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PROFESSIONAL PROTECTOR PLAN® FOR DENTISTS PPP

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Third Molar Surgery: Understanding and Minimizing the Risks

According to recently compiled CNA claim data, third molar surgery represents a major source of patient injuries and subsequent lawsuits.[1] Although many dentists avoid performing this procedure, it remains a liability concern for the profession as a whole.

This edition of *Dental Expressions®* examines third molar surgery from a risk management perspective, focusing on the extraction of impacted teeth. In addition to presenting liability trends, the article offers a range of strategies and resources designed to enhance risk awareness, patient safety and legal defensibility.

CLAIM TRENDS

The CNA *Dental Professional Liability 2016 Claim Report* reveals that tooth extraction is the procedure most frequently associated with professional liability claims.[2] The total paid indemnity for all extraction claims included in the dataset is nearly $25 million, with about 71 percent of that sum relating to surgical extractions and 57 percent associated specifically with impacted third molars. In fact, third molar extraction claims resulted in nearly $10 million in indemnity payments between 2011 and 2015, which is 11 percent of the total for *all* high indemnity dental claims.

1 Claim-related data are excerpted from ***Dental Professional Liability 2016 Claim Report***, an analysis of CNA dental professional liability closed claims and state regulatory civil investigations (i.e., board actions) that occurred between January 1, 2011 and December 31, 2015.

2 The report divides closed claims into two datasets: high indemnity (paid indemnity from $10,000 to $1 million) and low indemnity (paid indemnity below $10,000). Extraction-related claims comprise 22 percent of the high indemnity and 17.5 percent of the low indemnity claims. As the high indemnity claims represent fully 98 percent of the total paid indemnity, this article focuses on the high indemnity dataset.

While there is significant year-to-year variation, impacted third molar claims are increasing. Figures 1, 2 and 3 depict the percentage of claims, average paid indemnity and total paid indemnity, respectively. The dotted trend line included in each graph reveals the continuing growth in paid indemnity and claim frequency. The average paid indemnity for impacted third molar extraction claims during the 2011-2015 report period is $122,973, which is 48 percent greater than the average paid indemnity for all high indemnity claims ($83,120) during the same period.

Figure 1 – Impacted Third Molar Extraction Claims as a Percentage of All Closed Claims

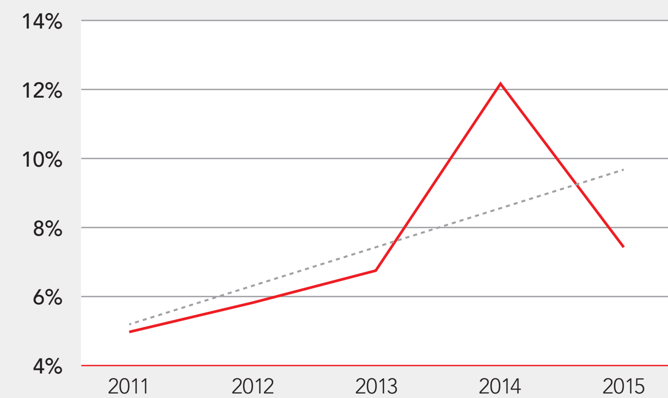


Figure 2 – Impacted Third Molar Extraction Claims: Average Paid Indemnity by Year

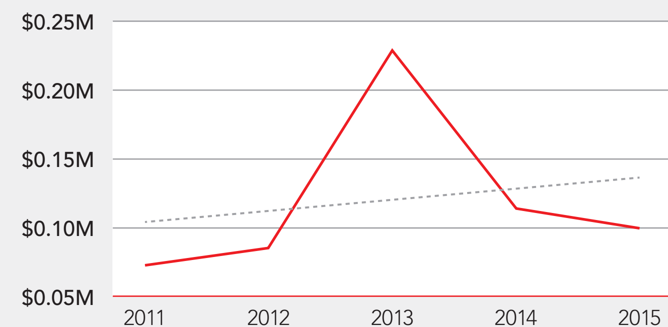
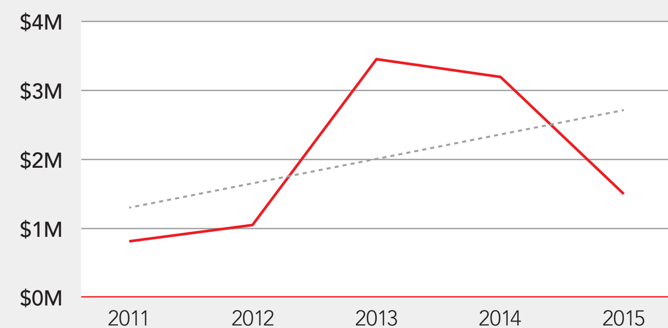


Figure 3 – Impacted Third Molar Extraction Claims: Total Paid Indemnity by Year



NERVE INJURIES AND BONE FRACTURES

A total of 16 different types of injuries and other adverse events are associated with impacted third molar extraction claims. However, 58 percent of the closed claims and 66 percent of the total paid indemnity costs result from two loss types: nerve injuries and bone fractures.[3] Figure 4 lists the most common injury and loss types related to extraction of third molars.

As with dental implants, the major source of impacted third molar extraction-related losses is trigeminal nerve injury, which accounts for 37 percent of these closed claims and 44 percent of related losses.[4] Bone fractures are the second most common and costly injury associated with impacted third molar extractions, accounting for 21 percent of claims and 23 percent of total paid indemnity.

Figure 4 – Top Injuries and Other Loss Types Associated with Impacted Third Molar Extraction Claims

	Percentage of all impacted third molar claims	Total paid indemnity
Injury to nerve/paresthesia	37%	$4,362,491
Broken/fractured bone(s)	21%	$2,252,000
Infection	11%	$534,834
Death	5%	$1,350,000
Wrong tooth (teeth)	5%	$235,000

The major source of impacted third molar extraction-related losses is trigeminal nerve injury, which accounts for 37 percent of these claims and 44 percent of related losses.

3 Note that percentages may not add up precisely due to rounding.

4 These figures reflect only those claims where nerve injury was the most prominent or severe occurrence, and exclude claims where such an injury was of secondary importance. For this reason, nerve injuries may actually be underreported, as they are frequently included in claims with a primary allegation of bone fracture.

RISK CONTROL STRATEGIES

Nerve damage and bone fracture are known hazards of third molar extractions. The claim data clearly demonstrate the need to minimize the possibility of such injuries by carefully evaluating and, if necessary, revising clinical and patient management protocols. Especially close attention should be paid to patient assessment/diagnostic methods, informed consent, self-assessment, documentation and post-surgical follow-up.

Patient assessment and diagnosis. The first question to address is whether a patient's third molar(s) should be extracted. There is no simple answer to this query, especially in the case of prophylactic removal of asymptomatic third molars. It is beyond the scope of this article to summarize the arguments pro and con, but some of the many available studies, recommendations and guidelines on this topic are included in the **Selected Resources** on page 5.

As with any surgery, it is important to evaluate the patient's overall health and identify any potential surgical risk factors when contemplating third molar extraction, including systemic disease processes and medications that may complicate the procedure and/or compromise the healing process. *Always* ask patients whether they are taking anticoagulant/antiplatelet medications, as mismanagement in these cases may have serious or even fatal consequences.[5] If the patient is on an anticoagulant/antiplatelet regimen, consult current guidance of the American Dental Association in this area and obtain medical advice as appropriate before proceeding with surgery.

A number of local factors are important to consider as well, especially the location and potential vulnerability of the branches of the trigeminal nerve. Additional local factors include root development/morphology, tooth position/angulation, extent of bony impaction, periodontal status, adequate access/inter-incisal opening, and pathologic findings or active infection. Dentists also must determine the advisability of surgical treatment for patients who:

- Have experienced prior surgical difficulties.
- Exhibit ankylosed, badly broken down or non-restorable teeth.
- Are heavy tobacco and/or alcohol users.
- Have a history of noncompliance or failure to keep follow-up appointments.

A sound radiographic assessment – including use of cone beam computed tomography when indicated – is essential to safe extraction of third molars. Post-surgical radiographic evaluation also may be beneficial if there is any indication of a change in the occlusion, or if the extraction was unusually difficult and/or associated with extensive bone removal. Rapid diagnosis and management of fractures will help prevent long-term sequelae for the patient and mitigate the risk of a successful claim, provided proper surgical technique is employed and adequate informed consent obtained.

Informed consent. Always conduct a thorough informed consent discussion with the patient, covering the following issues:

- Diagnosis.
- Reasons for and benefits of the recommended treatment (i.e., extraction).
- Other available treatment options, if any, including no treatment.
- Foreseeable risks of surgical extraction.
- Foreseeable risks of no treatment.
- Possibility and advisability of specialist referral.

Questions should be encouraged and fully answered. The use of a written informed consent form is recommended, supplemented by a thorough progress note to document the discussion. Informed consent form templates are available on the Professional Protector Plan® for Dentists website.

Self-assessment. All healthcare practitioners know that the outcome of a procedure cannot be predicted with certainty, and that an adverse event may occur without the standard of care being breached. Nevertheless, dentists are expected to honestly judge whether they have the skills necessary to provide treatment and minimize (or manage) the risk of injuries or adverse events, or whether they should refer to a specialist. Dentists are ethically obligated to always act in the patient's best interest, and failure to do so is a major cause of complaints, litigation and board actions.

5 Recent major claims in this area involve discontinuation of the anticoagulant medication prior to surgery without medical advice, allegedly resulting in fatal strokes.

Documentation. Thorough, accurate documentation constitutes a critical risk control strategy for all healthcare providers. Based upon CNA claim analysis, however, it may be the most commonly overlooked and undervalued aspect of dental practice.

Every element of patient assessment and treatment, including patient discussions, should be noted in the patient record. It is essential to document the diagnosis and rationale for any third molar extraction, and especially for asymptomatic third molar removal, which may be considered elective treatment. Although this surgery is often described as "routine," adverse outcomes are possible and in fact occur with some frequency. In our litigious society, providing a thorough and objective description of the need for the procedure, as well as its risks and benefits, can significantly strengthen legal defensibility if a claim is filed.

Post-surgical follow-up. Many professional liability claims involve inadequate post-treatment follow-up. If results are less than perfect, effective and well-documented post-surgical management of patient symptoms and concerns can help improve clinical outcomes, reduce patient dissatisfaction, and improve legal defense posture in the event of a professional liability claim or board investigation. Consider implementing the following risk control measures:

- *Telephone patients the night of the surgery or the following morning* to inquire about their condition and answer any questions.
- *If there are symptoms or findings consistent with nerve injury or other complications, examine the patient as soon as possible* and assess the need for close monitoring, additional palliative care, referral or other treatment options. (See *Dental Expressions*® 2015–Issue 1 [listed in Selected Resources] for more information on this topic.)
- *Document all patient communications and professional recommendations in the clinical record*, as well as no-shows, follow-up appointments that are canceled and not rescheduled, and instances of noncompliance with home care instructions or referrals.
- *Use the "SOAP" format* to organize documentation and clarify the clinical decision-making process.[6]

CNA claim data attest to the high level of risk associated with removal of impacted third molars and other surgical extractions. Dentists can enhance outcomes and reduce liability exposure by carefully assessing patients and conducting a thorough, well-documented informed consent discussion, which includes the rationale for treatment and the possibility of specialist referral. In addition, as ethical professionals, dentists must honestly evaluate their own clinical skill and experience level and, when necessary, explain to patients that being trained and qualified to perform surgical tooth extractions does not mean it is appropriate to do so in every case.

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6 The "SOAP" mnemonic refers to **S**ubjective (i.e., patient comments/complaints), **O**bjective evaluation (i.e., history, physical exam, clinical findings, test results), **A**ssessment (i.e., differential diagnosis) and **P**lan (i.e., treatment and related actions, such as referral).

SELECTED RESOURCES

General:

- Costa, M. et al. "Is There Justification for Prophylactic Extraction of Third Molars? A Systematic Review." *Pesquisa Odontologica Brasileira* (*Brazilian Oral Research*), March-April 2013, volume 27:2, pages 183-188.
- Cunha-Cruz, J. et al. "Recommendations for Third Molar Removal: A Practice-based Cohort Study." *American Journal of Public Health*, April 2014, volume 104:4, pages 735–743.
- Dodson, T. and Susarla, S. "Impacted Wisdom Teeth." *BMJ Clinical Evidence*, August 2014.
- "Management of Third Molar Teeth." A 2016 white paper of the American Association of Oral and Maxillofacial Surgeons, with the support of numerous U.S. and international dental organizations.
- "Opposition to Prophylactic Removal of Third Molars (Wisdom Teeth)." American Public Health Association, October 2008.

The following references can be found in the American Dental Association's Center for Evidence-Based Dentistry database:

Patient Assessment:

- Akadiri, O. and Obiechina, A. "Assessment of Difficulty in Third Molar Surgery: A Systematic Review." *Journal of Oral and Maxillofacial Surgery*, April 2009, volume 67:4, pages 771-774.
- Matzen, L. and Wenzel, A. "Efficacy of CBCT for Assessment of Impacted Mandibular Third Molars: A Review – Based on a Hierarchical Model of Evidence." *DentoMaxilloFacial Radiology*, January 2015, volume 44:1.

Complications:

- Brauer, H. "Unusual Complications Associated with Third Molar Surgery: A Systematic Review." *Quintessence International*, July-August 2009, volume 40:7, pages 565-572.
- Leung, Y. "Treatment Modalities of Neurosensory Deficit After Lower Third Molar Surgery: A Systematic Review." *Journal of Oral and Maxillofacial Surgery*, April 2012, volume 70:4, pages 768-778.
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Medication Management:

- Au, A. et al. "The Efficacy and Clinical Safety of Various Analgesic Combinations for Post-operative Pain After Third Molar Surgery: A Systematic Review and Meta-analysis." *PLoS* (Public Library of Science) *ONE*, June 2015.
- Barden, J. et al. "Relative Efficacy of Oral Analgesics After Third Molar Extraction." *British Dental Journal*, October 2004, volume 197:7, pages 407-11, discussion 397.
- Lodi, G. et al. "Antibiotics to Prevent Complications Following Tooth Extractions." *Cochrane Database of Systematic Reviews*, November 2012, issue 11.
- Moraschini, V. et al. "Effect of Submucosal Injection of Dexamethasone After Third Molar Surgery: A Meta-analysis of Randomized Controlled Trials." *International Journal of Oral & Maxillofacial Surgery*, February 2016, volume 45:2, pages 232-240.

CNA Risk Control Services

LOOKING FOR ADDITIONAL RISK MANAGEMENT INFORMATION?

Visit the Professional Protector Plan® for Dentists program website at **www.protectorplan.com** for additional resources. The site's Risk Management tab contains links to information about both our in-person CE seminars and our online self-study CE course.

Dental Risk Management Seminars

Dentists can obtain risk management information by attending any of the risk management seminars listed below or by completing the CNA online self-study CE course (see above). For more information about our in-person seminars, please contact the nearest Professional Protector Plan state administrator agent.

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