

Guidance on the extraction of wisdom teeth

Technology appraisal guidance

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www.nice.org.uk/guidance/ta1

Your responsibility

The recommendations in this guidance represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, health professionals are expected to take this guidance fully into account, alongside the individual needs, preferences and values of their patients. The application of the recommendations in this guidance is at the discretion of health professionals and their individual patients and do not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian.

All problems (adverse events) related to a medicine or medical device used for treatment or in a procedure should be reported to the Medicines and Healthcare products Regulatory Agency using the [Yellow Card Scheme](#).

Commissioners and/or providers have a responsibility to provide the funding required to enable the guidance to be applied when individual health professionals and their patients wish to use it, in accordance with the NHS Constitution. They should do so in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should [assess and reduce the environmental impact of implementing NICE recommendations](#) wherever possible.

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1 Recommendations

- 1.1 The practice of prophylactic removal of pathology-free impacted third molars should be discontinued in the NHS.
- 1.2 The standard routine programme of dental care by dental practitioners and/or paraprofessional staff need be no different, in general, for pathology-free impacted third molars (those requiring no additional investigations or procedures).
- 1.3 Surgical removal of impacted third molars should be limited to patients with evidence of pathology. Such pathology includes unrestorable caries, non-treatable pulpal and/or periapical pathology, cellulitis, abscess and osteomyelitis, internal/external resorption of the tooth or adjacent teeth, fracture of tooth, disease of follicle including cyst/tumour, tooth/teeth impeding surgery or reconstructive jaw surgery, and when a tooth is involved in or within the field of tumour resection.
- 1.4 Specific attention is drawn to plaque formation and pericoronitis. Plaque formation is a risk factor but is not in itself an indication for surgery. The degree to which the severity or recurrence rate of pericoronitis should influence the decision for surgical removal of a third molar remains unclear. The evidence suggests that a first episode of pericoronitis, unless particularly severe, should not be considered an indication for surgery. Second or subsequent episodes should be considered the appropriate indication for surgery.

2 Clinical need and practice

- 2.1 Permanent molar teeth normally erupt from the age of 6 onwards, with the third molars (wisdom teeth) being the last to erupt, usually between the ages of 18 and 24 years. Wisdom teeth may erupt normally into correct dental alignment and function or conversely develop in non- or minimally functional positions. Impaction occurs when there is prevention of complete eruption due to lack of space, obstruction or development in an abnormal position. This may result in a tooth erupting partially or not at all. Wisdom teeth can also be impacted, either erupting partially or not at all. Impaction may be associated with pathological changes including pericoronitis, an increased risk of caries and periodontal disease in adjacent teeth, and orthodontic problems in later life.
- 2.2 Removal of wisdom teeth is one of the most common surgical procedures performed in the UK. Current practice includes both the removal of impacted third molars causing pathological changes as well as the early prophylactic removal of pathology-free impacted third molars. Wide variations in the rates of this latter procedure across the country, which suggest that in the past, up to 44% of wisdom teeth removals and prophylactic surgery may have been inappropriate, have been reported. However, in recent years, changes in the practice of removal of wisdom teeth may have taken place in response to the Faculty of Dental Surgery of the Royal College of Surgeon's guidelines on the management of patients with third molar teeth (1997). Even so, some 22% of procedures may still be inappropriate. In 1994/95, there were approximately 36,000 inpatient and 60,000 day-case admissions in England. More recent figures (1998/99) for Wales indicate that there were up to 3,000 procedures. It is estimated that the total cost to the NHS in England and Wales of wisdom teeth extractions is up to £12 million per year.

3 Evidence

- 3.1 There is no reliable research evidence to support a health benefit to patients from the prophylactic removal of pathology-free impacted third molar teeth.
- 3.2 Every procedure for the removal of an impacted third molar carries risk for the patient, including temporary or permanent nerve damage, alveolar osteitis, infection and haemorrhage as well as temporary local swelling, pain and restricted mouth opening. There are also risks associated with the need for general anaesthesia in some of these procedures, including rare and unpredictable death. Such patients are therefore being exposed to the risk of undertaking a surgical procedure unnecessarily.
- 3.3 The source documentation and opinion made available to the appraisal committee is listed in [appendix B](#).

4 Implications for the NHS

- 4.1 Given the uncertainty in current rates of prophylactic removal of pathology-free impacted third molars, it is difficult to precisely quantify the budget impact of discontinuation of this practice. However, based on 1994/95 data, this could result in an opportunity to release capacity in the specialty with a value of up to £5 million (NHS in England and Wales).
- 4.2 The number of patients waiting for this operation in England and Wales might change if waiting lists are reviewed using this guidance.

5 Further research

- 5.1 There are 2 ongoing randomised controlled trials (in the US and in Denmark) comparing prophylactic extraction of wisdom teeth with management by deliberate retention. The results of these trials will be reviewed by NICE to establish whether they have a material impact on this guidance.

6 Implementation

- 6.1 NHS trusts and dental practitioners should review their current practice against this guidance and use the audit advice set out in [section 7](#) to prospectively collect data on individual practitioners' performance.
- 6.2 The position of individual patients currently scheduled for extraction of wisdom teeth should be reviewed. This may be possible through a case note review but there may be circumstances in which patients will need to be invited to attend a review clinic.
- 6.3 The patient information included in [appendix C](#) can be drafted into local information leaflets and could also be used to help inform patients if it is necessary to issue invitations to attend review clinics.

7 Clinical audit advice

- 7.1 To enable dental practitioners to audit their own compliance with this guidance, it is recommended that all those who perform wisdom teeth extraction should routinely record the indication for surgery and the diagnosis (see [section 1.3](#)).
- 7.2 It is recommended that this information be incorporated into manual recording systems and consideration given to the establishment of appropriate categories in electronic record keeping systems in general practices and hospitals.
- 7.3 Prospective clinical audit programmes should record the proportion of extractions adhering to the criteria described in this guidance. Such programmes are likely to be more effective in improving patient care when they form part of the organisation's formal clinical governance arrangements and where they are linked to specific post-graduate activities.

Appendix A: Appraisal committee members

Professor RL Akehurst

Dean, School of Health Related Research Sheffield University

Professor David Barnett (Chairman)

Professor of Clinical Pharmacology University of Leicester

Professor Sir Colin Berry

Professor of Morbid Anatomy St Bartholomew's and Royal London School of Medicine

Professor Martin Buxton

Director of Health Economics Research Group Brunel University

Professor Yvonne Carter

Professor of General Practice and Primary Care St Bartholomew's and Royal London School of Medicine

Dr Karl Claxton

Lecturer in Economics University of York

Professor Duncan Colin-Jones

Professor of Gastroenterology University of Southampton

Dr Nicky Cullum

Reader in Health Studies University of York

Mr Chris Evennett

Chief Executive Mid-Hampshire Primary Care Group

Ms Jean Gaffin

Formerly Executive Director National Council for Hospice and Specialist Palliative Care Service

Mrs Sue Gallagher

Chief Executive Merton, Sutton and Wandsworth Health Authority

Dr Trevor Gibbs

International Medical Operations Director GlaxoWellcome R&D Ltd

Dr Sheila Bird

MRC Biostatistics Unit, Cambridge

Mr John Goulston

Director of Finance The Royal Free Hampstead NHS Trust

Professor Philip Home

Professor of Diabetes Medicine University of Newcastle

Dr Terry John

General Practitioner The Firs, London

Dr Diane Ketley

Clinical Governance Programme Leader, Leicester Royal Infirmary

Dr Mayur Lakhani

General Practitioner, Highgate Surgery, Leicester and Lecturer, University of Leicester

Mr M Mughal

Consultant Surgeon Chorley and South Ribble NHS Trust

Mr James Partridge

Chief Executive Changing Faces

Professor Philip Routledge

Professor of Clinical Pharmacology University of Wales

Professor Andrew Stevens

Professor of Public Health University of Birmingham

Appendix B: Documentation and opinion available to the appraisal committee

The following documentation was made available to the appraisal committee:

- Assessment report: Song F, O'Meara S, Wilson P, et al. (1999) The effectiveness and cost effectiveness of the prophylactic removal of wisdom teeth. NHS Centre for Reviews and Dissemination, University of York.
- Professional/specialist group submissions: Faculty of Dental Surgery of the Royal College of Surgeons of England, Birmingham Dental Hospital, British Dental Association, British Medical Association Dentistry 2000, The British Dental Industry Association, the Royal College of Nursing.

The following experts were invited to make submissions to the committee:

- Mr David Kramer, Dental Surgeon and Principle, Marchgate Dental Practice.
- Professor Robin Seymour, Head of Department of Restorative Surgery, Dental School, Newcastle upon Tyne.
- Mr John Lowry, the Department of Maxillofacial Surgery at the Royal Bolton Hospital.

Appendix C: Wisdom teeth removal – patient notes

What is NICE guidance?

NICE is a part of the NHS. It has a team of experts who produce guidance for both the NHS and patients on medicines, medical equipment and clinical procedures.

When NICE evaluates these things, it is called an appraisal. Each appraisal takes around 12 months to complete and involves the manufacturers of the technology, patient groups and professional organisations.

NICE was asked to look at wisdom teeth removal and provide guidance to the NHS which will help dentists and surgeons decide when wisdom teeth should be removed.

What are wisdom teeth and why are they operated on?

Adult teeth normally come through from the age of 6 upwards, with the wisdom teeth being the last to arrive (usually between the ages of 18 and 24 years).

Sometimes, as wisdom teeth come through they cause problems. The term used to describe wisdom teeth that don't come through normally is impacted wisdom teeth. Two reasons for this are a lack of space or other teeth being in the way.

For most people, impacted wisdom teeth cause no problems at all, but some people can suffer problems such as inflammation of the surrounding gum, a higher risk of tooth decay, gum disease in other teeth, and possibly problems with teeth in later life.

Removal of wisdom teeth is one of the most common operations carried out in the UK. Impacted wisdom teeth have sometimes been removed whether or not they were causing problems. There is no reliable evidence to suggest that operating on impacted wisdom teeth that are not causing problems has any benefit for the patient.

In fact, every operation has some risk.

What do NICE recommend about the removal of wisdom teeth?

Based on the evidence, NICE has recommended to the NHS that impacted wisdom teeth that are free from disease (healthy) should not be operated on. There are 2 reasons for this:

- There is no reliable research to suggest that this practice benefits patients.
- Patients who do have healthy wisdom teeth removed are being exposed to the risks of surgery.

Risks of surgery can include:

- nerve damage
- damage to other teeth
- infection
- bleeding and, rarely, death.

Also, after surgery to remove wisdom teeth, patients may:

- have swelling and pain
- be unable to open their mouth fully.

NICE also recommends that patients who have impacted wisdom teeth that are not causing problems should visit their dentist for their usual check-ups and that only patients who have diseased wisdom teeth, or other problems with their mouth, should have their wisdom teeth removed.

Your dentist or oral surgeon will be aware of the sort of disease or condition which would require you to have surgery. Examples include:

- untreatable tooth decay

- abscesses
- cysts or tumours
- disease of the tissues around the tooth
- if the tooth is in the way of other surgery.

What should I do?

If you or a member of your family or someone you care for are having problems with their wisdom teeth, you should discuss this with your dentist or surgeon.

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