

# New Technologies in Health Care. Part 2: A Legal and Professional Dilemma

*Beverly Lai, BEng; Ariane Lebuis; Elham Emami, DMD, MSc;  
Jocelyne S. Feine, DDS, HDR;*

## Auteure-ressource

*Dre Feine*  
Courriel : [jocelyne.feine@mcgill.ca](mailto:jocelyne.feine@mcgill.ca)



## SOMMAIRE

De nouvelles technologies dentaires font constamment leur apparition sur le marché et les dentistes ont parfois de la difficulté à déterminer si une nouvelle technologie sera bénéfique pour leurs patients. Or les cliniciens ont l'obligation professionnelle et légale d'informer leurs patients de toutes les options thérapeutiques appropriées qui s'offrent à eux. Dans ce deuxième d'une série de 2 articles, nous passons en revue ces obligations et indiquons aux dentistes où trouver les données scientifiques nécessaires à la prise de décisions éclairées.

Pour les citations, la version définitive de cet article est la version électronique : [www.cda-adc.ca/jcda/vol-74/issue-7/637.html](http://www.cda-adc.ca/jcda/vol-74/issue-7/637.html)

**W**e live in an era in which new technologies in the health care field are being researched, developed, tested and promoted at a dizzying pace. Today's dentists may feel overwhelmed as new technological advances in the field are constantly being introduced in journals, continuing education, and peer practice, and by health care supply companies and advertisements. How, then, do dentists know when it is time to take a particular dental technology seriously and begin offering it to their patients as a viable treatment alternative?

The first of this 2-part series of articles discussed the ethical and moral issues inherent in dentists' decision-making processes. In this second part of the series, we examine the dentist's legal and professional obligations about treatments involving new technology. We explore these issues through a review of existing literature and information gathered from interviews with experts in the field of ethics, law and organized dentistry.

## Defining the Law

Although it is tempting to believe that legal matters are based on concrete laws and that a clinician's legal obligations are, therefore, simple to define, many factors complicate the situation. For example, laws vary, depending on geographic region within and between countries. American law, although similar in many respects, is not applicable in Canada. Most of Canada and the United States follow the common law system, which is based on custom and past court decisions. The province of Quebec and the state of Louisiana, however, follow the civil law system, which is based on codification and is not required to consider past decisions. To further complicate matters, clinicians can not only be pursued in civil court, but also be found liable under administrative or criminal law. As a consequence, clinicians need to learn how the law is applied in their own particular jurisdiction.

## Duty of Care

Dentists, like all clinicians, owe a duty of care to their patients. The care dentists provide to their patients must meet the prevailing standard of care. Although the legal definition of standard of care varies in North America, in general terms, dentists are required to exercise the same degree of skill and care as could reasonably be expected of a normal, prudent practitioner of the same experience and standing.<sup>1</sup> If the standard of care for a particular case needs to be defined in court, the conditions and circumstances particular to the case are considered, and expert witnesses are often asked to testify to help the judge or jury determine a more situation-specific standard of care. In the words of Lorne Elkin Rozovsky, author of 17 books on health law, “The legally required standard is not static but varies. What is average, reasonable and prudent in one set of circumstances is or may not be average, reasonable and prudent in another set of circumstances.”<sup>2</sup>

Dentists’ judgments about whether their personal knowledge of new technologies and practices are in keeping with the current standard of care can be challenging. Their duty is to remain as current as possible to provide the best patient care, but this has become increasingly difficult in an information-intensive society.<sup>3</sup> To meet the standard of care, however, dentists are not expected to use a state-of-the-art device or technique unless it is already in common use.<sup>2,4-6</sup> If they choose to treat patients with experimental technology, dentists must meet a higher standard of care.<sup>6</sup> Regardless of whether the technology involves an experimental device or technique, or has been validated in evidence-based studies, these clinicians must be competent in its use.<sup>7</sup>

## Informed Consent

Keeping up-to-date on new professional developments and advancements does not necessarily mean that dentists must personally implement all new devices or techniques. The importance of keeping current lies more with their responsibility to become aware of significant advancements in their profession so that they are able to inform their patients about these advancements. If dentists are unable or unwilling to personally offer a new treatment shown to be effective and appropriate for a particular condition, they must provide an appropriate referral to another practitioner.<sup>7,8</sup>

Although some American states hold the traditional view that health care practitioners should disclose the information that a reasonable practitioner would have revealed under similar circumstances (a physician-oriented standard), the more modern view in Canada, and in a good part of the United States, is that practitioners must disclose all material information, including any available alternatives to the treatment being proposed<sup>6,8</sup> that could potentially affect a patient’s decision about a course of treatment (a patient-oriented standard).<sup>8,9</sup> Since the 1980 Supreme Court of Canada decision in the case of *Reibl v. Hughes*,<sup>10</sup> a modified

objective patient test has been used to determine adequate disclosure: that is, would a reasonable person in the patient’s particular position have given consent, if all material information had been disclosed?<sup>6,8,11</sup> The modified objective patient test essentially requires the practitioner to tell the patient what a reasonable person in the patient’s position would want to know, given the circumstances.

To obtain informed consent, the practitioner must disclose such elements as the nature and purpose of the proposed treatment, the probable risks and benefits of the proposed treatment, reasonable alternative treatments, and the prognosis if the patient were untreated.<sup>4,8,12-14</sup>

Patients should therefore always be presented with a choice of treatment options as part of the informed consent, even if the only alternative is the refusal of treatment.<sup>8,13,14</sup> Reasonable alternatives may also include delaying a procedure,<sup>10</sup> disclosing a procedure that others may recommend, but the patient’s practitioner does not,<sup>13</sup> and any other alternative that would allow the patient to make an informed choice about treatment.<sup>13,15</sup> Some courts may interpret the meaning of a practitioner’s duty to disclose alternative treatment options as offering procedures that have some advantage over conventional treatments and are reasonably likely to achieve a beneficial result.<sup>6</sup> It is especially important for the practitioner to disclose the more conservative treatment alternatives that pose fewer risks.<sup>6,9,11</sup> That being said, practitioners should not offer a futile or inappropriate treatment that has no prospect of therapeutic benefit.<sup>6,9</sup>

## Negligence

In 1995, the Supreme Court of Canada made it clear that “When a doctor acts in accordance with a recognized and respectable practice of the profession, he or she will not be found to be negligent.”<sup>16</sup>

Tort law pertains to dentists’ obligation not to cause injury to another, either intentionally or through negligence. The tort of negligence provides patients with protection against careless conduct that causes harm.<sup>5</sup> Negligence may be doing an act that should not have been done, doing an act in an improper way, or not doing an act that should have been done.<sup>2</sup> In civil litigation, 3 elements are required for a practitioner to be found negligent: 1) a duty of care must be owed, 2) a breach of the duty of care in which the standard of care was not met must have occurred, and 3) damage of a legally compensable kind, caused and foreseeably caused by the breach of duty, must have been suffered.<sup>5,11,17</sup>

Although these 3 elements were not explicitly outlined by the judge in the Quebec Superior Court case of *Sunne v. Shaw*,<sup>15</sup> this case clearly dealt with the health care practitioner’s duty to inform patients about treatment alternatives as part of the informed consent process. Details of this case are presented here to illustrate how the 3 elements essential for proving negligence are tied to a practitioner’s duty to inform.

In *Sunne v. Shaw*, a dentist and plastic surgeon were both found at fault for failing to obtain informed consent from a 17-year-old girl with a congenital facial asymmetry. The first element required to prove negligence, that a duty of care was owed, is evident in the girl's consultation with the 2 practitioners in the hope that they would correct her problem, and in the establishment of doctor-patient relationships. The duty owed by both the dentist and the plastic surgeon included their duty to inform the patient of alternative treatment options as part of the informed consent process. The second element essential for negligence, breach of the duty of care, occurred when neither practitioner informed the patient about an alternative treatment (orthodontics) to the proposed maxillary surgery to correct her malocclusion. As an expert witness testified, orthodontic treatment was a more conservative and less dangerous treatment alternative than the maxillary surgery that the 2 defendants actually did. Under the circumstances, the standard of disclosure required that the defendants inform the patient of the existence of another possible treatment. The patient would then have been able to properly evaluate the risks of the proposed treatment against those of the alternative treatment. In much of North America, the patient-oriented standard is used to determine causation because of insufficient disclosure: would a reasonable person in the patient's position have agreed to the same treatment if all the appropriate alternatives had been disclosed? The patient in the case of *Sunne v. Shaw* underwent an osteotomy and suffered serious complications. The third element essential for negligence, injury and causation, would be satisfied if the judge were convinced that the patient would have chosen orthodontic treatment, had it been offered as an alternative.

Although the judgment in the case of *Sunne v. Shaw* did not use these 3 elements specifically to find the defendants guilty of negligence, these 2 practitioners were found to have failed in their duty to inform their patient about the existence of a more conservative alternative treatment.

### Practical Evaluation of New Technology

Dentists are legally obligated to disclose available treatment alternatives to fulfill their duty of informed consent, but how do they know which treatment alternatives to offer, particularly if new technology may be involved?

Logically, possible treatment alternatives should, at a minimum, include those considered as a standard of care. Under the respectable minority doctrine, more than one acceptable standard of care may exist if the treatments are backed by reasonable practitioners who are well-respected in the field.<sup>5,18,19</sup> If a practitioner proposes an innovative treatment not yet considered a standard of care, it is even

more essential that he or she also offer the conventional therapy.<sup>5,6,11</sup>

Dentists have a duty to keep their knowledge of new technologies up to date and to ensure that their practice meets the highest current standards. Interviews with several experts in the field of dentistry suggest that once a dentist becomes aware of a new technology, determining whether it is a feasible alternative that he or she must disclose to patients is very much dependent on the personal judgment of the individual practitioner.

Although dentists do not have to obsessively monitor new technologies in their field, they should make a reasonable effort to become aware of any significant advances.

Although dentists do not have to obsessively monitor new technologies in their field, they should make a reasonable effort to become aware of any significant advances. To do this, they can consult journals, speak with

respected colleagues, and attend continuing education courses, conferences and the like. Dr. Euan Swan, manager of dental programs at the Canadian Dental Association, one of several representatives in organized dentistry, emphasizes the need for dentists to ensure that sufficient studies offering ample evidence exist in support of a new treatment before they suggest it to a patient as a reasonable alternative treatment.

The dentist is under no obligation to disclose treatments considered experimental or so innovative that insufficient evidence exists to validate the treatment. However, once the evidence begins to mount, determining whether a new technology is indeed effective and should be disclosed requires delving into the literature to evaluate the quality and quantity of the evidence. Because of the large amount of information available to the profession, dentists will not likely have the time to do extensive reviews personally. Although some may wait to be guided by leaders in the profession, Dr. Swan suggests that dentists consult peer-reviewed journals that publish reports of clinical research, as well as journals that summarize the evidence of recent research in systematic reviews. Using up-to-date knowledge and combining it with personal judgment to evaluate the patient's circumstances are dentists' main tools for deciding whether to offer a new technology.

### Conclusion

Dentists cannot simply rely on what they learned in dental school or think, because a technique has been successfully used for the past 30 years, that it still meets the standard of care. As a new technology becomes more widespread, its status approximates that of standard practice and increases the dentist's obligation to be aware of it.<sup>5</sup> Disclosure of reasonable alternative treatments is a legal obligation that requires the dentist to be more diligent about remaining up-to-date on new technologies. In an era when

advancements in dentistry are more rapid than ever, dentists should be prepared to make this effort to meet emerging standards of care. ♦

## THE AUTHORS



*Ms. Lai is an undergraduate dental student in the faculty of dentistry, University of Montreal, Montreal, Quebec.*



*Ms. Lebuis is an undergraduate dental student in the faculty of dentistry, University of Montreal, Montreal, Quebec.*



*Dr. Emami is PhD candidate in the faculty of dentistry, University of Montreal, Montreal, Quebec.*



*Dr. Feine is professor and director of graduate studies, oral health and society research unit, faculty of dentistry, McGill University, Montreal, Quebec.*

**Correspondence to:** Dr. Jocelyne S. Feine, Oral health and society research unit, Faculty of dentistry, McGill University, 3550 University St., Suite 101, Montreal, QC H3A 2A7.

**Acknowledgments:** The authors would like to thank all the members of the oral health and society research unit of McGill University. The authors would also like to thank the specialists interviewed for taking the time to share their expertise on these issues: Dr. Peter Cooney, Ms. Kathleen Glass, Dr. Pascale Lehoux, Ms. Jane B. Levin, Dr. André Phaneuf, Dr. Benoit Soucy and Dr. Euan Swan. We thank Dr. Herb H. Borsuk, president of the American College of Dentists and director of endodontics at McGill University for his very helpful comments on this manuscript.

**Sources of Support:** Ms. Lai received grant support from the Network for Oral and Bone Health Research of the FRSQ and the Burroughs Wellcome Fund. Ms. Lebuis received grant support from the CIHR strategic training program Network for Oral Research Training and Health.

The authors have no declared financial interests.

This article has been peer reviewed.

## References

1. Crits v. Sylvester (1956), 1 D.L.R. 502 (Ont. C.A.) at 508, affd [1956] S.C.R. 991.
2. Rozovsky LE. Canadian dental law. Toronto: Butterworths; 1987.
3. Sokol AJ, Molzen CJ. The changing standard of care in medicine. E-health, medical errors, and technology add new obstacles. *J Legal Med* 2002; 23(4):449–90.
4. Kouri R, Philips-Nootens S. Civil liability of physicians under Quebec law. In: Downie J, Caulfield T, Flood CM, editors. Canadian health law and policy. 2nd ed. Markham (ON): Butterworths Canada; 2002. p. 533–585.
5. Currie RJ. Dental negligence and malpractice. In: Downie J, McEwen K, MacInnis W, editors. Dental law in Canada. Markham (ON): LexisNexis Canada; 2004. p. 189–218.
6. Picard EI, Robertson GB. Legal liability of doctors and hospitals in Canada. 3rd ed. Toronto: Carswell; 1996.
7. Graskemper JP. The standard of care in dentistry: Where did it come from? How has it evolved? *J Am Dent Assoc* 2004; 135(10):1449–55.
8. Dickens B. Informed choice. In: Downie J, McEwen K, MacInnis W, editors. Dental law in Canada. Markham (ON): LexisNexis Canada; 2004. p. 219–236.
9. Bulen JA Jr. 2003 Greenwall Bioethics Award. Complementary and alternative medicine. Ethical and legal aspects of informed consent to treatment. *J Leg Med* 2003; 24(3):331–58.
10. Reibl v. Hughes, (1980), 114 D.L.R. (3d) 1 (S.C.C.).
11. Sneiderman B, Irvine JC, Osborne PH. Canadian medical law: an introduction for physicians, nurses and other health care professionals. 3rd ed. Toronto: Thomson-Carswell; 2003.
12. Dickens BM, Cook RJ. Dimensions of informed consent to treatment. *Int J Gynaecol Obstet* 2004; 85(3):309–14.
13. Rozovsky LE. The Canadian law of consent to treatment. 3rd ed. Markham (ON): LexisNexis Canada; 2003.
14. Furrow BR, Greaney TL, Johnson SH, Jost TS, Schwartz RL. Liability and quality issues in health care. 5th ed. Thomson West; 2004.
15. Sunne v. Shaw (1981) C.S. 609.
16. ter Neuzen v. Korn, [1995] 10 W.W.R. 1 (S.C.C.).
17. Robertson G. Negligence and malpractice. In: Downie J, Caulfield T, Flood CM, editors. Canadian health law and policy. 2nd ed. Markham (ON): Butterworths Canada; 2002. p. 91–108.
18. Empey M, Carpenter C, Jain P, Atzema C. What constitutes the standard of care? *Ann Emerg Med* 2004; 44(5):527–31.
19. Speidel TM. The standard of care: the orthodontist's tort liability. *Seminars in orthodontics* 1997; 3(2):94–111.