is a child, consider referral to a specialist to investigate underlying pathology.
- Do not prescribe antibiotics unless there are signs of spreading infection, systemic infection, or for an immunocompromised patient.

References

SDCEP. Emergency dental care: dental clinical guidance. Dundee: Scottish Dental Clinical Effectiveness Programme, 2007 (www.sdcep.org.uk/index.aspx?o=2335)

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4.8 Oral Ulceration

Brief description of condition

Lesions in the oral cavity or on the lips that are usually, but not always, painful. Ulcers are caused by a number of conditions, most of which are benign (e.g. recurrent aphthous stomatitis, herpes viruses, hand foot and mouth disease). Other causes include adverse reactions to drugs, nutritional deficiencies, some gastrointestinal diseases and, more seriously, oral cancer. For other abnormal appearance in the mouth, refer to Section 4.18.

Major recurrent aphthous ulcer

Squamous cell carcinoma

Illustrations: LMD Macpherson, J Gibson, VI Binnie, DI Conway, 2003. University of Glasgow Dental School

Key signs and symptoms

- Pain (lips and/or oral cavity)
- Inflammation
- Ulceration
- Abnormal appearance

If the ulceration is severe, some patients (e.g. children, elderly, infirm) may in addition be:

- Listless or agitated
- Dehydrated

Initial management

- If a patient presenting with oral ulceration is severely dehydrated, advise the parent/carer to seek emergency medical care.
- If there are signs of dehydration (dizziness/lightheaded, tiredness, dry mouth, lips, eyes) advise the patient or parent/carer to seek urgent medical care.
- Do not examine with ungloved hands because of potential infection risk with viral ulcers.
- Determine how long the ulceration has been present.
- If ulceration has been **present 3 weeks or more**, refer the patient for urgent care via the local rapid access pathway (oral surgery) to investigate potential dysplasia or malignancy.
- When ulceration has been present for **less than 3 weeks:**
  - If ulceration is recurrent and self-limiting, advise the patient to use 0.2% chlorhexidine mouthwash* and to seek non-urgent dental care. For children, recommend optimal analgesia, soft diet and advise that ulcers are likely to resolve within 1-2 weeks.
  - If the patient is receiving drug treatment or has an underlying medical condition that might be the cause of the ulcer(s), advise them to seek urgent medical care (see Table 1 and Appendix 3).
  - If there are multiple ulcers present, advise the patient to seek non-urgent dental care. However, if the patient is also systemically unwell, advise them to seek urgent medical care.
  - If ulceration is due to ill-fitting dentures, advise the patient to use 0.2% chlorhexidine mouthwash*, to keep dentures out where possible and to seek non-urgent dental care (also refer to Section 4.10).

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- If there has been trauma from an adjacent tooth or orthodontic appliance, advise the patient to seek non-urgent dental care (also refer to Section 4.11).
- If ulceration is likely to be due to trauma to anaesthetised tissue following recent treatment using local anaesthesia, advise the patient to avoid smoking, drinking hot liquids and biting the cheek or lip, and to see a dentist only if symptoms persist or worsen.
- If a single ulcer appears not to have been caused by trauma, advise the patient to use 0.2% chlorhexidine mouthwash* until symptoms resolve or if the ulcer fails to heal within a week, to see a dentist within 7 days.
- Do not prescribe antibiotics unless there are signs of spreading infection, systemic infection, or for an immunocompromised patient.

- In all of the above cases, recommend optimal analgesia, including prescription of topical analgesics (e.g. benzydamine oromucosal spray, see Appendix 2).

* Chlorhexidine mouthwash is not suitable for children under 7 years old.

Table 1 Underlying medical conditions that may cause oral ulceration

Viral infections	Herpetic stomatitis Hand, foot and mouth disease HIV	Chicken pox Herpangina
Bacterial infections	Syphilis	Tuberculosis
Mucocutaneous diseases	Lichen planus Behcet's syndrome Pemphigus vulgaris	Erythema multiforme Pemphigoid and variants Chronic Ulcerative stomatitis
Haematological diseases	Anaemia Leukaemia	Haematinic deficiencies Neutropenia
Gastrointestinal disease	Coeliac disease Ulcerative colitis	Crohn's disease

Subsequent care

- Consider:
  - Fixing ill-fitting dentures if appropriate.
  - Prescribing a topical steroid.
  - Referring to the local rapid access pathway to investigate potential dysplasia or malignancy if symptoms persist.
  - Referral to a dermatologist or an oral medicine specialist if vesiculobullous disorder is suspected.
- In cases of primary herpetic gingivostomatitis or herpes zoster infection, if the symptoms are severe or the patient is immunocompromised, consider prescribing antiviral agents (aciclovir or penciclovir, see SDCEP *'Drug Prescribing for Dentistry'* guidance for doses), ideally in the early stages.
- Refer to a general medical practitioner if the patient has an underlying medical condition and is receiving a drug that may be the cause of ulceration.

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References

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Scully C, Felix DH. Oral medicine- Update for the dental practitioner. Aphthous and other common ulcers. British Dental Journal 2005; 199: 259-264.

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Warnakulasuriya S, Johnson NW, van der Waal I. Nomenclature and classification of potentially malignant disorders of the oral mucosa. Journal of Oral Pathology & Medicine 2007; 36(10): 575-80.

4.9 Cracked, Fractured, Loose or Displaced Tooth Fragments and Restorations

Brief description of symptoms

Lost, chipped, fractured or loose filling; cracked, chipped, fractured or split tooth or part of tooth; loose or displaced crowns, bridges or veneers.

Key signs and symptoms

Typically may include:

- Pain (general and localized; tenderness to bite)
- Sensitivity to hot, cold and sweet and chewing of food
- Open cavity
- Section of tooth or filling missing
- Sharp edge on tooth
- Mobile section of tooth or teeth
- Mobility or loss of restoration
- Trauma to the soft tissues of the tongue, lips or cheek from sharp edges of the fracture site
- Gingival (gum) inflammation
- Recurrent caries

Initial management

- If it is known or suspected that the patient has inhaled a piece of tooth, filling or restoration, send the patient immediately to emergency care via NHS 24.
- If the patient has an open cavity or fractured tooth, either provide a temporary dressing or advise the patient to use an emergency temporary repair kit which can be purchased at a pharmacy.
- Recommend optimal analgesia (see Appendix 2).
- If painful symptoms have not been relieved with optimal analgesia, advise the patient to seek urgent dental care.
- If pain is relieved or is not a significant component, advise the patient to seek non-urgent dental care.

Subsequent care

- If tooth fragments or fillings, consider:
  - Smoothing any rough edge, removing any loose or displaced tooth fragments or defective fillings.

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- Providing a temporary palliative dressing or permanent filling.
- Pulp therapy (direct pulp cap, pulpotomy or root canal treatment) if fracture involves the pulp.
- Extracting if the tooth is not restorable.

If crowns, bridges and veneers, consider:

- Recementing the restoration with a temporary or permanent cement, depending on the integrity of the tooth beneath and whether a new restoration is needed.
- Providing temporary coverage.
- Making permanent replacements.
- Providing a new crown for a primary tooth.

4.10 Ill-fitting or Loose Dentures

Brief description of condition

Ill-fitting or loose dentures. This may be indicative of stroke or other underlying serious condition such as malignancy, especially if presenting as an emergency.

Key signs and symptoms

- Pain (general discomfort, localised)
- Difficulty speaking
- Difficulty eating

Initial management

Determine if there are signs of stroke, e.g. facial weakness or distortion, arm weakness, speech problems; rapid onset of these symptoms (F.A.S.T).

If there are **signs of stroke**, send the patient immediately to emergency care via NHS 24 or call 999.

If there are **no signs of stroke:**

- Recommend optimal analgesia (see Appendix 2).
- Advise the patient to remove their denture to ease discomfort.
- If the patient experienced discomfort after having the denture fitted following tooth extraction, advise the patient to return to the dentist who fitted the denture.
- Advise the patient to seek non-urgent dental care.

Subsequent Care

Consider:

- Providing temporary relining of dentures.
- Making new dentures.
- Referring to local rapid access pathway to investigate potential malignancy.

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4.11 Orthodontic Problems

Brief description of condition

Trauma from fractured or displaced orthodontic appliances.

Key signs and symptoms

- Pain
- Soft tissue injury

Initial management

- If it is known or suspected that the patient has inhaled or ingested large parts of a fractured appliance or the airway is compromised, send the patient immediately to emergency care via NHS 24.
    - Brackets are frequently swallowed by patients and pass through the bowel without incident.
- Determine the type of orthodontic appliance (fixed, removable, headgear).
- **For fixed appliances:**
    - Remove any components of the appliance that are loose.
    - Apply malleable wax firmly onto any sharp, non-removable parts of the appliance causing trauma to the oral soft tissues.
        - This may be orthodontic wax, or as a first-aid measure, either sugar-free chewing gum or the soft wax used to wrap cheeses can be moulded between fingers to form a soft ball (ensure that the patient does not have any allergy to dairy products before doing this).
    - Advise the patient to seek non-urgent orthodontic care with their orthodontic provider.
- **For removable appliances:**
    - Take the fractured appliance out of the patient's mouth.
    - Advise the patient to seek non-urgent orthodontic care with their orthodontic provider.
- **For patients with headgear:**
    - Advise the patient not to wear the headgear and to make an orthodontic appointment.

Subsequent care

- Consider removing or trimming loose or displaced arch wire of a fixed appliance.
- Advise the patient to arrange a follow up orthodontic appointment.

4.12 Sinusitis

Brief description of condition

Sinusitis, also known as rhinosinusitis, refers to inflamed sinuses, almost always accompanied by inflamed adjacent mucosa. The most common trigger is a viral upper respiratory tract infection. Sinusitis is generally a self-limiting condition that has an average duration of 2.½ weeks. Only around 2% of sinusitis cases are complicated by bacterial infections. Toothache arising from upper posterior teeth can be difficult to distinguish from sinusitis.

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Key signs and symptoms

- Pain [facial, headache, toothache (especially upper teeth), when bending down]
- Nasal congestion / obstruction
- Decreased sense of smell
- Fever
- Fatigue
- Purulent discharge

Initial management

- Recommend optimal analgesia (see Appendix 2).
- Determine whether there are signs of bacterial infection: symptoms have worsened or persisted for more than a week or are severe, particularly when accompanied by fever or purulent discharge.
- **If there are no signs of bacterial infection:**
  - Advise the patient to use steam inhalation (though due to risk of scalding this is not recommended for children).
  - Advise the patient to see a general medical practitioner if symptoms worsen or last for more than a week.
- **If bacterial infection is present:**
  - Prescribe antibiotics (see SDCEP *'Drug Prescribing for Dentistry'* guidance).

Subsequent care

- Advise the patient to see a general medical practitioner if symptoms worsen or persist.
- Consider prescribing oral corticosteroids as an adjunct to antibiotics in symptom relief.

References

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Zalmanovici Trestioreanu A, Yaphe J. Intranasal steroids for acute sinusitis. Cochrane Database of Systematic Reviews 2009, Issue 4. Art. No.: CD005149. DOI: 10.1002/14651858.CD005149.pub3.

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Less Common Oral Conditions

4.13 Injuries to the Mouth, Face and Jaws

Brief description of condition

Trauma to the head and neck can result in injuries to the teeth and/or the surrounding tissues and structures in the mouth, face and jaws. This takes various forms and can be broadly categorised as: i) dentoalveolar injuries, including broken, displaced or lost teeth and injuries to the supporting bone and ii) maxillofacial fractures and soft tissue injuries, including fractures of the mandible and maxilla and lacerations to the mucous membranes lining the oral cavity.

In all cases of injury caused by trauma, health care providers need to have a high level of suspicion for non-accidental injury (NAI). There is a need to differentiate between NAI and accidental injury, taking into account the behaviour of the patient and, if the patient is a child, also the behaviour of the parent/carer. Consider appropriate local referral if NAI is suspected.

Key signs and symptoms

Dento-alveolar Injuries

- Pain
- Bleeding
- Fracture of tooth or loss of tooth structure
- Increased mobility of tooth or several teeth as a unit
- Tooth looks displaced or elongated
- Empty tooth socket

Maxillo-facial Fractures and Soft Tissue Injuries

- Pain exacerbated by movement
- Bleeding
- Swelling
- Teeth/dentures do not meet together in the way that they did before
- Tooth mobility
- Paraesthesia
- Other problems specific to bone fractures e.g. nose bleeds, diplopia (double vision), loss of visual acuity

Initial management

- Determine if the patient is in need of emergency medical attention: e.g. bleeding is severe and will not stop within 15-30 minutes; there has been significant facial trauma; the patient has had a head injury or loss of consciousness; inhalation of tooth or tooth fragment.
- If **in need or emergency medical attention,** send the patient to emergency medical care via NHS 24 or if the patient is not safe to move call 999. Be aware of the risk of cervical spine injury in deciding whether to move a patient.
- If **not in need of emergency medical attention:**
  - Clean the affected area by rinsing gently with mild antiseptic and if foreign object(s) are present in the mouth, remove them.
  - Apply ice packs to soft tissue injury and swelling.
  - Apply pressure with a finger to stop any bleeding.

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Dento-alveolar Injuries (including avulsed teeth)

- If a **permanent (NOT primary¥) tooth has been knocked out,** follow the procedure below and advise the patient to seek emergency care:
  - Handle the tooth by its crown (the white part), avoid touching the root.
  - If the tooth is dirty, wash it briefly (10 seconds) under cold running water.
  - If it is feasible, reimplant the tooth in its socket and then bite gently on a handkerchief to hold it in position.
  - If this is not feasible, store the tooth for transportation to the dentist in milk (not water). Alternatively transport the tooth in the mouth, keeping it between molars and the inside of the cheek.
  - Note that primary teeth¥ should not be reimplanted.
- If a **permanent tooth¥ (or teeth) has been moved out of its usual position,** advise the patient to seek urgent dental care for assessment.
- If a **primary tooth¥ (or teeth) has been displaced**, advise the patient to seek non-urgent dental care. Advise the parent/carer to alter the child's diet to include soft food.
- If a **permanent tooth¥ fracture involves the dental pulp**, advise the patient to seek urgent dental care and keep any broken pieces of tooth in water. If available, setting calcium hydroxide paste may be used to cover the exposed dental pulp as a temporary first aid measure. First clean the site by swabbing with, for example, a small amount of local anaesthetic, and dry gently. Then apply the paste.
- If a **permanent tooth¥ fracture involves only enamel and dentine**, advise the patient to use desensitising toothpaste on the exposed dentine as a first aid measure and to seek urgent dental care for assessment.
- Consider recommending analgesia (see Appendix 2). Do not prescribe antibiotics.

Fractured tooth involving the pulp

Fractured tooth involving enamel and dentine

Illustrations from the Dental Trauma Guide www.dentaltraumaguide.org

¥ A guide to the age at which permanent teeth appear in the mouth is available at: (www.ada.org/sections/publicResources/pdfs/lifetime_materials_tooth_permanent.pdf) This may be of help when identifying whether a tooth is permanent or primary.

Maxillo-facial Fractures and Soft Tissue Injuries

- If a **bony fracture** is suspected, send the patient to emergency medical care via NHS 24. Do not prescribe antibiotics at the initial assessment.
- If the patient has **lacerations inside the mouth** that:
  - involve the attached gingival (hard gum) tissue and are greater than ~1 cm in length
  - have resulted in the oral tissues being stripped from the underlying bone (degloving injury)

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- involve the outside of the lip (greater than ~1 cm in length) or
- cross the vermillion border on to the facial skin

send the patient for emergency care via NHS 24 ideally within 1 hour. Otherwise, further operative care is not usually required, but advise the patient to maintain good oral hygiene and to use 0.2% chlorhexidine mouthwash (chlorhexidine mouthwash is not suitable for children under 7 years old.)

Subsequent care

Subsequent care depends on the diagnosed condition and whether any tooth involved is primary or permanent.

- Refer to The Dental Trauma Guide (www.dentaltraumaguide.org) for detailed advice on the management of avulsed teeth and a wide range of injuries and conditions that result from trauma.

Dento-alveolar Injuries

- Consider:
  - Radiographic examination for complete diagnosis.
  - Addressing permanent tooth fractures or loss of permanent tooth structure by restoring the tooth or bonding the tooth fragment to the tooth.
  - Pulp capping, partial pulpotomy or, particularly for a primary tooth, extraction.
  - Applying a flexible splint after replanting a permanent tooth for between 1 and 4 weeks, depending on the condition of the avulsed tooth (i.e. open or closed apex and time before replanting).
  - Instructing the patient to adhere to a soft food diet for 7 days and for a longer period if a primary tooth is involved.
- Advise the patient to maintain good oral hygiene.
- Follow local child protection procedures if there is any suspicion that this was a non-accidental injury to the child, taking into consideration the behaviour of the patient and the parent/carer.

Maxillo-facial Fractures and Soft Tissue Injuries

These conditions require specialist care and are normally managed by oral and maxillofacial surgery teams.

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Child protection and the dental team: an addendum for Scotland (www.cpdt.org.uk/f_info/dload/addendumScot06.pdf)

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4.14 Acute Temporomandibular Joint Conditions

Brief description of condition

Acute disorders of the temporomandibular joint, which connects the lower jaw to the skull (e.g. dislocated or locked jaw or problems involving muscles around the joint).

Key signs and symptoms

- Pain
- Swelling
- Joint noises, e.g. pop, clicks and grating associated with movement
- Limited opening of mouth
- Headaches
- Earache
- Tinnitus

For dislocated jaw:

- Unable to move jaw
- Jaw is displaced in open position

Initial management

- If the **jaw is dislocated:**
  - Send the patient to emergency care via NHS 24.
  - Recommend optimal analgesia (see Appendix 2).
- For **other temporomandibular joint conditions**:
  - Recommend optimal analgesic/anti-inflammatory drugs (see Appendix 2).
  - Consider both the benefits and potential harms of prescribing a short course of diazepam to relax muscles (for adults only – see Appendix 2).
  - Advise the patient to use local heat packs or ice packs to relieve the symptoms.
  - Advise the patient to have a soft diet, to avoid chewing gum and to rest their jaw.
  - Advise the patient to seek non-urgent dental care.

Subsequent care

- Consider making an occlusal splint for the patient.
- Monitor symptoms in follow-up appointment(s).
- Consider referring the patient for specialist opinion if the above measures do not improve symptoms.

References:

Al-Ani MZ, Davies SJ, Gray RJM, Sloan P, Glenny AM. Stabilisation splint therapy for temporomandibular pain dysfunction syndrome. Cochrane Database of Systematic Reviews 2004, Issue 1. Art. No.: CD002778. DOI: 10.1002/14651858.CD002778.pub2.

Guo C, Shi Z, Revington P. Arthrocentesis and lavage for treating temporomandibular joint disorders. Cochrane Database of Systematic Reviews 2009, Issue 4. Art. No.: CD004973. DOI: 10.1002/14651858.CD004973.pub2.

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Koh H, Robinson P. Occlusal adjustment for treating and preventing temporomandibular joint disorders. Cochrane Database of Systematic Reviews 2003, Issue 1. Art. No.: CD003812. DOI: 10.1002/14651858.CD003812.

Mujakperuo HR, Watson M, Morrison R, Macfarlane TV. Pharmacological interventions for pain in patients with temporomandibular disorders. Cochrane Database of Systematic Reviews 2010, Issue 10. Art. No.: CD004715. DOI: 10.1002/14651858.CD004715.pub2.

SDCEP. Drug prescribing for dentistry: dental clinical guidance, 2nd edition. Dundee: Scottish Dental Clinical Effectiveness Programme, 2011 (www.sdcep.org.uk/index.aspx?o=2334)

4.15 Bell's Palsy

Brief description of condition

Acute onset paralysis or weakness of muscles only in the face, often first noticed on waking. It is essential to exclude other more serious conditions that have similar symptoms. Most people recover function, but there are some who do not.

Key signs and symptoms

- Paralysis or weakness of muscles only in the face, usually on one side

Initial management

- Determine if there are signs of stroke, e.g. facial weakness or distortion, arm weakness, speech problems; rapid onset of these symptoms (F.A.S.T).
- If there are **signs of stroke**, send the patient immediately to emergency medical care via NHS 24 or call 999.
- If there are **no signs of stroke,**
  - Protect the eye with a patch, eye lubricants, and possibly tape eyelids closed at night.
  - Advise the patient to seek urgent medical care.

Subsequent care

- For adult patients, prescribe prednisolone (25 mg two times per day for 10 days) if within the first 72 hours of onset.
- Refer the patient to their general medical practitioner for onward referral to a specialist, if required.

References

Chen N, Zhou M, He L, Zhou D, Li N. Acupuncture for Bell's palsy. Cochrane Database of Systematic Reviews 2010, Issue 8. Art. No.: CD002914.

Lockhart P, Daly F, Pikethly M, Comerford N, Sullivan F. Antiviral treatment for Bell's palsy (idiopathic facial paralysis). Cochrane Database of Systematic Reviews 2009, Issue 4. Art No.:CD001869.

McAllister K, Walker D, Donnan PT, Swan I. Surgical interventions for the early management of Bell's palsy. Cochrane Database of Systematic Reviews 2011, Issue 2. Art. No.: CD007468.

Salinas RA, Alvarez G, Daly F, Ferreira J. Corticosteroids for Bell's palsy (idiopathic facial paralysis). Cochrane Database of Systematic Reviews 2010, Issue 3. Art No.:CD001942.

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4.16 Salivary Gland Obstruction or Infection

Brief description of condition

Blockage of salivary duct due to obstruction or infection.

Key signs and symptoms

- Pain located in a major salivary gland
- Swelling
- History of xerostomia (dry mouth)
- Dehydration
- Fever

Initial management

- Determine if the patient has a salivary gland obstruction or infection, which may represent or be associated with systemic infection, or whether the patient might have mumps.
- If there is **infection:** Acute gland pain or acute episode of chronic persistent gland pain, (does not fluctuate with meal times), erythema, severe symptoms, systemically unwell, bilateral or unilateral parotid swelling with fever (this also may be associated with mumps):
  - Recommend optimal analgesia (see Appendix 2).
  - Advise the patient to seek urgent medical care.
- If **mumps is suspected:** A young patient (e.g. less than 21 years) experiencing swelling at the side of the face under the ear(s) swelling, systematically unwell and has a raised temperature.
  - Recommend optimal analgesia.
  - Advise the patient to avoid spread of infection by staying at home.
  - Refer for urgent medical care (mumps is a notifiable disease).
- If there is **obstruction without infection (major salivary glands):** Intermittent pain and swelling, typically within an hour of meal times, then subsiding without erythema or fever.
  - Recommend optimal analgesia (see Appendix 2).
  - Advise the patient to drink plenty of fluids if experiencing dry mouth.
  - Advise the patient to seek urgent dental care
- If there is **obstruction without infection (minor salivary glands):** Usually a small localised swelling as a result of trauma (mucocele) that often discharges spontaneously.
  - Advise the patient to seek non-urgent dental care.
- In all of the above cases, if the patient is systemically unwell or there is a history of diabetes, advise the patient to seek urgent medical care.

Subsequent care

- Refer to an oral and maxillofacial surgeon if symptoms persist.
- If additional symptoms emerge (e.g. enlarging mass, facial weakness) refer the patient for urgent care from an oral and maxillofacial surgeon.
- Consider referral for further investigation to identify the underlying cause of dry mouth.
- Consider surgical removal of persistent mucoceles or referral to an oral surgeon or an oral and maxillofacial surgeon.

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4.17 Candidal Infection (Oral Thrush)

Brief description of condition

Acute and chronic infection of the oral cavity caused by *Candida* species (most commonly *C. albicans*). Several patient groups are predisposed to candidal infection (pseudomembranous candidosis and erythematous candidosis infections), e.g. patients taking certain drugs, including inhaled corticosteroids, cytotoxics or broad-spectrum antibacterials (see Appendix 3), patients with diabetes, patients with nutritional deficiencies, or patients with serious systemic disease associated with reduced immunity such as leukaemia, other malignancies and HIV infection.

Key signs and symptoms

- Pain
- Bleeding
- Abnormal appearance:
  Pseudomembranous candidosis: White patches on the oral mucosa which become confluent plaques resembling milk curds. The plaques can be removed to reveal a raw erythematous base which may be painful and bleed.
  Erythematous candidosis: Red patches on the oral mucosa. Typically involves the dorsal surface of the tongue where it manifests as depapillated areas.

Pseudomenbraneous candidosis

Illustration: NHS Education for Scotland

Initial management

- If a patient is using a corticosteroid inhaler, in the first instance, advise them to rinse their mouth with water or brush their teeth immediately after using the inhaler. Confirm good inhaler technique and consider the use of a spacer.
- For superficial infections, prescribe systemic fluconazole or miconazole oromucosal gel for topical application (see the SDCEP *'Drug Prescribing for Dentistry'* guidance for doses).
  - Note that fluconazole interacts with many drugs. If fluconazole or miconazole are contraindicated, prescribe nystatin.
- Advise the patient to seek non-urgent dental care.

Subsequent care

- Monitor symptoms at follow-up appointments.
- If the patient does not respond to appropriate local measures and a course of drug treatment, or there is no identifiable cause, refer the patient to their general medical practitioner for further investigation or to a dental specialist.
- Fungal infections in immunocompromised patients with serious systemic disease require assessment by the patient's general medical practitioner.

References:

SDCEP. Drug prescribing for dentistry: dental clinical guidance, 2nd edition. Dundee: Scottish Dental Clinical Effectiveness Programme, 2011 (www.sdcep.org.uk/index.aspx?o=2334)

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4.18 Intra-oral Swellings and Abnormal Appearance

Brief description of condition

Swellings in the oral cavity can vary in speed of onset, position and extent/size. Small lumps are common and are almost always benign especially in patients under 50 years. Angioedema is an uncommon rapid onset swelling that can affect the face and may be the result of an allergic reaction (see Section 4.20).

Red, white, or mixed speckled red and white patches or pigmented areas can develop in the oral cavity, varying in size, position and extent. See also Oral Ulceration (Section 4.8).

Red patch

White patch

Speckled patch

Illustrations: NHS Education for Scotland

Key signs and symptoms

- A firm or soft lump
- Swelling may be static or increase over hours
- Swelling due to sepsis or oedema around or in the tongue or pharynx
- Ulcerated swelling
- A change in normal appearance to a red, white, or mixed red and white patch
- A pigmented area on the soft tissues or tongue e.g. black/grey/blue

Initial management

- Determine if the airway is compromised: speech, swallowing or breathing are restricted, the patient is unable to swallow their own saliva or they are unable to push their tongue forward out of their mouth.
- If the **airway is compromised,** send the patient immediately to emergency care via NHS 24 or call 999
- If the **airway is not compromised:**
  - Determine how long the altered appearance has been present.
  - If a red, white or mixed speckled red and white patch or a pigmented area has been present for more than 3 weeks, refer the patient via the local rapid access pathway (oral surgery) to investigate potential dysplasia or malignancy.
  - If a red, white or mixed speckled red and white patch or a pigmented area has been present for less than 3 weeks, advise the patient to seek non-urgent dental care.
  - If a lump or swelling is ulcerated or has begun to increase in size rapidly, advise the patient to seek urgent care.

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Subsequent Care

- Monitor symptoms at follow-up appointments.
- Record altered appearance on a mouth map or with a digital camera.
- Consider referral to an oral and maxillofacial surgeon or an oral medicine specialist.
- For red and white patches and pigmented areas, if the lesion does not resolve in 3 weeks, refer the patient via the local rapid access pathway to investigate potential dysplasia or malignancy.

Rare Oral Conditions

4.19 Anaesthesia, Paraesthesia, Dysaesthesia

Brief description of condition

Anaesthesia, paraesthesia or dysaesthesia can each have a variety of potential causes, including trauma, nerve disease, post-surgery, infection, a cyst or a tumour.

Key signs and symptoms

- Numbness (for anaesthesia)
- Tingling (for paraesthesia)
- Burning sensation (for dysaesthesia)

Initial management

- Determine if there are signs of stroke: e.g. facial weakness or distortion, arm weakness, speech problems; rapid onset of these symptoms (F.A.S.T).
- If there are **signs of stroke**, send the patient immediately to emergency medical care via NHS 24 or if the patient is not safe to move call 999.
- If there are **no signs of stroke:**
  - If the patient has recently had an injection, extraction, surgery, botox treatment or treatment for trauma, advise the patient to seek non-urgent care by contacting the treatment provider within 7 days, or earlier if the symptoms worsen.
  - If there has been no recent treatment or there is no other obvious cause, advise the patient to seek urgent medical care.
  - If there are signs of spreading infection, prescribe antibiotics.

Subsequent Care

- Treat the underlying cause, if known.
- Monitor symptoms at follow-up appointments and refer to a specialist if required.

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4.20 Angioedema

Brief description of condition

Angioedema is a sudden swelling and affects areas of skin and mucous membranes, typically the lips or tongue. It can be caused by an allergic-like response. For the majority of sufferers the condition is a nuisance, but for some it can be life-threatening if the swelling affects the mouth, throat or tongue with possible airway obstruction.

There are four main types of angioedema (allergic, idiopathic, drug-induced and hereditary).

Key signs and symptoms

- Sudden onset (within minutes) obvious swelling, with or without itch
- Swelling usually round the eyes and lips but can affect the throat, hands and feet
- If there are breathing difficulties (wheezing), itching (urticaria). and the patient is hypotensive (flushed or faint) it could be a severe allergic reaction or anaphylaxis

Initial management

- Determine if the airway is compromised: speech, swallowing or breathing are restricted, the patient is unable to swallow their own saliva or they are unable to push their tongue forward out of their mouth.
- If the **airway is compromised**, send the patient immediately to emergency care via NHS24 or call 999.
- If the **airway not compromised:**
  - If the swelling is severe, advise the patient to seek urgent medical care which might include oral or intravenous steroids and antihistamine.
    - Note that if the patient has an adrenaline auto-injector (e.g. EpiPen), it would be appropriate for them to use it.
  - If the swelling is mild and static or diminishing, this is generally self-limiting and resolves spontaneously and therefore no action is required. Advise the patient to seek non-urgent medical care to review medication and discuss prophylaxis.

Subsequent care

- Provide follow up medical care to identify the cause of angioedema and to establish if there is any relevant underlying medical condition (e.g. urticaria) that requires ongoing medical care.

References.

Prodigy. Angio-oedema and anaphylaxis; 2012 (prodigy.clarity.co.uk/angio_oedema_and_anaphylaxis/view_whole_topic)

NHS Inform. Angioedema; 2012a (www.nhsinform.co.uk/health-library/articles/a/angioedema/treatment)

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4.21 Osteonecrosis

Brief description of condition

Exposed avascular bone. Patients taking a bisphosphonate drug (e.g. for osteoporosis) or who have had radiotherapy to the head and neck may be at increased risk of developing osteonecrosis of the jaw.

Key signs and symptoms

- Pain
- Exposed intra oral bone, with failure to heal in the absence of malignancy

Initial management

- Recommend optimal analgesia (see Appendix 2).
- Advise the patient to rinse their mouth with 0.2% chlorhexidine mouthwash.
- If of recent onset, advise the patient to seek urgent care. If chronic, advise the patient to seek non-urgent care.
- Do not prescribe antibiotics unless there is a discharge.

Subsequent care

- Minimise the need for extractions and avoid minor oral surgery.
  - Refer to an oral surgeon or oral and maxillofacial surgeon to establish diagnosis.

4.22 Peri-implantitis

Brief description of condition

Inflammation affecting the soft and hard tissues around implants, leading to loss of bone support.

Key signs and symptoms

- Pain (around the implants)
- Swelling
- Bleeding
- Suppuration on applying pressure
- Radiographic evidence of peri-implant bone loss

Initial management

- Recommend optimal analgesia (see Appendix 2).
- Do not prescribe antibiotics unless there are signs of spreading infection, systemic infection, or for an immunocompromised patient.
- Recommend good oral hygiene.
- Advise the patient to seek non-urgent dental care or, if analgesia is ineffective, urgent dental care.

Subsequent care

- Assess the patient's progress including radiographic assessment to evaluate bone loss and monitor the outcome of treatment.
- Give appropriate oral hygiene instruction.

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- Consider non-surgical debridement with carbon fibre or plastic curettes and irrigate the pocket with 0.2% chlorhexidine.
- Consider surgical debridement and implant decontamination with saline or 0.2% chlorhexidine.
- In severe cases, consider regenerative surgery with barrier membranes with or without autogenous bone grafts or bone substitute or surgical removal of the implant.

References:

Esposito M, Grusovin MG, Worthington HV. Interventions for replacing missing teeth: treatment of peri-implantitis. Cochrane Database of Systematic Reviews 2012. Issue 1. Art. No. CD004914. DOI: 10.1002/14651858.CD002914.pub5.

4.23 Temporal Arteritis

Brief description of condition

Temporal arteritis (TA), also known as giant cell arteritis (GCA), involves inflammation and damage to medium- and large-sized blood vessels of the head, typically affecting the superficial temporal arteries in patients over 50 years of age. Depending on which vessels are affected, there may be a risk of blindness.

Key signs and symptoms

- Pain (headache, unilateral temporal and/or jaw pain)
- Burning sensation
- Swelling
- Fever
- Tenderness to touch
- Vessels visible and palpable
- Fatigue
- General ill feeling
- Loss of appetite
- Vision difficulties
- Weight loss
- Claudication of the muscles of mastication

Initial management

- If there are signs of visual disturbance, refer the patient for emergency medical care because high dose cortico-steriod prescription without delay is likely to be required. Otherwise, refer the patient for urgent dental care.

Subsequent care

- Prescribe systemic cortico-steroids without delay (prednisolone, adult dose: 60mg daily). Order blood tests without delay to assess C-reactive protein, plasma viscosity or erythrocyte sedimentation rate (ESR) before the patient starts taking prednisolone.
- Monitor symptoms and response to treatment at follow-up appointments to assess to determine further prednisolone dose.

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References:

Medscape. Ophthalmologic Manifestations of Giant Cell Arteritis; 2012 (emedicine.medscape.com/article/1201429-overview)

4.24 Trigeminal Neuralgia

Brief description of condition

Severe facial pain in the distribution of the trigeminal nerve, usually unilateral (i.e. only one side of the face). The duration of acute episodes is short lived.

Key signs and symptoms

- Pain (severe, stabbing, lancinating and shooting pain, often triggered by touching certain areas of the face)
- Brief facial spasm or tic

Initial management

- Prescribe carbamazepine (see SDCEP *'Drug Prescribing for Dentistry'* guidance for dose) without delay.
- Recommend optimal analgesia (see Appendix 2).
- Consider use of a long-acting local anaesthetic block in the affected area.
- Advise the patient to seek emergency medical care.

Subsequent Care

- Monitor symptoms and response to medication at follow-up appointments and titrate the dose.
- Monitor for adverse effects by ordering a full blood count and liver function tests.
- If unresponsive or intolerant of drug therapy, refer to a specialist for further assessment.

References:

NHS Inform. Trigeminal Neuralgia (www.nhsinform.co.uk/health-library/articles/t/trigeminal-neuralgia/ 2012b

SDCEP. Drug prescribing for dentistry: dental clinical guidance, 2nd edition. Dundee: Scottish Dental Clinical Effectiveness Programme; 2011 (www.sdcep.org.uk/index.aspx?o=2334)

Yang M, Zhou M, He L, Chen N, Zakrzewska JM. Non-antiepileptic drugs for trigeminal neuralgia. Cochrane Database of Systematic Reviews 2011, Issue 1. Art. No.: CD004029. DOI: 10.1002/14651858.CD004029.pub3.

Zakrzewska JM, AkramH. Neurosurgical interventions for the treatment of classical trigeminal neuralgia. Cochrane Database of Systematic Reviews 2011, Issue 9. Art. No.: CD007312. DOI: 10.1002/14651858.CD007312.pub2.

5 Audit and Research

It is a requirement of clinical governance and fundamental good clinical practice that all healthcare professionals work to monitor and constantly strive to improve the quality of care they and their teams provide.

It is recommended that:

- all those involved in providing the first point of patient contact receive appropriate training and ongoing professional development, including specific instruction on the application of this guidance;
- all those involved in the delivery of emergency dental services regularly seek to audit their practice, and arrangements that are in place for emergency dental care are examined as part of the standard dental inspections of general dental practices and other primary care providers and reflect the good practice outlined in this guidance;
- telephone triage services audit their performance on a regular basis and are subject to external review;
- all providers of emergency dental care carry out significant event analysis (SEA) as appropriate; further information is available via NHS Education for Scotland (www.nes.scot.nhs.uk).

5.1 Recommendations for Audit

Clinical audit is a quality improvement tool that aims to encourage reflection, review and changes to practice that enhance patient care. Topics for audit should be chosen carefully to provide information that will improve the quality of the management of patients with acute dental problems. Measures to consider include:

- Patient safety.
- The timeliness of care.
- The equity or care.
- The individual needs of patients.

Examples include:

- Allocation of patients to each care category (Emergency, Urgent, Non-Urgent).
- Antibiotic prescribing for acute dental problems.
- Analgesic prescribing for acute dental problems.
- Medical history recording.

5.2 Recommendations for Research

Research evidence to inform the management of most acute dental problems is generally of poor quality or lacking. There is a need for well reported, high-quality studies that are appropriately designed to address gaps in the evidence base for many of the conditions covered in this guidance. Other topics for research investigation in this area include the involvement and cooperation of multiple professional groups and the organisation of services to provide this type of patient care.

Appendix 1
Guidance Development

The Scottish Dental Clinical Effectiveness Programme

The Scottish Dental Clinical Effectiveness Programme (SDCEP) is an initiative of the National Dental Advisory Committee (NDAC) in partnership with NHS Education for Scotland.

The NDAC comprises representatives of all branches of the dental profession and acts in an advisory capacity to the Chief Dental Officer. It considers issues that are of national importance in Scottish dentistry and also provides feedback to other bodies within the Scottish Government on related, relevant healthcare matters.

SDCEP was established in 2004 under the direction of the NDAC to give a structured approach to providing clinical guidance for the dental profession. The programme's primary aim is to develop guidance that supports the provision of quality patient care. SDCEP brings together the best available information that is relevant to oral health care priorities and presents guidance on best practice in a form that can be interpreted easily and implemented. The guidance recommendations may be based on a variety of sources of information, including research evidence, guidelines, legislation, policies and expert opinion as appropriate to the subject. SDCEP guidance takes a variety of forms to suit the diverse topics being addressed.

Recognising that publication of guidance alone may have a limited influence on practice, SDCEP also contributes to the development and evaluation of interventions to enhance the translation of guidance recommendations into practice via the TRiaDS (Translation Research in a Dental Setting) collaboration (follow the TRiaDS link at www.sdpbrn.org.uk) (Clarkson, 2011).

SDCEP is funded by the Scottish Government Health Directorates and through its collaboration with NHS Education for Scotland contributes to the implementation of the Scottish Government's Dental Action Plan, which aims to both modernise dental services and improve oral health in Scotland.

The Guidance Development Group

A Guidance Development Group, consisting of individuals from a wide range of backgrounds, including dentistry, other health professions with a role in the management of acute dental problems and patient representatives was convened to develop and write this guidance.

Graham Ball (Chair)	Consultant in Dental Public Health, South East Scotland; Clinical Dental Lead, NHS 24
Martin Allan	Public Partner, Healthcare Improvement Scotland
Duncan Campbell	Consultant in Oral and Maxillofacial Surgery, NHS Fife
Deborah Devlin	Lead Nurse – NHS 24 & Scottish Emergency Dental Service
Douglas Duncan	Assistant Clinical Director, NHS Lothian
David Felix	Postgraduate Dental Dean, NHS Education for Scotland; Consultant in Oral Medicine, NHS Greater Glasgow and Clyde
James Ferguson	Consultant in Emergency Medicine, NHS Grampian
Abdul Haleem	General Dental Practitioner, Paisley; Dental Practice Advisor, NHS Greater Glasgow & Clyde

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Tina Halford-McGuff	Patient Representative
Nicola Innes	Senior Clinical Lecturer in Paediatric Dentistry, Univeristy of Dundee
Penny Lockwood	General Medical Practitioner, Dundee; Honorary Lecturer, Tayside Centre for General Practice, University of Dundee
John McAnaw	Head of Pharmacy, NHS 24
Margaret Madden	Out of Hours Call Handler / Receptionist, NHS Lothian
Charles Maran	Specialist in Periodontics, Edinburgh Dental Institute
Avril Neilson	Consultant in Oral Surgery, Dundee Dental Hospital and School
Emma O'Keefe	Specialty Registrar in Dental Public Health, NHS Fife
Derek Richards	Consultant in Dental Public Health, South East Scotland
David Ricketts	Professor of Cariology & Conservative Dentistry, University of Dundee
Verena Toedtling	Clinical Lecturer and Honorary Specialist Registrar in Oral Surgery, University of Manchester
Richard Welbury	Professor of Paediatric Dentistry, University of Glasgow

The Programme Development Team

The Guidance Development Group works closely with the Programme Development Team, which provides project management and administrative support and is responsible for the methodology of guidance development. The team facilitates all aspects of guidance development by searching and appraising information and evidence, conducting research, liaising with external organisations, editing the guidance, and managing the publication and dissemination of guidance materials.

Jan Clarkson*	Professor of Clinical Effectiveness, University of Dundee; SDCEP Director
Douglas Stirling*	Programme Manager – Guidance and Programme Development
Samantha Rutherford	Research and Development Manager
Linda Young*	Research and Development Manager
Joseph Liu*	Senior Research Fellow
Debbie Bonetti*	Senior Research Fellow
Jill Farnham*	Administrator
Trish Graham	Administrator
Liz Payne	Administrator

* directly involved in the development of this guidance

Appendix 1
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Methodology

SDCEP endeavours to use a methodology for guidance development that mirrors that used to develop high-quality guidelines. It aims to be transparent, systematic and to adhere as far as possible to international standards set out by the Appraisal of Guidelines Research and Evaluation (AGREE) Collaboration (www.agreetrust.org).

Following the TRiaDS framework for translating guidance recommendations into practice (Clarkson, 2011), the views of general dental practitioners, general medical practitioners and pharmacists on current practice, attitudes to the management of patients with acute dental problems and preferred content of the guidance were obtained via questionnaire surveys. This was used to inform both the scope of the guidance and the strategy for identifying evidence.

The guiding principle for developing guidance within SDCEP is to first source existing guidelines, policy documents, legislation or other recommendations. Similarly, relevant systematic reviews are also initially identified. These documents are appraised for their quality of development, evidence base and applicability to the remit of the guidance under development. In the absence of these documents or when supplementary information is required, other published literature and unpublished work may be sought. For this guidance, an evidence overview (Coulter, 2007; Elliot, 2004; Hiisdon, 2005; Whitlock, 2008) was carried out to appraise and summarise evidence on relevant conditions and the interventions recommended to manage these conditions. It supported the guidance development process by:

1) Identifying high quality synthesised evidence, where available, that is relevant to the management of patients with acute dental problems.
2) Enabling Guidance Development Group (GDG) members to take into account the available evidence when developing the guidance.

A comprehensive search of Medline, Embase, Cinahl and Web of Science Proceedings was conducted on 14th July 2011. The results of this were supplemented from the Cochrane Database of systematic reviews (CDSR) by scrutinising all published reviews in the Cochrane Oral Health Group's database, and a simple search of the CDSR database in the Cochrane library for the relevant disease terms for conditions that are not exclusive to the oral health collection (e.g. Bell's palsy, sinusitis, neuralgia and other oral infections such as syphilis). An article was considered potentially eligible if it met all of the following criteria:

1) The article is a systematic review (SR) or a guideline. An article was included as an SR if it included a methods section, a search of one or more electronic databases and a table of included studies.
2) The article dealt with an aspect of an acute dental problem or clinical condition that is relevant to the guidance, i.e. key signs and symptoms, assessment, diagnosis, treatment, prescribing and record-keeping.
3) The article was published after 2000 (i.e. 2000-2012) and in English.
4) The article was authoritative as defined below.

Two reviewers identified potentially eligible articles from the list of titles and abstracts and where agreement could not be reached on the eligibility of an article, a third reviewer was involved in settling the discrepancy.

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As recommended by the Cochrane Collaboration, the AMSTAR checklist was used to assess the methodological quality of the retrieved articles (Shea, 2007). AMSTAR is a simple and validated instrument and provides a methodological quality score for each systematic review, ranging from 0 (very poor) to 11 (excellent). Authoritative references were identified as follows (in order of precedence):

1) Cochrane review, if available.
2) SRs that score >7 using the AMSTAR methodological quality score.
3) Guidelines that use SRs scoring >7 using AMSTAR.
4) SRs, guidelines, websites and other information suggested by the GDG members and judged to be relevant.

Information was collected from the authoritative sources and presented as summary tables. Additional sources of evidence and other references identified by GDG members at any point in the guidance development process were considered, taking relevance and methodological quality into account.

Clinical leads in the GDG were each allocated one or more clinical conditions that they have expertise in. Key extracts from authoritative sources of synthesised evidence were collated and presented as summary tables to the clinical leads. Each key extract includes the background, methods, main findings and the conclusions reached by the authors of the synthesised evidence. The authoritative evidence, where available, was used to inform GDG members and the editorial team in writing the guidance. Extracts of the synthesised evidence relevant to the allocated conditions were distributed to the clinical leads and access to papers was provided. The clinical leads were asked to consider the available evidence when providing advice on drafting the guidance text. Where authoritative evidence was unavailable, the clinical leads were asked to advise on how the guidance text should be revised to reflect current practice. This includes the use of evidence that clinical leads considered as relevant but does not meet the above criteria for authoritative evidence. After the feedback was obtained, the guidance text was revised with input from the GDG, contribution of external experts outwith the GDG, feedback at the consultation stage of the guidance development, feedback from external peer reviewers and informal consensus reached by the GDG.

A consultation draft of this guidance was sent to individuals and bodies with a specific interest in the management of patients with acute dental problems in a variety of healthcare settings, and to those involved in the organisation of dental services and education in Scotland. To obtain feedback from the end-users of the guidance, dentists, general medical practitioners and pharmacists in Scotland were notified that the consultation draft was available on the SDCEP website or on request, and invited to comment. Following completion of the consultation period, all comments were reviewed and considered to inform further development of the guidance prior to peer review.

In summary, this guidance is based on guidelines, systematic reviews and other published sources, as listed at the end of each subsection, and the opinion of experts and experienced practitioners. The more detailed description of the evidence synthesis is available from SDCEP on request.

Declarations of interest are made by all contributors to SDCEP. Details are available on request.

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Review and Updating

A review of the context of this guidance (regulations, legislation, trends in working practices and evidence) will take place three years after publication and, if this has changed significantly, the guidance will be updated accordingly. Meanwhile, the guidance may be subject to minor amendment if new information becomes available.

Steering Group

The Steering Group oversees all the activities of the SDCEP and includes representatives of each guidance development group and the dental institutions in Scotland.

Jeremy Bagg (Chairman)	Chairman of the National Dental Advisory Committee; Head of Glasgow Dental School and Professor of Clinical Microbiology, University of Glasgow
Graham Ball	Consultant in Dental Public Health, South East Scotland
Jan Clarkson	Director, Scottish Dental Clinical Effectiveness Programme; Professor of Clinical Effectiveness, University of Dundee
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Appendix 1
Guidance Development

Appendix 1 References

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Appendix 2
Analgesia

Providing Self Care Advice on Managing Dental Pain

There is frequently a need for staff to advise patients on how to manage dental pain, for example while waiting to see a dentist. A guide to giving self care advice is given below. The delivery of advice on managing dental pain requires suitable training.

- Give the patient the following advice on the use of self care measures.
  - Avoid stimuli that precipitate or worsen the pain such as hot or cold foods or cold air.
  - Holding cooled water or crushed ice around the tooth can help some types of dental pain.
  - Severe pain from the mouth or teeth sometimes feels worse when lying flat; therefore, try lying propped up as this might ease the pain.
  - Use painkillers that have successfully provided pain relief for you in the past without adverse effects (e.g. ibuprofen and/or paracetamol), but do not exceed the maximum daily dose.
  - Avoid taking aspirin as a painkiller if there is bleeding.
  - Always follow the directions on the painkiller information leaflet for dosage and advice on precautions with some medical conditions. For example:
    - do not take ibuprofen if you have or have had stomach problem, are allergic to ibuprofen or to aspirin, are asthmatic or are pregnant;
    - if you are pregnant, consult a pharmacist before taking paracetamol.
  - Swallow tablets. Do not place tablets next to the affected area because this can damage the tissue.
  - The above advice on painkillers only applies for 24 hours after which you should seek further analgesic advice from a pharmacy, if required.
- Advise the patient to call back if the advice provided proves inadequate.

In cases where paracetamol or ibuprofen alone is not effective, both drugs can be taken at the same time. The recommended daily dose of either drug must not be exceeded. To minimise confusion, it is recommended that doses of ibuprofen and paracetamol are taken together (e.g. for an adult: in a 24 hour period, take two 500 mg tablets of paracetamol plus two 200 mg tablets of ibuprofen three times at 4-6 hour intervals, followed 4-6 hours later by two 500 mg tablets of paracetamol).

Note that a patient who has exceeded the maximum daily dose of paracetamol (e.g. an adult who has taken more than eight 500 mg tablets in a 24 hour period) should be referred for assessment in an emergency department.

Appendix 2
Analgesia

Analgesic Prescribing for Pain Relief

The recommendations for prescribed analgesics given below is taken from the SDCEP *'Drug Prescribing for Dentistry'* guidance, 2nd edition. (www.sdcep.org.uk/?o=2334). Refer to this guidance for further information and to Appendix 1 of the British National Formulary (www.bnf.org) for comprehensive information on adverse drug reactions and side effects.

Odontogenic Pain

For **mild to moderate odontogenic or post-operative pain,** an appropriate 5-day regimen is:

Paracetamol Tablets, 500 mg

Send: 40 tablets

Label: 2 tablets four times daily

For children:

Paracetamol Tablets or Soluble Tablets, 500 mg, or Oral Suspension*, 120 mg/5 ml or 250 mg/5 ml	
6 months – 2 years	120 mg four times daily (max. 4 doses in 24 hours)
2 – 4 years	180 mg four times daily (max. 4 doses in 24 hours)
4 – 6 years	240 mg four times daily (max. 4 doses in 24 hours)
6 - 8 years	240-250 mg four times daily (max. 4 doses in 24 hours)
8 - 10 years	360-375 mg four times daily (max. 4 doses in 24 hours)
10 – 12 years	480–500 mg four times daily (max. 4 doses in 24 hours)
12–16 years	480-750 mg four times daily (max. 4 doses in 24 hours)
10 - 18 years	500 mg - 1g four times daily (max. 4 doses in 24 hours)

NB: Advise patient that paracetamol can be taken at 4-hourly intervals but not to exceed the recommended daily dose (maximum of 4 g for adults). Overdose with paracetamol is dangerous because it can cause hepatic damage that is sometimes not apparent for 4–6 days and can be fatal. Note that a patient who exceeds the maximum daily dose of paracetamol should be referred for assessment in an emergency department (for more information see the 'British National Formulary'; www.bnf.org).

*Sugar-free preparation is available.

Updated January 2013, in line with BNF64, BNFC 2012-2013 and MHRA advice on overdose.

Appendix 2
Analgesia

For **mild to moderate odontogenic, post-operative or inflammatory pain,** an appropriate 5-day regimen is:

Ibuprofen Tablets, 400 mg

Send:	20 tablets
Label:	1 tablet four times daily, preferably after food

For children:	
Ibuprofen Oral Suspension*, 100 mg/5 ml or ibuprofen tablets, 200 mg	
6 months – 1 year	50 mg four times daily, preferably after food
1–4 years	100 mg three times daily, preferably after food
4–7 years	150 mg three times daily, preferably after food
7–10 years	200 mg three times daily, preferably after food
10–12 years	300 mg three times daily, preferably after food
12–18 years	300–400 mg four times daily, preferably after food

NB: In adults, on prescription only, the dose of ibuprofen can be increased, to a maximum of 2.4 g daily, if necessary.
Avoid use in those with a hypersensitivity to aspirin or any other NSAID including those in whom attacks of asthma, angioedema, urticaria or rhinitis have been precipitated by aspirin or any other NSAID. Avoid use in patients with previous or active peptic ulcer disease, unless a proton pump inhibitor is co-prescribed (see below), and use with caution in the elderly, patients with allergic disorders, pregnant women, nursing mothers, those taking oral anticoagulants such as warfarin, those with coagulation defects, those with an inherited bleeding disorder, and those with renal, cardiac or hepatic impairment.

*Sugar-free preparation is available.

In cases where paracetamol or ibuprofen alone is not effective, both drugs can be taken. To minimise confusion, it is recommended that doses of ibuprofen and paracetamol are taken together (note if the number of doses per day differs, it will be necessary to have one dose of one of the drugs alone). This regimen controls ongoing pain and pyrexia without exceeding the recommended dose or frequency of administration for either drug.

For **mild to moderate odontogenic or inflammatory pain,** an appropriate 5-day regimen is:

Aspirin Dispersible Tablets, 300 mg

Send:	40 tablets
Label:	2 tablets four times daily, preferably after food

For children:	
<16 years	Do not use in children because, rarely, it can cause Reye's syndrome‡
≥16 years	As for adults

NB: Advise patient that aspirin can be taken at 4-hourly intervals but not to exceed the recommended daily dose. In adults and children 16 years and over, up to 3 tablets (900 mg) can be given in one dose (maximum daily dose of 4 g).
Do not prescribe aspirin following a dental extraction or other minor surgery.
Avoid use in those with a known allergy to aspirin or hypersensitivity to aspirin or any other NSAID, including those in whom attacks of asthma, angioedema, urticaria or rhinitis have been precipitated by aspirin or any other NSAID. Avoid use in patients with previous or active peptic ulcer disease and use with caution in the elderly, patients with allergic disorders, pregnant women, nursing mothers, those taking oral anticoagulants such as warfarin, those with coagulation defects, those with an inherited bleeding disorder, and those with renal, cardiac or hepatic impairment.

‡Aspirin is not licensed for use in children under 16 years (see Section 1.2).

Appendix 2
Analgesia

Diclofenac is also effective against **moderate inflammatory or post-operative pain.** An appropriate 5-day regimen is:

Diclofenac Sodium Tablets, 50 mg	**For children:**
Send: 15 tablets Label: 1 tablet three times daily	Not recommended for dental use in children‡

NB: Advise patient not to exceed the recommended daily dose (maximum of 150 mg).
Avoid use in those with a hypersensitivity to aspirin or any other NSAID, including those in whom attacks of asthma, angioedema, urticaria or rhinitis have been precipitated by aspirin or any other NSAID. Avoid use in patients with previous or active peptic ulcer disease, unless a proton pump inhibitor is co-prescribed (see below), and use with caution in the elderly, patients with allergic disorders, pregnant women, nursing mothers, those taking oral anticoagulants such as warfarin, those with coagulation defects, those with an inherited bleeding disorder, and those with renal, cardiac or hepatic impairment.
Diclofenac tablets are enteric coated and are therefore slower to act.
‡Diclofenac tablets of >25 mg are not licensed for use in children.

In patients who have a history of previous or active peptic ulcer disease and require a non-steroidal anti-inflammatory drug (NSAID) for the treatment of odontogenic pain, an appropriate 5-day regimen to prevent gastric problems is:

Lansoprazole Capsules, 15 mg	**For children:**
Send: 5 capsules Label: 1 capsule once daily	Not licensed for children

NB: Use with caution in patients with liver disease, in pregnancy and in patients who are breast-feeding.

or

Gastro-resistant Omeprazole Capsules, 20 mg	**For children:**
Send: 5 capsules Label: 1 capsule once daily	Not licensed for children

NB: Use with caution in patients with liver disease, in pregnancy and in patients who are breast-feeding.

Appendix 2
Analgesia

Trigeminal Neuralgia

If a patient with trigeminal neuralgia presents in primary care, control quickly by treatment with carbamazepine. A positive response confirms the diagnosis. Make an urgent referral to a specialist or the patient's general medical practitioner for a full blood count and liver function tests to monitor for adverse effects, assess the response and titrate the dose.

An appropriate 10-day regimen is:

Carbamazepine Tablets, 100 mg		**For children:**
Send:	20 tablets	Not relevant for children
Label:	1 tablet twice daily	

NB: Advise patient to space out doses as much as possible throughout the day.
Carbamazepine has the potential to react with multiple other medicines; check appendix 1 of BNF for interactions.
Carbamazepine can cause reversible blurring of vision, dizziness and unsteadiness (dose-related).

Other Facial Pain

Acute temporomandibular dysfunction might respond to analgesics such as ibuprofen or a short course of diazepam as a muscle relaxant. However, as benzodiazepines are addictive and susceptible to abuse only the minimum number of tablets required should be prescribed.

An appropriate 5-day regimen is:

Diazepam Tablets, 2 mg		**For children:**
Send:	15 tablets	Not recommended because it has an unpredictable effect in children
Label:	1 tablet 3 times daily	

NB: The dose can be increased if necessary to 15 mg daily.
Halve the adult dose for elderly or debilitated patients.
Advise all patients that they should not drive.

Appendix 2
Analgesia

Oral Ulceration

Local analgesics cannot relieve pain continuously but are helpful in severe pain (e.g. major aphthae) to enable eating or sleeping. Lidocaine 5% ointment can be directly applied to the ulcer or lidocaine 10% solution, provided as a spray, can be applied to the ulcer using a cotton bud. Benzydamine hydrochloride mouthwash or spray can also reduce mucosal discomfort.

An appropriate regimen is a choice of:

Benzydamine Mouthwash, 0.15%

Send: 300 ml

Label: Rinse or gargle using 15 ml every 1½ hours as required

For children:

<12 years	Not recommended for use because of local anaesthetic properties
≥12 years	As for adults

NB: Advise patient that benzydamine mouthwash can be diluted with an equal volume of water if stinging occurs.
Advise patient to spit out mouthwash after rinsing.
The mouthwash is usually given for not more than 7 days.

or

Benzydamine Oromucosal Spray, 0.15%

Send: 30 ml

Label: 4 sprays onto affected area every 1½ hours

For children:

Benzydamine Oromucosal Spray, 0.15%

6 months – 6 years	1 spray per 4 kg body-weight (max. 4 sprays) every 1½ hours
6–18 years	4 sprays every 1½ hours

NB: In adults and children of 12 years and over, up to 8 sprays of benzydamine oromucosal spray can be applied at any one time.

or

Lidocaine Ointment, 5%

Send: 15 g

Label: Rub sparingly and gently on affected areas

For children:

As for adults

NB: Advise patient to take care with the application to avoid producing anaesthesia of the pharynx before meals as this might lead to choking.

or

Lidocaine Spray, 10%‡

Send: 50 ml

Label: Apply as necessary with a cotton bud

For children:

As for adults

NB: Advise patient to take care with the application to avoid producing anaesthesia of the pharynx before meals as this might lead to choking.

‡Lidocaine Spray, 10%, is not licensed for oral ulceration.

Appendix 2
Analgesia

Appendix 2 References

Paracetamol overdose: Simplification of the use of intravenous acetylcysteine Medicines and Healthcare products Regulatory Agency; 2012 (www.mhra.gov.uk/Safetyinformation/Safetywarningsalertsandrecalls/Safetywarningsandmessagesformedicines/CON178225)

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Appendix 3
Adverse Drug Reactions and Side Effects

The safety profile of most medicines and vaccines becomes reasonably well established once on the market for a reasonable length of time. However, there is an ongoing need to be vigilant for the occurrence of less well known adverse effects and respond accordingly, especially if the drug or vaccine involved is denoted by an inverted Black Triangle symbol (▼). These 'Black Triangle' drugs and vaccines are relatively new to the market, and therefore require closer supervision and surveillance to identify any safety issues regarding their use in the general population.

Suspected adverse reactions or side effects to a drug or vaccine should be reported via the Yellow Card system, providing as much information as possible on the circumstances surrounding the event. This allows for a more accurate picture to be developed on the safety profile of currently marketed medicines and vaccines, taking action where appropriate thereby protecting the public.

Side effects and their management

In clinical practice, the use of certain drugs in the treatment of medical conditions may often result in a range of predictable oral health side effects, many of which can be reported during a dental consultation. In certain cases, the side effects are relatively minor and can be simply managed, although there are cases where more urgent action or referral may be required. Table 2 gives a list of predictable side effects commonly associated certain drugs with advice on management. The list of drugs in the table is not exhaustive. If a medicine-related side effect is suspected, the British National Formulary should be consulted.

When a patient presents with these symptoms, initial questions to ask include:

Do you have any existing medical problems?
How long have you experienced the symptom?
Have you recently started or stopped a medicine (including OTC medicines)?
Have you recently changed the dose of a medicine
Can you tell me what medicines you currently take?

Asking these questions will usually identify a potential drug-related cause (including any potential drug interactions) for the symptom(s) experienced by the patient, some of which can be safely managed whilst others may require a review of the patient's medicines by their doctor of pharmacist.

Where a patient may be experiencing a medication-related side effect that is not considered to be hazardous and is persistent and/or troublesome, they should be advised to continue taking the suspected medicine and to contact their doctor for further advice. This will allow an opportunity for the doctor to consider whether an alternative medicine (or even no medicine) would be more appropriate for the patient.

The patient’s progress should be monitored in follow-up appointment(s).

Appendix 3
Adverse Drug Reactions and Side Effects

Table 2 Drug-related oral health side effects

Symptoms	Drugs potentially implicated	Initial management	Subsequent care
Black hairy tongue	Penicillin Tetracyclines Oxygenation mouthwashes e.g. sodium perborate, hydrogen peroxide	• Reassure the patient of benign nature of the condition. • Advise that condition will resolve once treatment has stopped.	• If problem persists, advise patient to contact their GP.
Dry mouth*	Analgesics (opioid) e.g. Morphine, oxycodone Antidepressants (tricyclic) e.g. Amitriptyline, clomipramine Antidepressants (SSRI) e.g. Citalopram, fluoxetine Antiemetics e.g. Hyoscine hydrobromide Anticonvulsants e.g. Carbamazepine, gabapentin Antihistamines (sedating) e.g. Chlorphenamine, promethazine Antimanic drugs e.g. Lithium carbonate, lithium citrate Antimigraine drugs e.g. Pizotifen, clonidine Antimuscarinic drugs e.g. Orphenadrine, procyclidine, trihexyphenidyl, Ipratropium, tiotropium CNS stimulants e.g. atomoxetine, methylphenidate Parkinson's disease drugs e.g. Levodopa Antipsychotics e.g. Clozapine, Olanzapine, phenothiazines Antispasmodics e.g. Baclofen, Oxybutynin, solifenacin Beta-blockers e.g. Atenolol, propranolol Diuretics e.g. Furosemide	• Maintain good oral hygiene, and use fluoride mouthwash. • Take frequent sips of cold water. • Suck ice-cubes. • Use sugar-free chewing gum to help stimulate saliva production. • Limit caffeine and alcohol intake, which have a diuretic effect. • Where lips are dry and/or cracked, apply a lubricant e.g. aqueous cream or water-based saliva replacement gel	• If dry mouth becomes troublesome or difficult to manage, artificial saliva products may be considered, for use as required. • Patients are more susceptible to candidal infection, therefore consider treatment with an appropriate antifungal agent where necessary. • If problem persists, advise patient to contact their GP.

* Note: Drug-induced dry mouth is often caused by the anticholinergic properties of drugs. The above drug groups are not a comprehensive list of drugs that are associated with dry mouth, as many other drugs can cause these symptoms.

Appendix 3

Adverse Drug Reactions and Side Effects

Symptoms	Drugs potentially implicated	Initial management	Subsequent care
Gingival overgrowth	Phenytoin Ciclosporin Nifedipine Procyclidine	• Reassure the patient of benign nature of the condition. • Discuss measures to improve oral hygiene	• Advise the patient to discuss alternatives with their GP.
Oral mucosal pigmentation	Phenothiazines Cytotoxic drugs Amiodarone Chloroquine Mepacrine Minocycline Zidovudine	• If the nature of the condition is confirmed as drug-related i.e. non-malignant, reassure the patient of benign nature of the condition. • Advise patient to contact their GP.	
Oral ulceration	Non-steroidal anti-inflammatory drug Nicorandil Beta blockers Methotrexate Cytotoxic drugs Sulphonamides Sulfasalazine Anticonvulsants (such as phenobarbital, phenytoin carbamazepine) Allopurinol Penicillin Gold Penicilamine	• Maintain good oral hygiene. • Symptomatic relief can be obtained through use of chlorhexidine mouthwash or topical corticosteroids. • if suspected adverse drug reaction or blood dyscrasias, refer patient to their GP immediately.	• If ulcer(s) have persisted beyond 7 days, or are severe or recurrent, advise patient to contact their GP. • See also Section 4.8, Oral Ulceration

Appendix 3
Adverse Drug Reactions and Side Effects

Symptoms	Drugs potentially implicated	Initial management	Subsequent care
Osteonecrosis of the jaw (ONJ)	Bishphosphonates	• Advise patient on need to be vigilant for signs/ symptoms of condition. • Where confirmed, and in absence of any infection, advise on use of analgesics +/- antiseptic mouthwashes (used twice a day). • Where infection present, wound or pus samples must be taken (for sensitivity testing) before prescribing systemic antimicrobials in accordance with Health Board prescribing policy.	• Discuss care of patient with their GP, and need for continued treatment with bisphosphonate. • Consider need for surgical management. • See also Section 4.21, Osteonecrosis
Oral thrush (candidiasis)	Broad-spectrum antibiotics Corticosteroids (inhaled) Immunosuppressant drugs	• Maintain good oral hygiene. • If patient using inhaled corticosteroids, advise rinsing their mouth and throat with water after use, and confirm good inhaler technique and consider use of spacer • Advise on use of antifungal oral gel.	• If problem persists or is recurrent, advise patient to contact their GP. • If candidal infection is severe, consider use of systemic antifungal agent. • See also Section 4.17, Candidal Infection (Oral Thrush)
Tooth discolouration / pigmentation	Chlorhexidine Fluoride (excessive intake) Iron Tetracyclines	• Maintain good oral hygiene. • Use of chlorhexidine mouthwash should be limited to a few weeks only.	• Coverage of discoloured tooth (or teeth) with a veneer may be considered.

Appendix 3
Adverse Drug Reactions and Side Effects

Symptoms	Drugs potentially implicated	Initial management	Subsequent care
Taste disturbance	ACE inhibitors Aspirin Amiodarone Buprenorphine Bupropion hydrochloride Carbimazole Chlorhexidine Citalopram Clarythromycin Clofibrate Ethambutol Griseofulvin Gold salts Imipramine Lithium carbonate Lincomycin Levodopa Metformin Metronidazole Penicillamine Terbinafine Varenicline Zopiclone	• Reassure the patient of benign nature of the condition.	• If problem persists, advise patient to contact their GP.

Appendix 3 References

Data from manufacturers' summary of products monograph data (http://emc.medicines.org.uk)

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Appendix 4
Glossary

Abnormal appearance	Unusual swellings, lumps, red, white, or mixed speckled red and white patches or pigmented areas in the oral cavity or facial weakness or asymmetry.
Altered sensation	Unusual feeling in the mouth or face that may include numbness, tingling or a burning feeling and may or may not be painful.
Alveolar socket	The hole in the jawbone in which a tooth is held.
Analgesic	Pain killing drug.
Anaphylaxis	A severe, potentially life-threatening, allergic reaction that can affect many of the systems of the body, including airways, breathing, circulation (of the blood). Anaphylaxis is also known as anaphylactic shock.
Avascular bone	Bone that is not associated with or supplied by blood vessels.
Avulsed tooth	A tooth which has been knocked out or lost due to trauma.
Bilateral or unilateral parotid swelling	Swelling below the ear associated with the parotid salivary glands on one side (unilateral) or both sides (bilateral).
Caries	Tooth decay.
Claudication of the muscles of mastication	Pain in the muscles of the jaw or near the ears while chewing.
Debridement	Cleaning of a wound to remove dead, damaged or infected tissue and other debris (surgical debridement).
Degloving	An injury in which oral soft tissues are stripped from the underlying bone (usually following a blunt traumatic event)
Erupting tooth	A tooth that is first emerging through the gingiva (gum) tissue.
Erythema	Redness.
Dentine	The major structural component of the tooth that lies under the visible enamel surface. It can be painful if dentine becomes uncovered (exposed).
Enamel	The very hard outer surface layer of the crown of the tooth that is visible above the gingiva (gum).
F.A.S.T.	A reminder of how to recognise when someone might have had a stroke and what to do: **Face** - has their face fallen on one side? Can they smile? **Arms** - can they raise both arms and keep them there? **Speech** - is their speech slurred? **Time** - time to call 999 if you see any single one of these signs. Further information is available at: www.nhs.uk/actfast/pages/stroke.aspx .
Gingiva, gingival	Gum.

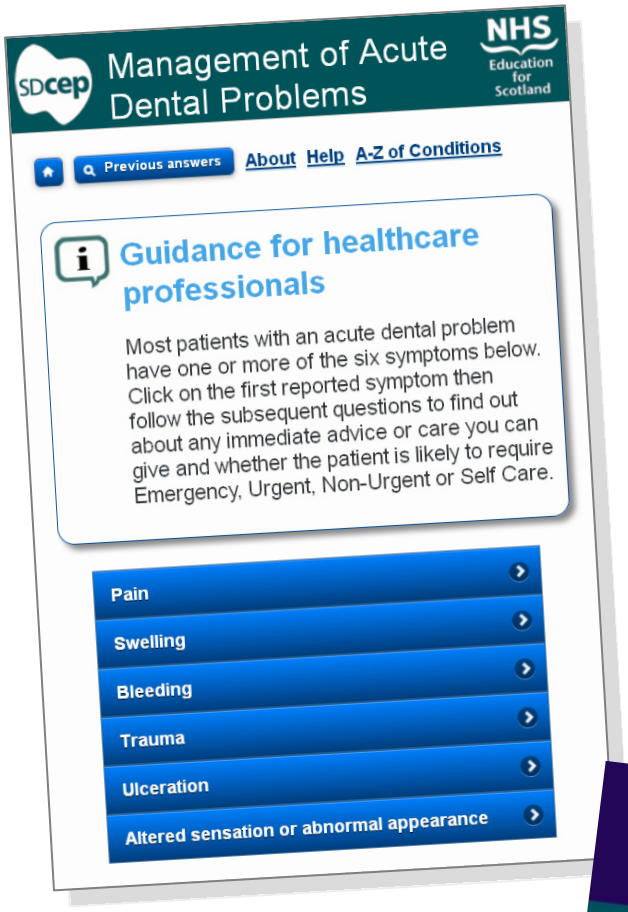
Appendix 4
Glossary

Halitosis	Bad breath.
Immunocompromised	When the immune system is impaired. This may be disease or infection-related (e.g. certain cancers, HIV), caused by drug treatment (e.g. steroids, chemotherapy, immunosuppressive drugs), inherited or age-related and indicates a lower threshold for considering the use of antibiotic therapy.
Local rapid access pathway	A locally agreed means of referring patients with mimimum delay to a nearby healthcare provider for further assessment or treatment.
Loss of attachment	An indicator of periodontal disease based on a measurement of the condition of the gingival (gum).
Mucocele	A fluid filled sac or localised swelling on the soft tissues of the mouth that may be caused by trauma, and is usually painless.
Occlusion	The way in which the upper and lower teeth come together when the mouth is closed.
Oedema	A build-up of fluid (mainly water) in the body's tissues, causing swelling to occur in the affected area.
Operculum	A flap of gingival (gum) tissue lying over the crown of an erupting tooth.
Optimal analgesia	The maximum recommended dose of painkillers that takes into account the patient's age and is within the normal safe limits.
Oral mucosa	The soft tissues that line the inside of the mouth.
Orthodontic headgear	A structure worn on the head that attaches to braces to assist in the movement of the teeth or jaw to improve the appearance or function of abnormally arranged teeth.
Peri-implant bone loss	Loss of bone around a dental implant.
Periodontal pocket	An unusually deep space between the gingiva (gum) and the tooth which can be difficult to clean and can become infected.
Root	The part of the tooth that is embedded in the jaw and that is not normally visible. It can be painful if the surface of the root becomes uncovered (exposed).
Sensibility testing	A means of testing whether the nerve in a tooth is functioning.
Spreading infection	Infection that is no longer limited to a small area as indicated by cellulitis (sensitive skin inflammation), swollen lymph node(s).
Suppuration	Formation and discharge of pus.
Stomatitis	Inflammation of any of the interior surfaces of the mouth.
Systemic infection	A general infection causing the patient to have an elevated temperature and to feel and/or look unwell.
Systemically unwell	When a patient feels or looks generally unwell, typically with an elevated temperature and feeling of light-headedness or fatigue.

Appendix 4
Glossary

Temporal arteries	Arteries of the head that supply blood to the scalp, jaw muscles and salivary glands.
Temporomandibular joint	The jaw joint.
Tooth ingestion	When all or part of a tooth is swallowed.
Tooth inhalation	When all or part of a tooth is breathed into the lungs.
Ultrasonic scaling	Use of high frequency sound waves to remove material such as calculus (also known as tartar) and staining from tooth surfaces.
Urticaria	A raised, red, itchy rash that appears on the skin. Also known as hives, welts or nettle rash. The raised marks in the rash are called weals.
Vermillion border	The edge between the skin of the lip and the surrounding facial skin.
Vitality test	See Sensibility test.

Management of Acute Dental Problems
is also available to use interactively via your personal computer, tablet or smartphone



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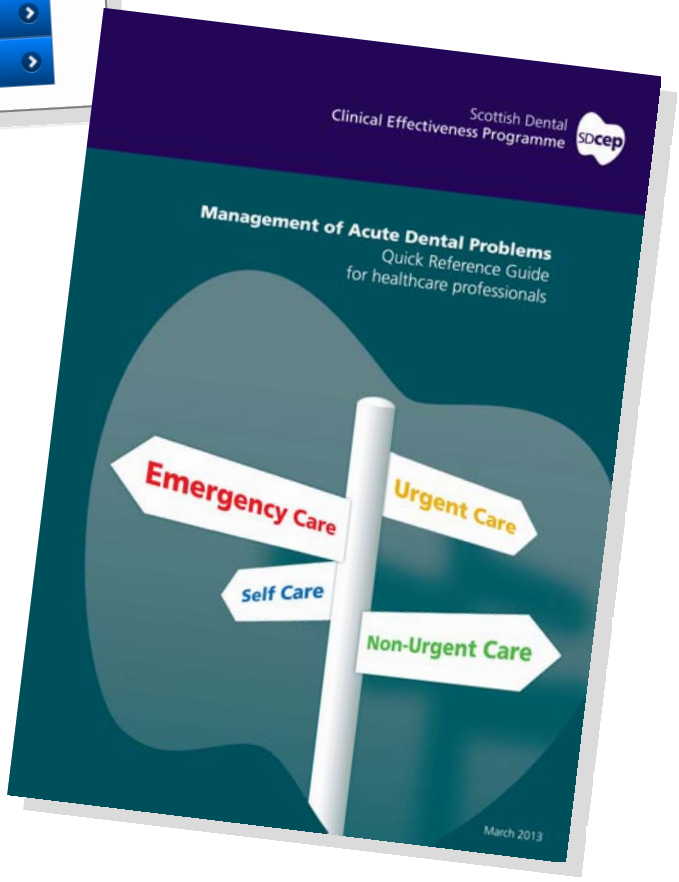

A Quick Reference Guide for this guidance is also available at
www.sdcep.org.uk

The Scottish Dental Clinical Effectiveness Programme (SDCEP) is an initiative of the National Dental Advisory Committee and is supported by the Scottish Government and NHS Education for Scotland. The Programme aims to provide user-friendly evidence-based guidance on topics identified as priorities for oral health care in Scotland.

'Management of Acute Dental Problems' guidance aims to

- encourage a consistent approach to the management of acute dental problems to reduce avoidable variation in practice;
- improve the quality of unscheduled clinical care for patients with acute dental problems;
- provide a standard for the initial management of presenting symptoms for patients with acute dental problems;
- ensure patients receive appropriate advice about subsequent care and/or referral to appropriate treatment providers, if applicable.

The guidance includes decision support flowcharts that represent the pathways to the appropriate providers of care, based on the patient's presenting symptoms. These flowcharts are intended for use by staff in any healthcare setting who may be asked to advise or manage patients with acute dental problems, including non-dental professionals such as general medical practice, emergency department and pharmacy staff. Advice about the initial management and subsequent care for a wide range of conditions that may present as acute dental problems is also provided.

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