

**Significant Legislative Rule Analysis**  
**WAC 246-817-770**  
**Concerning General Anesthesia and Deep Sedation**  
**March 19, 2014**

**Describe the proposed rule, including a brief history of the issue, and explain why the proposed rule is needed.**

The Dental Quality Assurance Commission (commission) is proposing a requirement for dentists and oral and maxillofacial surgeons that administer general anesthesia and deep sedation to monitor their patients' end-tidal carbon dioxide (CO<sub>2</sub>). This proposed rule adds an end-tidal CO<sub>2</sub> monitoring requirement to the list of requirements in WAC 246-817-770, which sets out specific requirements to obtain the authorizing permit and lists procedures, equipment, and medications for administration of general anesthesia and deep sedation. The proposed rule sets minimum patient safety standards while administering general anesthesia and deep sedation.

End-tidal CO<sub>2</sub> monitoring measures the amount of CO<sub>2</sub> in a patient's breath. It uses infrared spectroscopy that emits beams from a light source through a patient's exhaled breath. As the beam passes through the sample, CO<sub>2</sub> absorbs a specific wavelength of light (4.26 μm). This measurement is then used to calculate the amount of CO<sub>2</sub> in the sample. This result can provide information on CO<sub>2</sub> production, pulmonary perfusion, alveolar ventilation, respiratory patterns, and elimination of CO<sub>2</sub>.<sup>1</sup>

End-tidal CO<sub>2</sub> monitoring enhances a dentist's ability to monitor a patient's safety and take appropriate action. A change in CO<sub>2</sub> level is the first indication there may be a problem with a patient under general anesthesia and deep sedation.

Lastly, the commission is proposing changes to monitoring requirements to ensure patient safety and to remain consistent with the recognized standard of care while administering general anesthesia and deep sedation.

**Is a Significant Analysis required for this rule?**

Yes, as defined in RCW 34.05.328 the proposed rule requires a significant analysis.

**Clearly state in detail the general goals and specific objectives of the statute that the rule implements.**

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<sup>1</sup> End-Tidal CO<sub>2</sub> Detectors, Bruce M Lo, MD, et. al. "Medscape Reference", [emedicine.medscape.com/article/2044822](http://emedicine.medscape.com/article/2044822). May 17, 2013

As stated in RCW 18.32.002, the purpose of the Washington State Dental Quality Assurance Commission (commission) established in RCW [18.32.0351](#) is to regulate the competency and quality of professional health care providers under its jurisdiction by establishing, monitoring, and enforcing qualifications for licensure, continuing education, consistent standards of practice, continuing competency mechanisms, and discipline. Rules, policies, and procedures developed by the commission must promote the delivery of quality health care to the residents of the state.

RCW 18.32.640 authorizes the commission to adopt rules governing administration of sedation and general anesthesia by persons licensed under this chapter, including necessary training, education, equipment, and the issuance of any permits, certificates, or registration as required.

**Explain how the department determined that the rule is needed to achieve these general goals and specific objectives. Analyze alternatives to rulemaking and the consequences of not adopting the rule.**

The Dental Quality Assurance Commission (commission) is proposing changes to monitoring requirements to ensure patient safety and to remain consistent with the recognized standard of care. Dentist administering general anesthesia and deep sedation are not currently required to monitor a patient's CO<sub>2</sub> levels. A change in CO<sub>2</sub> level is the first indication there may be a problem with a patient under general anesthesia and deep sedation. CO<sub>2</sub> monitoring is recognized by several of the industries Associations. The American Association of Oral and Maxillofacial Surgeons (AAOMS) required oral and maxillofacial surgeons with their national certification to begin end-tidal CO<sub>2</sub> monitoring in January 2014.

The commission is proposing changes to monitoring requirements for patient's receiving general anesthesia and deep sedation to ensure patient safety and to remain consistent with the recognized standard of care. Requiring all dentists with a general anesthesia permit to monitor expired CO<sub>2</sub> provides consistent practice standards.

**Explain how the department determined that the probable benefits of the rule are greater than the probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented.**

#### Rule Overview

The proposed rule adds a new monitoring requirement for dentists to monitor end-tidal CO<sub>2</sub> levels in a patient while administering general anesthesia and deep sedation.

#### Rule Cost/Benefit Analysis

A dentist will be required to obtain and use an end-tidal CO<sub>2</sub> monitor while administering general anesthesia and deep sedation. A dentist must hold an active dental general anesthesia permit to administer general anesthesia and deep sedation. There are 203 dentists who hold a general anesthesia permit. Of these 203 dentists we do not know how many hold national certification. There are also approximately 9000 oral and

maxillofacial surgeons nationwide that hold national certification with the American Association of Oral and Maxillofacial Surgeons (AAOMS).

These providers routinely provide general anesthesia and deep sedation during a dental procedure either in a dental office or an office-based surgery setting. Department staff contacted several providers to determine the impact of the proposed rule. Most indicated that they are already complying with the CO<sub>2</sub> monitoring requirement. They indicated that if a provider is not currently monitoring for CO<sub>2</sub>, the cost of end-tidal CO<sub>2</sub> monitors range from \$1000 to over \$4000 depending on model. In addition to the equipment costs, there will also be the nominal amount of time to complete a physical evaluation and to record the results of the CO<sub>2</sub> monitoring in the patient's surgery and dental records.

The addition of such rules in chapter 246-817 WAC is necessary to ensure patient safety while dentists administer general anesthesia and deep sedation. If a dentist is not currently monitoring and recording a patient's end-tidal CO<sub>2</sub> values, there will be a cost to purchase the equipment and complete the required record keeping of the results. The benefit of being able to monitor a patient's CO<sub>2</sub> levels, a change of which may be the first indication that there is a problem, will enable dentists to recognize and address a unforeseen problem with the surgery.

#### Cost/Benefit summary

Enhanced patient safety outweighs the cost of end tidal monitoring.

**Identify alternative versions of the rule that were considered, and explain how the department determined that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives state previously.**

The proposed rule is the only option to achieve monitoring and is the least burdensome option as it provides consistency among all dentists that administer general anesthesia and deep sedation to ensure patient safety.

**Determine that the rule does not require those to whom it applies to take an action that violates requirements of another federal or state law.**

The rule does not require those to whom it applies to take an action that violates requirements of federal or state law.

**Determine that the rule does not impose more stringent performance requirements on private entities than on public entities unless required to do so by federal or state law.**

The rule does not impose more stringent performance requirements on private entities than on public entities.

**Determine if the rule differs from any federal regulation or statute applicable to the same activity or subject matter and, if so, determine that the difference is justified by an explicit state statute or by substantial evidence that the difference is necessary.**

The rule does not differ from any applicable federal regulation or statute.

**Demonstrate that the rule has been coordinated, to the maximum extent practicable, with other federal, state, and local laws applicable to the same activity or subject matter.**

There are no other applicable laws.