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Consent for third molar tooth extractions in Australia and New Zealand: a review of current practice

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ABSTRACT

Background: Informed consent is the legal requirement to educate a patient about a proposed medical treatment or procedure so that he or she can make informed decisions. The purpose of the study was to examine the current practice for obtaining informed consent for third molar tooth extractions (wisdom teeth) by oral and maxillofacial surgeons in Australia and New Zealand.
Methods: An online survey was sent to 180 consultant oral and maxillofacial surgeons in Australia and New Zealand. Surgeons were asked to answer (yes/no) whether they routinely warned of a specific risk of third molar tooth extraction in their written consent.
Results: Seventy-one replies were received (39%). The only risks that surgeons agreed should be routinely included in written consent were a general warning of infection (not alveolar osteitis), inferior alveolar nerve damage (temporary and permanent) and lingual nerve damage (temporary and permanent).
Conclusions: There is significant variability among Australian and New Zealand oral and maxillofacial surgeons regarding risk disclosure for third molar tooth extractions. We aim to improve consistency in consent for third molar extractions by developing an evidence-based consent form.

Keywords: Complication, consent, extraction, oral surgery, third molar.

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INTRODUCTION

Informed consent is the legal process that allows a competent patient to make an informed decision on the treatment or procedure proposed. It is one of the most important steps in the preoperative consultation, offering information on the treatment including a thorough explanation of the risks involved. It is also important in providing legal protection against complications and unforeseen circumstances that may arise during any medical treatment. Failure to gain valid consent can result in a claim for trespass, while failure to adequately disclose risk can be construed as negligence. While there is no absolute guide about how much information to disclose as part of the consent process, according to contemporary Australian legislation, the doctor should provide what a reasonable patient would want to know and what that particular patient would want to know in light of their own values and interests.

The purpose of the study was to examine the current practice for obtaining informed consent for third molar tooth extractions (wisdom teeth) by oral and maxillofacial surgeons in Australia and New Zealand. This study will form the basis for a review of current practice and any recommendation for change. We aim to use our research to later develop an evidence-based consent form for third molar tooth extractions.

METHODS

A survey was designed to determine the risks of third molar tooth extraction that oral and maxillofacial surgeons from Australia and New Zealand include in their written consent. Questions were divided into three groups using similar methodology to McLeod *et al*. in a study of consent for orthognathic surgery amongst UK surgeons.[2] The three groups were vascular, infective and neurological complications, technical complications and complications related to adjacent structures. Surgeons were asked to answer (yes/no) whether they routinely warned of a specific risk in their written consent.

The survey was designed to best accommodate for the variability in surgeons' written warnings of similar

risks. Thus, it distinguished between general warnings (e.g. bone fracture) and more specific warnings (e.g. maxillary tuberosity fracture).

Surgeons were able to comment if they routinely warned of any other risk of third molar tooth extraction not included in the survey. Pain, bruising, trismus and swelling are transient side effects of the procedure, and although they are occasionally severe, they were not considered complications of third molar tooth extraction for this study. Similarly, the risks of a general anaesthetic, if performed for tooth extraction, were not considered in this study.

The Australian and New Zealand Association of Oral and Maxillofacial Surgeons (ANZAOMS) distributed the online survey via email to all full members (180 consultants), followed by a reminder to non-responders nine days later. Participation in the study was voluntary and surgeons were advised that their response could not be identified.

For a particular risk of third molar extraction, we considered there to be consensus among surgeons that risk disclosure is required if ≥80% of surgeons routinely included that risk in their written consent, or consensus that risk disclosure is not required if ≥80% of surgeons did not routinely include that risk in their written consent.

RESULTS

Seventy-one (71) replies were received (39%). The respondents had practised as qualified oral and maxillofacial surgeons in Australia/New Zealand or overseas for an average of 17.8 years full-time equivalent. At the time of the survey, 70 of the responding surgeons (99%) were performing third molar tooth extractions as part of their practice while one was not, although the data for this surgeon was included in the study. Some respondents did not complete all of the survey components.

All surgeons who responded (67) gained verbal and/or written consent for every third molar extraction performed. Seven (7) surgeons (10%) warned their patients that one or more of the complications of third molar tooth extraction could be life-threatening, while the others (64) did not.

Responses are shown in Tables 1–3. Where consensus among surgeons was achieved (≥80% of surgeons routinely included the risk in written consent or ≥80% of surgeons did not routinely include the risk), the risk is highlighted. Consensus items are listed in Table 4.

Other complications of third molar tooth extraction that were not included in the survey but which some respondents include in their written consent are listed (number of respondents in parentheses):

Table 1. Vascular, infective and neurological complications of third molar tooth extractions. Number (%) of respondents who routinely include or do not include the risk in their written consent, and total number of responders

	Yes	No	Total
Excessive bleeding (general warning)	50 (71)	20 (29)	70
Excessive bleeding (specific warning) – requiring additional surgery	**12 (18)**	**56 (82)**	**68**
Alveolar osteitis	36 (53)	32 (47)	68
Infection, not alveolar osteitis (general warning)	**59 (84)**	**11 (16)**	**70**
Infection, not alveolar osteitis (specific warning) – deep fascial space involvement	**12 (18)**	**54 (82)**	**66**
Temporary inferior alveolar nerve injury	**67 (97)**	**2 (3)**	**69**
Permanent inferior alveolar nerve injury	**67 (97)**	**2 (3)**	**69**
Temporary lingual nerve injury	**63 (91)**	**6 (9)**	**69**
Permanent lingual nerve injury	**60 (88)**	**8 (12)**	**68**
Temporary nerve injury other than inferior alveolar/lingual nerve injury (any warning, including buccal nerve injury, mylohyoid nerve injury)	**8 (11)**	**62 (89)**	**70**
Permanent nerve injury other than inferior alveolar/lingual nerve injury (any warning, including buccal nerve injury, mylohyoid nerve injury)	**5 (7)**	**63 (93)**	**68**

(1) osteonecrosis of the jaw (not bisphosphonate or radiation related), bisphosphonate-related osteonecrosis of the jaw (BRONJ) and osteoradionecrosis (osteonecrosis of the jaw in patients with a history of head or neck radiation) (2);
(2) allergic reactions to medications used during treatment (1);
(3) recurrence of odontogenic pathology (such as keratocystic odontogenic tumour) associated with unerupted wisdom teeth (1);
(4) postoperative neuropathic pain (3) and nerve injury caused by local anaesthetic injection (1);
(5) infection (specific warning) – sinus infection (1);
(6) food trapping (1);
(7) pericoronitis on the distal aspect of the lower second molars if the lower second molars are incompletely erupted (1); and
(8) sensitivity of lower second molars (1).

The most significant complication of third molar extraction not included in the survey was osteonecrosis of the jaw. It is a well-recognized and potentially serious risk of tooth extraction, particularly for patients with a predisposing condition (bisphosphonates, head or neck radiation).

DISCUSSION

Informed consent is the legal requirement to educate a patient about a proposed medical treatment or

Table 2. Technical complications of third molar tooth extractions. Number (%) of respondents who routinely include or do not include the risk in their written consent, and total number of responders

	Yes	No	Total
Damage to adjacent tooth/teeth	42 (59)	29 (41)	71
Bone fracture (general warning)	28 (39)	43 (61)	71
Bone fracture (specific warning) – Fracture of the alveolus	**11 (16)**	**59 (84)**	**70**
Bone fracture (specific warning) – Maxillary tuberosity fracture	**13 (19)**	**57 (81)**	**70**
Bone fracture (specific warning) – Mandibular jaw fracture	25 (35)	46 (65)	71
Displacement of teeth or roots (general warning)	34 (48)	37 (52)	71
Displacement of teeth or roots (specific warning) – into the maxillary sinus	35 (49)	36 (51)	71
Displacement of teeth or roots (specific warning) – into fascial spaces	**5 (7)**	**65 (93)**	**70**
Displacement of teeth or roots (specific warning) – into the inferior alveolar nerve canal	**6 (9)**	**64 (91)**	**70**
Incomplete tooth/root removal	35 (49)	36 (51)	71
Wound dehiscence	24 (34)	47 (66)	71
Periodontal defects	16 (23)	55 (77)	71
Unexpected soft tissue injury (any warning, including lip or tongue laceration)	**11 (15)**	**60 (85)**	**71**
Bony sequestra	19 (27)	52 (73)	71

Table 3. Complications of third molar tooth extractions related to adjacent structures. Number (%) of respondents who routinely include or do not include the risk in their written consent, and total number of responders

	Yes	No	Total
Oroantral communication and/or fistula	49 (69)	22 (31)	71
Oronasal communication and/or fistula	**10 (14)**	**59 (86)**	**69**
Temporomandibular joint complications (any warning)	29 (41)	42 (59)	71
Aspiration or ingestion (any warning, including of tooth, tooth fragment, other material or instrument)	**4 (6)**	**67 (94)**	**71**
Subcutaneous and/or tissue space emphysema	**1 (1)**	**69 (99)**	**70**

procedure so that he or she can make informed decisions. Consent must be given voluntarily by a competent patient who is adequately informed about the proposed treatment. For a patient to be competent, they must be able to understand the information provided to them and communicate their choice. Consent may be given in writing, verbally, or by implication.

The National Health and Medical Research Council (NHMRC) has published general guidelines for medical practitioners regarding what information they should provide to patients during the informed consent process.[3] It includes the nature of the proposed treatment, the risks and benefits, alternative treatment options, the consequences of not proceeding, and the person who will undertake the procedure. Risks to be disclosed include known risks that are common though slight, and rare though severe, as well as particular risks material to the patient.[3] While in principle consent should be given to a specific doctor, the nature of the Australian public health system is such that this can often not be guaranteed.

Information about a procedure can be written or given verbally. Recognition and recall of information provided during the consent process has been shown to be poor for third molar tooth extractions and other medical procedures.[4–7] Recall and recognition of information is improved for patients undergoing third molar tooth extractions if written preoperative information is provided in addition to traditional verbal warnings.[8] In a study by Layton *et al*. it did not matter if this information was given on admission, or one week prior to admission.[8] However, studies for other medical procedures show decreased recall and recognition of preoperative information with time.[9] The ANZAOMS wisdom tooth brochure, *Wisdom Teeth and What To Do About Them*,[10] is widely used by Australian and New Zealand oral and maxillofacial surgeons. It provides general information about wisdom teeth, indications for their removal, and the extraction procedure. It outlines some of the potential complications of surgery including: lingual and inferior alveolar nerve damage (temporary or permanent); postoperative neuropathic pain; alveolar osteitis; infection – not alveolar osteitis (general warning); excessive bleeding (general warning); unexpected soft tissue injury (lip sores); oroantral communication; bone fracture (general warning).[10]

Written consent for invasive procedures is standard practice in most Australian hospitals. Each state public health system has its own consent form for third molar extractions, while private surgeons use a variety of written consent forms. It is important to bear in mind that a written consent form does not eliminate liability for the risks cited as a patient may claim that they have been inadequately informed to allow for sufficient understanding of a particular risk.

It remains difficult for clinicians to determine how much information should be provided for adequate risk disclosure. In Australia, each state/territory has enacted its own legislation concerning medical negligence. These are collectively referred to as the Liability Acts: *Civil Law (Wrongs) Act 2002* (ACT); *Civil Liability Act 2002* (NSW); *Personal Injuries (Liabilities and Damages) Act* (NT); *Civil Liability Act 2003* (QLD); *Civil Liability Act 1936* (SA); *Civil Liability Act 2002* (Tas); *Wrongs Act 1958* (Vic); and *Civil*

Table 4. Consensus among surgeons that risk disclosure is required (≥80% routinely include that risk in their written consent) or that risk disclosure is not required (≥80% do not routinely include that risk)

Consensus that risk disclosure is required	Consensus that risk disclosure is not required
Vascular, infective and neurological complications	
Infection, not alveolar osteitis (general warning)	Temporary nerve injury other than inferior alveolar/lingual nerve injury (any warning, including buccal nerve injury, mylohyoid nerve injury)
Temporary inferior alveolar nerve injury	Permanent nerve injury other than inferior alveolar/lingual nerve injury (any warning, including buccal nerve injury, mylohyoid nerve injury)
Permanent inferior alveolar nerve injury	Infection, not alveolar osteitis (specific warning) – deep fascial space involvement
Temporary lingual nerve injury	Excessive bleeding (specific warning) – requiring additional surgery
Permanent lingual nerve injury	
Technical complications	
	Bone fracture (specific warning) – fracture of the alveolus
	Bone fracture (specific warning) – maxillary tuberosity fracture
	Displacement of teeth or roots (specific warning) – into fascial spaces
	Displacement of teeth or roots (specific warning) – into the inferior alveolar nerve canal
	Unexpected soft tissue injury (any warning, including lip or tongue laceration)
Complications related to adjacent structures	
	Oronasal communication and/or fistula
	Aspiration or ingestion (any warning, including of tooth, tooth fragment, other material or instrument)
	Subcutaneous and/or tissue space emphysema

Liability Act 2002 (WA). Case law still plays a part in Australian law, even though there are now statutes in the form of the Liability Acts. The cases inform how the judges interpret the legislation.

The UK has not had legislative developments like the Liability Acts and remains guided by case law. In the UK, the test for determining whether a doctor is negligent in any aspect of his work, including risk disclosure, is the Bolam principle based on the case of *Bolam v Friern Hospital*.[11] The practice of the doctor is not negligent if it is widely accepted as competent by a 'responsible body of relevant professional opinion'.[11] The Bolam principle was reinforced in the UK in the case of *Sidaway v Royal Bethlem Hospital*.[12] Later it was established that the court could overrule peer professional opinion if it considered that the opinion was not logical (*Bolitho v City and Hackney Health Authority*).[13] This is known as the modified Bolam principle.

For investigation, diagnosis and treatment, the Liability Acts in most Australian states/territories are based on the modified Bolam principle. Courts in Australia can overrule peer professional opinion if they consider that opinion irrational or contrary to written law, although the wording varies according to the particular Australian jurisdiction.

The standard for risk disclosure is higher in Australia compared to the UK due to legal development from the Australian High Court in the case of *Rogers v Whitaker*.[1] The judges in this case established that a patient must be warned of all material risks. A risk is material if 'a reasonable person in the patient's position, if warned of the risk, would be likely to attach significance to it' (objective test) or if 'the medical practitioner is or should reasonably be aware that the particular patient, if warned of the risk, would be likely to attach significance to it' (subjective test) in light of their own values and interests.[1] The Liability Acts have generally maintained a similar position to *Rogers v Whitaker* for risk disclosure, although some commentators consider that their wording is slightly more lenient.

For damages to be awarded there must be a causal link between the failure to warn of a material risk and the injury, i.e. the patient must prove that if they had known about the risk they would not have undergone the procedure and the injury would not have occurred. The obligation to warn patients of a material risk has been suggested to be higher for non-therapeutic procedures.[14]

There is some indication that UK case law is moving toward the accepted Australian standards. Rather than incidence alone prescribing what information should be provided, *Chester v Afshar* in the UK indicated that risk disclosure should take into consideration the particular patient's circumstances.[14]

This study considered what risks surgeons routinely include in their written consent. The surgeon must decide on the relevance of a risk to the particular patient and ultimately whether or not to include it in the consent. The risks of extraction should be discussed together with the risks of not proceeding for both asymptomatic and symptomatic third molar teeth. Unfortunately, what constitutes reasonable risk disclosure can only be judged retrospectively in cases of litigation.

The results of this study clearly show the variability among Australian and New Zealand oral and maxillofacial surgeons regarding risk disclosure for third molar tooth extractions. Studies of consent for other procedures both in the field of oral and maxillofacial

surgery (orthognathic surgery) and other surgical fields show similar findings.[2,16] The only risks that surgeons agreed should be routinely included in written consent were a general warning of infection (not alveolar osteitis), inferior alveolar nerve damage (temporary and permanent) and lingual nerve damage (temporary and permanent).

While there is a significant body of literature devoted to the risks of third molar tooth extraction, there is a lack of quality reviews regarding the statistical risk of complications and available reviews have reported very large incidence ranges.[17–19] In particular there is a paucity of systematic reviews. While there is little legal basis for discussing the statistical risk of complications with patients, this information would help guide clinicians in the consent process.

CONCLUSIONS

There is no universal agreement among Australian and New Zealand oral and maxillofacial surgeons regarding risk disclosure for third molar tooth extractions. Surgeons should warn patients of a risk that a reasonable patient would want to know and what that particular patient would want to know in light of their own values and interests. This study may highlight deficiencies in risk disclosure for third molar tooth extractions among surgeons. Failure of adequate risk disclosure can be construed as negligence.

All surgeons must have a thorough understanding of contemporary Australian law concerning consent as well as the elements required for valid consent. Access to a well-constructed and evidence-based consent form is vital. This paper proves that this is sorely needed for our surgical community for this very common procedure. A systematic review of the statistical risk of complications of third molar tooth extractions is underway. We aim to later develop an evidence-based consent form for third molar extractions utilizing the resources of the legal faculty of our university. We hope that this form will be a gold standard for national use, providing more consistency in consent for third molar tooth extractions in Australia and New Zealand.

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