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EVEN THOUGH DENTAL HYGIENISTS HAVE BEEN ADMINISTERING LOCAL ANESTHESIA SAFELY AND EFFECTIVELY FOR MORE THAN 40 YEARS, CONSENSUS ON NATIONAL EDUCATION STANDARDS AND UTILIZATION GUIDELINES HAS YET TO BE ACHIEVED.

The roles of dental hygienists continue to expand, comprising clinician, educator, patient manager, and community oral health advocate. As more responsibility is delegated to nondentists, skill sets and scopes of practice will be redefined. One such skill that is widely used by dental professionals is local anesthesia administration (LAA). Although dental hygienists have been providing LAA in the United States in a safe and effective manner for more than 40 years, there is no national scope of practice that includes LAA. A lack of consensus regarding educational requirements and optimal LAA methodologies also remains. This article will explore relevant aspects of LAA within the typical scope of practice for dental hygienists.
standards and may require extension of the program length. and scope of the educational program or content required in the accreditation state. The inclusion of additional functions cannot compromise the length Intent: competence in performing these skills. and functions. Students must demonstrate laboratory/preclinical/clinical objectives for the additional dental hygiene skills required by the state. Further, curriculum content must include didactic and program curriculum must include content at the level, depth, and scope defined by the program's state specific dental board or regulatory agency, to perform additional functions required for initial dental hygiene licensure as Where graduates of a CODA-accredited dental hygiene program are authorized to perform additional functions required for initial dental hygiene licensure as defined by the program's state specific dental board or regulatory agency, program curriculum must include content at the level, depth, and scope required by the state. Further, curriculum content must include didactic and laboratory/preclinical/clinical objectives for the additional dental hygiene skills and functions. Students must demonstrate laboratory/preclinical/clinical competence in performing these skills.

**TABLE 1.** Commission on Dental Accreditation (CODA) Standard 2-18

Where graduates of a CODA-accredited dental hygiene program are authorized to perform additional functions required for initial dental hygiene licensure as defined by the program’s state specific dental board or regulatory agency, program curriculum must include content at the level, depth, and scope required by the state. Further, curriculum content must include didactic and laboratory/preclinical/clinical objectives for the additional dental hygiene skills and functions. Students must demonstrate laboratory/preclinical/clinical competence in performing these skills.

**Intent:** Functions allowed by the state dental board or regulatory agency for dental hygienists are taught and evaluated at the depth and scope required by the state. The inclusion of additional functions cannot compromise the length and scope of the educational program or content required in the accreditation standards and may require extension of the program length.

**EDUCATION AND TRAINING**

Education and training of LAA commonly occurs via one of two pathways: dental hygiene program/school curriculum or continuing education certification courses. Competence for permit or licensing is reflected within each state’s rules and regulations (dental practice act). In addition, Standard 2-18 of the Commission on Dental Accreditation (CODA) states that dental hygienists must be educated to perform all tasks in a state’s dental practice act (Table 1). How each program develops its local anesthesia curriculum within this standard is at the school’s discretion.

As seen in Figure 1, a great deal of variation exists between states in the number of instruction hours required before dental hygienists can become licensed in LAA. The hours required range from none to 72. Significant disparities in didactic and clinical requirements, supervision levels, and methodologies for LAA are also observed. Although the CODA standards for dental hygiene programs require that school curriculums assure dental hygienists achieve competency, they are performance based and not prescriptive.

The American Dental Hygienists’ Association compiles data on regulations and practice for each state. When comparing these data, a standard is not easily defined. It may be of value to consider the states with the longest history of dental hygienists providing LAA. Five states have been allowing dental hygienists to provide LAA for 40 years or more: Washington, Oregon, Idaho, New Mexico, and Missouri. Of these five states, only one (New Mexico) designates minimum hours of instruction (34 hours) while the other four have no requirements. The seven states with less than 10 years of LAA experience by dental hygienists—Indiana, Ohio, New Jersey, Maryland, Pennsylvania, Virginia, and Florida—all require minimum hours, ranging from 28 to 60. Florida, the most recent state to incorporate LAA, requires 60 hours of instruction. The average number of hours required for these seven states is 33. When comparing states that permit only infiltration LAA, this same discrepancy is seen. One state requires 45 hours of instruction (New York), while the other (South Carolina) has no designated hours. In comparison, the national average for total required instruction (includes both didactic and clinical hours when applicable) is 22 hours.

Unfortunately, variation in state dental anesthesiology regulation is also common. These discrepancies affect portability of licensure, patient experience, and financial models. Additionally, the variations in the initial licensure of dental hygienists with LAA training may result in an obscure process for new professionals. Upon examination by regional boards—a longtime pathway to licensure—individuals may not be asked to demonstrate clinical anesthesia competency depending on region of potential licensure.

States also differ in the type of documentation required, which may include regional board examination, signed affidavit by a supervising dentist, and/or graduation from an accredited dental hygiene school with a verified LAA curriculum. This not only poses challenges for dental hygiene professionals moving across state lines, but also for the credentialing body of each state. Rules and regulations are determined by individual dental boards within each state. Thorough review of the dental practice act is imperative prior to engaging in practice.

**PRACTICE CHARACTERISTICS**

Currently, **44 states and the District of Columbia include local anesthesia administration** within the dental hygiene scope of practice. Currently, 44 states and the District of Columbia include LAA within the dental hygiene scope of practice. A national prospective survey completed in 2011 revealed that the majority of dental hygiene respondents

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(59.5% of 432 survey participants) administered local anesthesia. This study also demonstrated that the majority of respondents administered anesthesia for procedures to be performed by a dentist (58.4% of 257 survey participants). Practice settings can influence the number and types of injections administered by dental hygiene professionals. Clinicians working in periodontal practices and those in public health settings reported more frequent use of LAA. The small number of dental hygiene professionals employed by endodontists as co-therapists may perform LAA as their primary task.

Figure 2 demonstrates the type of supervision required for dental hygienists during LAA by state. Supervision is usually described as:

**Direct:** a supervising dentist is on the premises, has diagnosed the condition, authorized the procedure, and evaluates the completion of the procedure [some states use the term, “indirect” with a similar definition]

**General:** a supervising dentist has authorized the procedure and completed a diagnosis but does not physically have to be on the premises.

![Map showing the number of instructional hours required by state regulation before dental hygienists can become licensed to administer local anesthesia.](image)

**FIGURE 1.** Analysis of the instructional hours required by state regulation before dental hygienists can become licensed to administer local anesthesia.
Dental hygienists have demonstrated they can proficiently and safely administer local anesthesia. While much progress has occurred over the past 40 years, there remains no national education standard or utilization consensus regarding LAA. The entire profession of dentistry would likely benefit from a consensus article endorsed by both organizations. In an era of health care paradigms shifts, the ability to improve outcomes when dental hygiene and education regarding team-based patient care models as disciplines.

Previous investigators have cited insufficient experience and education regarding team-based patient care models as reasons for their underutilization in dentistry. A conclusive understanding of specific effects will require additional research.

CONCLUSION

Dental hygienists have demonstrated they can proficiently and safely administer local anesthesia. While much progress has occurred over the past 40 years, there remains no national education standard or utilization consensus regarding LAA. The entire profession of dentistry would likely benefit from a consensus article endorsed by both organized dentistry and dental hygiene that provided guidelines regarding education requirements and use of LAA. In an era of health care paradigm shifts, the ability to improve outcomes when dental hygiene...
professionals are engaged in LAA, combined with favorable patient opinions and the attendant improvements in dental practices’ efficiencies suggest that the time is right for national consensus.

REFERENCES