

General Anesthesia and Conscious Sedation Services

Guideline Number: DCG016.15
Effective Date: October 1, 2024

[Instructions for Use](#)

Table of Contents	Page
Coverage Rationale	1
Definitions	2
Applicable Codes	2
Description of Services	3
References	4
Guideline History/Revision Information	5
Instructions for Use	5

Related Dental Policies
None

Coverage Rationale

Note: This policy applies to services provided in a dental office. For anesthesia services provided in a hospital operating room or ambulatory surgery center; refer to the member specific benefit plan document and any applicable federal or state mandates.

Nitrous Oxide

Nitrous oxide may be indicated for the following:

- Extensive and/or complex procedures (e.g., serial extractions, periodontal surgeries)
- Individuals with physical, cognitive, or developmental disabilities
- Ineffective [Local Anesthesia](#)
- Management of a severe gag reflex
- Management of fear and anxiety

Nitrous oxide may be contraindicated for the following (this list is not all-inclusive):

- Claustrophobia
- Pregnancy
- Severe underlying medical conditions (e.g., critical illnesses, cardiac disease, pulmonary hypertension)
- Significant personality and behavioral disorders
- Upper respiratory tract infections or other respiratory conditions

Nitrous oxide is an absolute contraindication for the following:

- Methylene tetrahydrofolate reductase (MTHFR) deficiency
- Pulmonary hypertension
- Severe Chronic Obstructive Pulmonary Disease (COPD)
- Treatment with bleomycin sulfate
- Vitamin B12 deficiency
- Within 3 months vitreoretinal surgery

Intravenous Moderate/Conscious Sedation and Deep Sedation/General Anesthesia

Intravenous [Moderate/Conscious Sedation](#) and [Deep Sedation/General Anesthesia](#) may be indicated for the following:

- Allergy or sensitivity to local anesthetic agents
- Extensive and/or complex procedures (e.g., serial extractions, periodontal surgeries)
- Anxiety and fear when other techniques have proven inadequate
- Behavioral management when other techniques have proven inadequate

- Individuals that are medically compromised or those with special needs
- Management of severe gag reflex if nitrous oxide is ineffective or not indicated
- Pain control when other techniques have proven inadequate

Non-Intravenous Conscious Sedation

Non-Intravenous Sedation may be indicated for the following situations:

- Individuals with physical, cognitive, or developmental disabilities
- Mild to moderate apprehension and anxiety

All types of sedation and General Anesthesia may be contraindicated if there is an increased risk of adverse outcomes or complications. These include but are not limited to:

- Abnormalities of the major organ systems
- Previous adverse experience with sedation/analgesia
- Drug allergies
- Current medications and potential drug interactions
- Tobacco, alcohol, or substance use or abuse
- Time and nature of last oral intake

Definitions

Deep Sedation: A drug-induced depression of consciousness during which patients cannot be easily aroused but respond purposefully following repeated or painful stimulation. The ability to independently maintain ventilatory function may be impaired. Patients may require assistance in maintaining a patent airway, and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained. (ASA)

General Anesthesia: A drug-induced loss of consciousness during which patients are not arousable, even by painful stimulation. The ability to independently maintain ventilator function is often impaired. Patients often require assistance in maintaining a patent airway, and positive pressure ventilation may be required because of depressed spontaneous ventilation or drug-induced depression of neuromuscular function. Cardiovascular function may be impaired. (ASA)

Local Anesthesia: The elimination of sensation, especially pain, in one part of the body by the topical application or regional injection of a drug. (ADA)

Moderate Sedation (“Conscious Sedation”): A drug-induced depression of consciousness during which patients respond purposefully to verbal commands, either alone or accompanied by light tactile stimulation. No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function is usually maintained. (ASA)

Non-Intravenous Sedation: Sedation medications that are delivered through the oral, intranasal, or transmucosal routes. (Thomas, 2015)

Applicable Codes

The following list(s) of procedure and/or diagnosis codes is provided for reference purposes only and may not be all inclusive. Listing of a code in this guideline does not imply that the service described by the code is a covered or non-covered health service. Benefit coverage for health services is determined by the member specific benefit plan document and applicable laws that may require coverage for a specific service. The inclusion of a code does not imply any right to reimbursement or guarantee claim payment. Other Policies and Guidelines may apply.

CDT Code	Description
D9210	Local anesthesia not in conjunction with operative or surgical procedures
D9211	Regional block anesthesia
D9212	Trigeminal division block anesthesia
D9215	Local anesthesia in conjunction with operative or surgical procedures
D9219	Evaluation for moderate sedation, deep sedation or general anesthesia
D9222	Deep sedation/general anesthesia – first 15 minutes

CDT Code	Description
D9223	Deep sedation/general anesthesia – each subsequent 15 minute increment
D9230	Inhalation of nitrous oxide/analgesia, anxiolysis
D9239	Intravenous moderate (conscious) sedation/anesthesia – first 15 minutes
D9243	Intravenous moderate (conscious) sedation/analgesia – each subsequent 15 minute increment
D9248	Non-intravenous conscious sedation

CDT® is a registered trademark of the American Dental Association

Description of Services

The administration of local anesthetic is common and used for most routine dental procedures. For some patients, various levels of sedation and/or anesthesia may be necessary to safely provide dental care. These procedures generally are safe when administered by trained, certified providers in the appropriate setting, but are not without risk. According to the American Dental Association (ADA), dentists must comply with their state laws, rules and/or regulations when providing sedation and anesthesia and follow the educational and training requirements for the level of sedation intended. The ADA maintains clinical guidelines and educational/training requirements for all levels of sedation and includes specific information for the following:

- Patient history and evaluation.
- Personnel and equipment requirements.
- Monitoring and documentation (including consciousness, oxygenation, ventilation, and circulation).
- Recovery and discharge.
- Emergency management.

This guideline can be found at: https://www.ada.org/-/media/project/ada-organization/ada/ada-org/files/resources/research/ada_sedation_use_guidelines.pdf?rev=313932b4f5eb49e491926d4feac00a14&hash=C7C55D7182C639197569D4ED8EDCDDF6. (Accessed June 20, 2024)

According to the American Academy of Pediatric Dentistry (AAPD), the sedation of children is different from the sedation of adults, and the in-office use of Deep Sedation or General Anesthesia may be appropriate on select pediatric dental patients administered in appropriately equipped and staffed facilities. The *Guideline for Monitoring and Management of Pediatric Patients Before, During, and After Sedation for Diagnostic and Therapeutic Procedures* addresses pediatric specific considerations and was developed in conjunction with the American Academy of Pediatrics (AAP). The AAPD guideline highlights the higher risks of adverse outcomes associated with sedation of pediatric patients and emphasizes the steps and actions needed to minimize the risks. This guideline can be found at:

https://www.aapd.org/globalassets/media/policies_guidelines/bp_monitoringsedation.pdf. (Accessed June 20, 2024)

Additionally, the following are some of the recommendations from the American Society of Anesthesiologists focusing on appropriate patient selection, quality anesthesia care and patient safety in the dental office:

- Pediatric patients and adults with major medical problems (ASA Physical Status III and above) are at higher risk of adverse events than other patients. For these high-risk patients and younger pediatric patients, ASA recommends evaluation by a primary care physician or physician anesthesiologist prior to scheduling a procedure.
- Prolonged and extensive procedures with longer periods of sedation and anesthesia care are of concern in the office-based setting and qualified anesthesia providers, in consultation with such patients, should consider more suitable facilities for the procedure.
- Personnel with training in advanced resuscitative techniques (e.g., ACLS, PALS) should be immediately available until all patients are discharged home. A designated individual, other than the individual performing the procedure, should be present to monitor the patient throughout procedures performed with sedation. During Deep Sedation and/or General Anesthesia, this individual should have no other responsibilities.
- At a minimum, all facilities should have a reliable source of oxygen, suction, resuscitation equipment and emergency drugs.
- Ensure there is a protocol for accessing emergency medical services, managing life-threatening complications, and maintaining emergency life support/rescue services.

This guideline can be found at: <https://www.asahq.org/standards-and-practice-parameters/statement-on-sedation--anesthesia-administration-in-dental-officebased-settings>. (Accessed June 20, 2024)

Pursuant to CA AB2585: While not common in dentistry, nonpharmacological pain management strategies should be encouraged if appropriate.

References

- American Academy of Pediatric Dentistry (AAPD). Policy on the Use of Deep Sedation and General Anesthesia in the Pediatric Dental Office. Revised 2017.
- American Academy of Pediatric Dentistry. Use of nitrous oxide for pediatric dental patients. The Reference Manual of Pediatric Dentistry. Chicago, Ill.: American Academy of Pediatric Dentistry; 2021:338-43.
- American Dental Association (ADA) CDT 2024 Dental Procedure Code Book.
- American Dental Association Glossary of Clinical and Administrative Terms.
- American Dental Association. Guidelines for the Use of Sedation and General Anesthesia by Dentists. 2016.
- American Society of Anesthesiologists (ASA) Task Force on Sedation and Analgesia by Non-Anesthesiologists. Practice guidelines for sedation and analgesia by non-anesthesiologists. *Anesthesiology*. 2002 Apr;96(4):1004-17.
- American Society of Anesthesiologists (ASA). Continuum of Depth of Sedation: Definition of General Anesthesia and Levels of Sedation/Analgesia. Amended October 2019.
- American Society of Anesthesiologists (ASA). Statement on Sedation & Anesthesia Administration in Dental Office-Based Settings. 2017. Amended October 2022.
- Cohen D, Diaz L, Balzer J. Chapter 17 – Anesthesia for Infants and Children. *Smith's Anesthesia for Infants and Children*. Ninth ed. Elsevier Inc., 2017; pp 328-348, e6.
- Collado V, Faulks D, Nicolas E, Hennequin M. Conscious sedation procedures using intravenous midazolam for dental care in patients with different cognitive profiles: A prospective study of effectiveness and safety. *Glogauer M, ed. PLoS ONE*. 2013;8(8):e71240.
- Coté CJ, Wilson S; American Academy of Pediatrics; American Academy of Pediatric Dentistry. Guidelines for monitoring and management of pediatric patients before, during, and after sedation for diagnostic and therapeutic procedures. *Pediatrics*. 2019 Jun;143(6):e20191000.
- de Nova-García MJ, Gallardo López NE, Martín Sanjuán C, et al. Criteria for selecting children with special needs for dental treatment under general anesthesia. *Med Oral Patol Oral Cir Bucal*. 2007 Nov 1;12(7):E496-503.
- Fleming P, Walker PO, Priest JR. Bleomycin therapy: a contra- indication to the use of nitrous oxide-oxygen psychosedation in the dental office. *Pediatric Dentistry*. 1988; 10(4):345–6.
- Knuf K, Maani CV. Nitrous Oxide. [Updated 2023 Aug 28]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK532922/#:~:text=Thus%20nitrous%20oxide%20is%20contraindicated,and%20some%20avoid%20its%20use>. Accessed June 20, 2024.
- Malamed, Stanley. Sedation: A Guide to Patient Management, Sixth Edition. St. Louis, MO: Elsevier c2018. Chapter 21, Intravenous Moderate Sedation: Rationale; p.279-284.
- Malamed, Stanley. Sedation: A Guide to Patient Management, Sixth Edition. St. Louis, MO: Elsevier c2018. Chapter 12, Inhalation Sedation: Rationale; p.180-89.
- Malamed, Stanley. Sedation: A Guide to Patient Management, Sixth Edition. St. Louis, MO: Elsevier c2018. Chapter 30, Fundamentals of General Anesthesia; p.407-15.
- Malamed, Stanley. Sedation: A Guide to Patient Management, Sixth Edition. St. Louis, MO: Elsevier c2018. Chapter 35, The Pediatric Patient; p.497-519.
- Mohan R, Asir VD, Shanmugapriyan, Ebenezer V, Dakir A, Balakrishnan, Jacob J. Nitrous oxide as a conscious sedative in minor oral surgical procedure. *J Pharm Bioallied Sci*. 2015 Apr;7(Suppl 1):S248-50.
- Schulte-Sasse U, Hess W, Tarnow J. Pulmonary vascular responses to nitrous oxide in patients with normal and high pulmonary vascular resistance. *Anesthesiology*. 1982;57(1):9-13.
- Southerland JH, Brown LR. Conscious Intravenous Sedation in Dentistry: A Review of Current Therapy. *Dent Clin North Am*. 2016 Apr;60(2):309-46.
- Steinberg BJ, Hilton IV, Iida H, Samelson R. Oral health and dental care during pregnancy. *Dent Clin North Am*. 2013 Apr;57(2):195-210.
- Takkar D, Rao A, Shenoy R, et al. Evaluation of nitrous oxide inhalation sedation during inferior alveolar block administration in children aged 7-10 years: a randomized control trial. *J Indian Soc Pedod Prev Dent*. 2015 Jul-Sep;33(3):239-44.

The Royal College of Ophthalmologists. Ophthalmic Safety Alert. Do not use nitrous oxide when there is gas in an operated eye. December 18, 2018. <https://www.rcophth.ac.uk/news-views/ophthalmic-safety-alert-do-not-use-nitrous-oxide-when-there-is-gas-in-an-operated-eye/>. Accessed June 20, 2024.

Thomas A, Miller JL, Couloures K, et al. Non-intravenous sedatives, and analgesics for procedural sedation for imaging procedures in pediatric patients. *J Pediatr Pharmacol Ther.* 2015 Nov-Dec;20(6):418-30.

Guideline History/Revision Information

Date	Summary of Changes
10/01/2024	<p>Coverage Rationale</p> <p>Nitrous Oxide</p> <ul style="list-style-type: none"> Updated list of indications for nitrous oxide; added examples of extensive and/or complex procedures (<i>e.g., serial extractions, periodontal surgeries</i>) Updated list of contraindications for nitrous oxide; added examples of severe underlying medical conditions (<i>e.g., critical illnesses, cardiac disease, pulmonary hypertension</i>) <p>Intravenous Moderate/Conscious Sedation and Deep Sedation/General Anesthesia</p> <ul style="list-style-type: none"> Updated list of indications for intravenous Moderate/Conscious Sedation and Deep Sedation/General Anesthesia: <ul style="list-style-type: none"> Added examples of extensive and/or complex procedures (<i>e.g., serial extractions, periodontal surgeries</i>) Replaced “<i>extreme anxiety and fear</i>” with “<i>anxiety and fear, when other techniques have proven inadequate</i>” Removed “lengthy restoration procedures for pediatric members” Removed language stating intravenous Moderate/Conscious Sedation and Deep Sedation/General Anesthesia are contraindicated if there is an increased risk of adverse outcome or complications <p>Non-Intravenous Conscious Sedation</p> <ul style="list-style-type: none"> Replaced language stating “<i>Non-Intravenous Sedation is</i> contraindicated if there is an increased risk of adverse outcome or complications” with “<i>all types of sedation and General Anesthesia may be</i> contraindicated if there is an increased risk of adverse outcomes or complications; <i>these include, but are not limited to, abnormalities of the major organ systems, previous adverse experience with sedation/analgesia, drug allergies, current medications and potential drug interactions, tobacco, alcohol, or substance use or abuse, and time and nature of last oral intake</i>” <p>Definitions</p> <ul style="list-style-type: none"> Added definition of “Non-Intravenous Sedation” Removed definition of “Minimal Sedation” <p>Supporting Information</p> <ul style="list-style-type: none"> Updated <i>Description of Services</i> and <i>References</i> sections to reflect the most current information Archived previous policy version DCG016.14

Instructions for Use

This Dental Coverage Guideline provides assistance in interpreting UnitedHealthcare standard and Medicare Advantage dental plans. When deciding coverage, the member specific benefit plan document must be referenced as the terms of the member specific benefit plan may differ from the standard dental plan. In the event of a conflict, the member specific benefit plan document governs. Before using this guideline, please check the member specific benefit plan document and any applicable federal or state mandates. UnitedHealthcare reserves the right to modify its Policies and Guidelines as necessary. This Dental Coverage Guideline is provided for informational purposes. It does not constitute medical advice.