

Obtaining Written Informed Consent for the Administration of Local Anesthetics in Dentistry in 2024, a 20-Year Follow-Up Study

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Objective: This study revisited data obtained in 2004 regarding whether dentists routinely obtain informed consent (IC) for the administration of local anesthetics and compared those findings with newer data obtained in 2024.

Methods: A previous survey from 2004 which utilized 3 questions including identification of provider type (generalist or specialist) and whether IC is always obtained for local anesthetic administration was replicated in 2024. While the 2004 survey was performed on paper, the 2024 survey was done via a brief oral interview. Both efforts were completed at the annual meetings of The American Dental Society of Anesthesiology (ADSA) in Las Vegas, NV.

Results: A total of 249 respondents opted to participate in the 2024 survey as compared with the 252 respondents from 2004. During the past 20 years, the number of dentists who reported always obtaining IC for the administration of local anesthetics appears to have increased significantly. A total of 196 (79%) of the 2024 participants reported always obtaining IC for local anesthesia compared with 158 (63%) in 2004. Except for dentists limiting their practice to anesthesiology, all other provider categories reported an increase in IC use from 2004 to 2024, and specialists still reported obtaining IC for local anesthesia more frequently than generalists.

Conclusion: The prevalence of including local anesthetic administration with the IC process is increasing in the profession. It is likely that generalists administer many more local anesthetics than specialists overall. The IC subject matter is too nuanced to recommend a single “yes or no” treatment plan as the standard of care for all clinical situations.

Key Words: Local anesthetics; Administration; Informed consent; Dentistry; Oral and maxillofacial surgery.

Informed consent (IC) remains an important concept in both health and legal professional fora and indeed in everyday life. We start to learn of the necessity of consent as children when we are advised to say “please” upon seeking permissions from those who exert dominion and control over an action or an object we desire. This ethical principle applies no less to the niche of patients and their doctors and is, in fact, a legal requirement if risk or damage is foreseeable.

Specifically, IC is the process during which a patient is advised of any proposed treatment options, typically ranging from observation only to undergoing an invasive procedure, along with the desired potential benefits and the risks. IC does

not have to be written, but unless the plaintiff patient testifies that consent was given, juries will likely determine it was not obtained if a controversy regarding IC arises.

IC is legally required for any proposed treatment that could foreseeably result in damage. Since the 18th century, English common law and American jurisprudence have required surgeons to obtain a patient’s simple consent, essentially allowing a patient the option to “simply” accept or refuse treatment but without the benefit of a proffered benefit/risk analysis.^{1,2} However, beginning in 1957,³ courts have determined that once duty attaches, IC is required for any treatment, including observation only.

In 2005, “Obtaining written informed consent for the administration of local anesthetic in dentistry”⁴ was published, which provided a glimpse of how IC was deployed in dentistry at that time. We aimed to revisit the findings of that 2004 study approximately 20 years later and to report new data herein along with a comparison with that historical data. This study’s

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primary objectives were to assess the frequency of IC being obtained for local anesthesia in 2024 by generalists and specialists and to then compare the 2024 and 2004 data for trends.

METHODS

2004 Survey

In 2004, data was obtained from a paper survey distributed to dentists attending the 2004 American Dental Society of Anesthesiology (ADSA) meeting in Las Vegas, NV. Potential respondents were randomly queried to participate in the survey as opportunities arose, generally outside the meeting rooms. No dentists who were willing to reply to the survey were excluded; potential respondents included general dentists, oral and maxillofacial surgeons (OMSs), endodontists, periodontists, prosthodontists, pediatric dentists, and dentists limiting their practice to anesthesiology, all of whom were attending the ADSA meeting. The survey questions were as follows:

1. Would you please participate in a 1-minute interview?
2. Do you practice a dental specialty?
3. Do you always obtain informed consent for the administration of local anesthesia?

Respondent data was later tabulated and published in 2005 in *The Journal of the American Dental Association*.⁴

2024 Survey

In 2024, the survey on IC from 2004 was repeated at the 2024 ADSA meeting in Las Vegas, NV. Rather than a paper survey form, the 2024 survey was performed via a brief (<1 minute) interview. Respondent answers were immediately logged into a computer afterwards. Potential respondents consisted of meeting attendees approached at random outside the meeting rooms and included general dentists, OMSs, endodontists, periodontists, prosthodontists, pediatric dentists, dentists limiting their practice to anesthesiology, and dentist anesthesiologists, American Dental Association (ADA)-recognized specialists that did not exist in 2004. Data from all potential respondents agreeing to participate in the study were included. The interview questions were uniformly the same as those used in the 2004 survey, and response data was immediately logged into a computer spreadsheet.

Survey data from the 2004 and 2024 surveys were tabulated for comparison and trend analysis.

RESULTS

A total of 249 dentists opted to participate in the 2024 survey. In comparison, the 2004 survey included a total of 252 respondent dentists. Comparison of the respondent types

Table 1. Comparison of Respondents and Dentist Types.

	2004 Data	2024 Data
Total respondents, No.	252	249
General dentist, No.	80	94
Oral and maxillofacial surgeon, No.	135	81
Endodontist, No.	3	4
Periodontist, No.	9	5
Prosthodontist, No.	3	3
Pediatric dentist, No.	13	30
Dentist limiting practice to anesthesiology, No.	9	8
Dentist anesthesiologist, No.	0	24

between 2004 and 2024 revealed a relatively similar composition of provider categories, lending credence to representative respondent cohorts 20 years apart. However, the data did demonstrate substantially fewer OMSs ($n = 54$) and more general dentists ($n = 14$), pediatric dentists ($n = 17$), and dentist anesthesiologists ($n = 24$) participated in the 2024 survey (Table 1).

Regarding the question of IC, 79% of the 2024 respondents indicated written IC is always obtained for local anesthesia, while in 2004, 63% reported IC was always obtained (Table 2).

Looking at the provider categories and comparing the 2004 data with that from 2024, all provider types saw increases in always obtaining written IC for local anesthesia except for dentists limiting their practice to anesthesiology. That particular provider type saw a decrease in 2024 (25%) compared with 2004 (67%). Generally, dental specialists continue to provide written IC for local anesthesia to a greater degree than generalists.

DISCUSSION

One difference between the 2004 and 2024 respondents was that dentist anesthesiologists had become ADA-recognized specialists by 2024. Without ADA-recognized dentist anesthesiologists (DAs), the 2004 survey instead included dentists who limited their practices to anesthesiology (DLPAs). In 2024, we still had DLPAs but also had DAs. When these 2 groups were combined in 2024, the symmetry of responses was evident.

In terms of historical context, after Horace Wells in 1844 first observed, made known, and practiced what was later designated anesthesiology, Wells was recognized as the discoverer of anesthesia by the ADA, the American Medical Association (AMA), and others throughout the world. Ironically, the ADA only fairly recently recognized [dental] anesthesiology as a specialty in 2019 along with oral medicine shortly thereafter, as noted in its 2020 Distribution of Dentists Survey. So, the DAs included in the 2024 survey largely, but not completely, replaced the DLPA category from 2004.

As mentioned in 2005, it is still highly likely that dentist generalists provide the vast majority of the estimated

Table 2. Informed Consent Response Rates.

	Informed consent	2004 (N = 252)	2024 (N = 249)
Total, No. (%)	Yes	158 (63)	196 (79)
	No	94 (37)	53 (21)
General dentist, No. (%)	Yes	26 (32.5)	57 (61)
	No	54 (67.5)	37 (39)
Oral and maxillofacial surgeon, No. (%)	Yes	109 (81)	79 (98)
	No	26 (19)	2 (2)
Endodontist, No. (%)	Yes	2 (67)	4 (100)
	No	1 (33)	0 (0)
Periodontist, No. (%)	Yes	6 (67)	4 (80)
	No	3 (33)	1 (20)
Prosthodontist, No. (%)	Yes	1 (33)	2 (67)
	No	2 (67)	1 (33)
Pediatric dentist, No. (%)	Yes	8 (61.5)	29 (97)
	No	5 (38.5)	1 (3)
Dentist limiting practice to anesthesiology, No. (%)	Yes	6 (67)	2 (25)
	No	3 (33)	6 (75)
Dentist anesthesiologist, No. (%)	Yes	N/A	19 (79)
	No	N/A	5 (21)

300 million annual local anesthetic injections in the United States.⁵ Our research indicated a significant increase in this group obtaining written IC for local anesthesia administration. Interestingly, after becoming aware of the 2004 study, the US Air Force Dental Services began to incorporate local anesthesia administration into its written IC protocol.⁶

In reality, IC is a legal component rather than a treatment component. In order to bring a successful suit in tort, specifically a tortious malpractice claim, a plaintiff must show by a preponderance of the evidence that 4 required elements exist:

1. The dentist assumed a duty of reasonable care.
2. The duty was breached.
3. That the breach was the direct cause.
4. Of physical damage.

Once damage occurs, most venues view the lack of IC itself as an unreasonable breach of duty, even with minimal damage. In addition, the fact that written IC was obtained does not automatically absolve the dentist from a successful malpractice claim which is based in negligence. Negligence is defined as performing below a reasonable standard of care.

Patients expect reasonable treatment from health care professionals. Reasonable treatment can be defined as what a competent health care provider would do in the same or similar circumstances, and reasonableness of the defendant's conduct is what plaintiff and defense expert witnesses argue about in depositions and court testimony. Legally, generalists are held to the same standard of reasonableness as specialists who perform the same treatment.

In emergencies, particularly when the patient is incapacitated, IC from the patient is not required for treatment, although the reasonable provision of care always is. Dentists may choose to

obtain IC by proxy from a competent legal representative of the emergency patient, as is done prior to elective treatment for unemancipated minors for example.

On the other hand, dentists are not required to obtain consent from a patient's physician prior to dental treatment any more than a physician is required to obtain a dentist's consent prior to medical treatment. This holds true for common conditions such as pregnancy or the multitude of possible disease states. When dentists choose to consult a patient's physician, what is sought is not consent or permission to treat the patient but rather information on the historical and current status of the patient's health from which the dentist will decide on what treatment to propose to the patient. In all likelihood, most dentists are more knowledgeable about medicine than physicians are about dentistry. For instance, a recent research article in the *Journal of the American Medical Association (JAMA) Internal Medicine* pointedly reported that as dentists already know maintenance of good oral hygiene reduces infections and other maladies, including death, in hospitalized patients.

It is important to realize that in reality local anesthesia is optional. Over 100 years ago, Edgar Rudolph Randolph "Painless" Parker was a highly successful dental entrepreneur in large part because he utilized local anesthetics when very few other dentists did. The ADA House of Delegates did not recommend the routine use of local anesthetics until the 1930s.⁷ Even today, some patients will request that treatment for procedures such as exodontia, including boney impactions, be performed anesthetic free.⁸ This may seem counterintuitive, but many patients are more bothered by, for instance, hours of postoperative numbness than short periods of intraoperative discomfort. Additionally, the administration of sedation or general anesthesia by dentists can often forego any patient desires for numbness. Because local anesthesia is optional and significant damage, rare though it may be, from its use is foreseeable, IC for its use cannot be "implied."⁹

A health care professional ordinarily is not obligated to enumerate each and every complication that might occur secondary to a proposed treatment. Consent could reasonably include common or more unusual, serious complications but also difficulties to which a particular patient may be susceptible. As reported in 2005: Although local anesthetic use remains extremely safe and effective statistically, potential complications seen after the typical dental paradigms of administration are myriad. Administration may also include topical application and nontraditional methods such as periodontal ligament, direct intraosseous, or intrapulpal injection methods.^{10–12} Local anesthesia is not uniformly administered solely to facilitate more comfortable dental treatment. In patients with orofacial pain, for example, it may be the treatment itself. Local anesthesia administration can also be used for diagnostic purposes and may aid in

establishing differential diagnoses, such as in determining a source of pain.

Common Complications

Some of the more common complications that may occur secondary to the administration of local anesthesia in dentistry include algesia, tumescence, and ecchymosis. For IC purposes, a health care professional wishing to advise English speaking, lay patients of these complications could list pain, swelling, and bruising on the IC document because the potential complications should be explained in terms most patients would reasonably be expected to understand.

Rare Complications

Some of the rare, but more serious, complications that have been reported as a result of administering local anesthetic include permanent trigeminal nerve functional changes, such as anesthesia or paresthesia,¹³ permanent central nervous system compromise, and death.^{14,15} An example of a rare complication that may not necessarily be listed for IC purposes is transient amaurosis which is disconcerting but generally not serious in that the blindness usually resolves within minutes or hours.¹⁶ Effectively written IC documents, along with the listing of the most common or serious potential complications, might use the phrase “including but not limited to” to indicate that other complications are possible but not iterated.

Finally, the authors of this paper have intentionally avoided opining about when IC is or is not required for the administration of local anesthetics. There are simply too many reasonable permutations of the administration process to do so at this time in the authors’ opinion. However, what all practitioners must be prepared to do, if a controversy results from treatment, is to logically articulate to the arbiter, such as a judge and/or jury, why the conclusions and treatment planning recommended after the preanesthetic administration benefit/risk analysis were reasonable for the patient to consent to undergo.

CONCLUSION

Based on this 2024 study, more dentists are obtaining IC specifically for local anesthetic administration than in 2004. Specialists still tend to have a higher percentage of IC usage for local anesthesia than generalists, but it is likely that the number of specialist local anesthetic administrations are significantly less than the amounts provided by generalists.

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