Anesthesia and Sedation in Endoscopic Procedures

Disclaimer

Clinical guidelines are developed and adopted to establish evidence-based clinical criteria for utilization management decisions. Clinical guidelines are applicable according to policy and plan type. The Plan may delegate utilization management decisions of certain services to third parties who may develop and adopt their own clinical criteria.

Coverage of services is subject to the terms, conditions, and limitations of a member's policy, as well as applicable state and federal law. Clinical guidelines are also subject to in-force criteria such as the Centers for Medicare & Medicaid Services (CMS) national coverage determination (NCD) or local coverage determination (LCD) for Medicare Advantage plans. Please refer to the member's policy documents (e.g., Certificate/Evidence of Coverage, Schedule of Benefits, Plan Formulary) or contact the Plan to confirm coverage.

Summary

Plan members undergoing certain endoscopic procedures may require different levels of sedation, depending on the procedure and their existing medical conditions. General anesthesia is one type of sedation where a physician anesthesiologist or nurse anesthetist induces a state of complete unconsciousness. This is different from conscious sedation, where a patient is awake but receives

medications for pain relief and relaxation. The vast majority of patients undergoing endoscopies, where a small camera is inserted to look for disease such as cancer or precancerous masses, are sedated with conscious sedation to make the procedure more tolerable. This guideline provides criteria for members who may require general anesthesia, monitored anesthesia care (MAC), or deep sedation for both upper and lower gastrointestinal (GI) endoscopic procedures (i.e., upper endoscopy, colonoscopy). The treating provider should counsel the member on the appropriate anesthesia options and associated levels of risk.

Definitions

"Local anesthesia" is the use of medication to produce an absence of pain or sensation in a specific region or part of the body.

"Minimal sedation"(also known as "anxiolysis") is defined as the lowest level of drug-induced impairment of cognition. Persons who are minimally sedated respond normally to commands, and their respiratory and cardiovascular systems are unaffected. Examples of minimal sedatives include oral benzodiazepines.

"Moderate sedation" (historically known as "conscious sedation") refers to a deeper depression of consciousness compared to minimal sedation. Persons who are moderately sedated will typically still respond to verbal commands, sometimes requiring tactile stimuli, and their respiratory and cardiovascular systems are unaffected. Examples of medications used for moderate sedation include IV benzodiazepines and opioids. During moderate sedation, the responsible physician typically assumes the dual role of performing the procedure and supervising the sedation (an anesthesia provider is not involved in moderate sedation).

"Monitored anesthesia care (MAC)" is a combination of local anesthesia together with sedation and/or analgesia, in a setting monitored by a trained anesthesiologist (physician), a certified registered nurse anesthetist (CRNA), or certified anesthesiologist assistants. While MAC may include the administration of sedatives and/or analgesics often used for moderate sedation, the qualified anesthesia provider delivering MAC is focused exclusively on the member for airway, hemodynamic, and physiologic changes. Furthermore, the provider of MAC must be prepared and qualified to convert to general anesthesia. According to the American Society of Anesthesiologists (ASA), MAC is a physician service that is clearly distinct from moderate sedation due to the expectations and qualifications of the provider who must be able to utilize all anesthesia resources to support life and to provide patient comfort and safety during a diagnostic or therapeutic procedure.

"Deep sedation/analgesia" is part of a continuum from monitored anesthesia care to general anesthesia and results in significant central nervous system depression, where patients are no longer conscious and are more difficult to arouse. They will typically respond to painful stimuli but not to verbal or simple tactile stimuli. The respiratory system is depressed and they may need ventilatory support. Examples of medications used for deep sedation include IV benzodiazepines, opioids, propofol, ketamine,

etomidate, and dexmedetomidine. This level of anesthesia can be provided only by qualified anesthesia providers.

"General anesthesia" is the deepest form of sedation, resulting in complete loss of consciousness and no arousability to stimuli. Cardiovascular and respiratory function are often impaired and may require monitoring and assistance, such as ventilatory support. General anesthesia always requires monitoring by an anesthesia provider.

"American Society of Anesthesiologists (ASA) physical status classes" are used to risk stratify patients prior to procedures. The categories were developed and defined by the ASA and are as follows:

- ASA Physical Status Class I: A normal, healthy person
- ASA Physical Status Class II: A person with mild systemic disease without functional limitations, including but not limited to:
    - Current smoker
    - Social alcohol drinker
    - Pregnancy
    - Obesity (BMI <40)
    - Well-controlled diabetes mellitus, hypertension, well-controlled lung disease, well-controlled COPD, etc.
- ASA Physical Status Class III: A person with severe systemic disease or not adequately controlled resulting in substantial functional limitations, including but not limited to:
    - Poorly controlled diabetes mellitus or hypertension
    - Poorly controlled Chronic obstructive pulmonary disease (COPD)
    - Morbid obesity (BMI ≥40)
    - Active hepatitis
    - Active alcohol dependence or abuse
    - Implanted pacemaker
    - Moderate reduction of ejection fraction
    - End stage renal disease (ESRD) undergoing regularly scheduled dialysis
    - Premature infant with post-conceptual age < 60 weeks
    - History (>3 months) of myocardial infarction (MI), cerebrovascular accident (CVA or stroke), transient ischemic attack (TIA or mini-stroke), or coronary artery disease (CAD)/stents.
- ASA Physical Status Class IV: A person with severe systemic disease that is a constant threat to life; including but not limited to:
    - Recent (< 3 months) MI, CVA, TIA, or CAD/stents
    - Ongoing cardiac ischemia
    - Severe valve dysfunction
    - Severe reduction of ejection fraction
    - Sepsis
    - Disseminated intravascular coagulation (DIC)

    - ESRD not undergoing regularly scheduled dialysis
- ASA Physical Status Class V: A moribund person who is not expected to survive without the operation; including but not limited to:
    - Ruptured abdominal/thoracic aneurysm
    - Massive trauma
    - Intracranial bleed with mass effect
    - Ischemic bowel in the face of significant cardiac pathology
    - Multiple organ/system dysfunction
- ASA Physical Status Class VI: A declared brain-dead person whose organs are being removed for donor purposes.

"Modified Mallampati classification" is used to assess airways and risk for difficult tracheal intubation. The original Mallampati classification includes class I-III. The modified Mallampati classification includes class I-IV.

- Class 0: Ability to see any part of the epiglottis upon mouth opening and tongue protrusion
- Class I: Soft palate, fauces, uvula, pillars visible
- Class II: Soft palate, fauces, uvula visible
- Class III: Soft palate, base of uvula visible
- Class IV: Soft palate not visible at all

"Endoscopy" refers to a procedure where a small camera is inserted to visualize internal parts of the body. Examples include the following:

- Colonoscopy (looking at the colon)
- Sigmoidoscopy (looking at the sigmoid portion of the colon)
- Esophagoduodenoscopy (EGD, also known as an upper endoscopy, where the upper GI system is visualized)
- ERCP (endoscopic retrograde cholangiopancreatography)

Medical Necessity Criteria for Clinical Review

Indication-Specific Criteria

Significant Medical Condition

The Plan considers general anesthesia, MAC, or deep sedation requiring anesthesiologist or anesthetist attendance medically necessary for use in upper or lower gastrointestinal endoscopy in "high-risk" members, defined as those with ONE of the following criteria:

1. Significant medical condition, defined as at least ONE of the following:
    a. ASA Physical Status Class III-V; *or*
        i. *Note*: In specific cases of ETOH dependence or abuse, stable chronic ETOH dependence may be managed under moderation sedation for patients classified as ASA III. According to the American Society of Gastrointestinal Endoscopy, minimal and/or moderate sedation can be delivered safely by endoscopists to

patients who are ASA Class I, II, or III. Although alcohol dependence or abuse falls within ASA III, the concern for complications and the request for a higher level of anesthesia is appropriate when alcohol has affected other organs (e.g., cirrhosis, end-stage liver disease) or has caused systemic effects such as acute alcohol intoxication.

b. Pregnancy; *or*
c. Epilepsy; *or*
d. Age less than 18; *or*
e. Age greater than 70, and one additional criterion met under Indication-Specific Criteria..

Risk for Airway Compromise

The Plan considers general anesthesia, MAC, or deep sedation requiring anesthesiologist or anesthetist attendance medically necessary for use in upper or lower gastrointestinal endoscopy in "high-risk" members, defined as those with ONE of the following criteria:

1. Risk for airway compromise, defined as at least ONE of the following:
    a. Current evidence of obstructive sleep apnea or stridor; *or*
    b. Dysmorphic facial features, such as Pierre-Robin or Down syndrome; *or*
    c. Modified Mallampati classification Class III-IV; *or*
    d. Neck abnormalities, such as neck obesity, short neck, limited neck extension, cervical spine instability, cervical spine disease or trauma, neck mass, tracheal deviation, advanced rheumatoid arthritis (risk of cervical instability), cranial nerve IX or X dysfunction; *or*
    e. Jaw abnormalities, such as micrognathia, retrognathia, trismus, significant macro-occlusion; *or*
    f. Morbid obesity (defined as body mass index [BMI] >40 or >35 with hypertension, coronary artery disease, obstructive sleep apnea, or Type 2 diabetes).

Anticipated Intolerance to Standard Sedation

The Plan considers general anesthesia, MAC, or deep sedation requiring anesthesiologist or anesthetist attendance medically necessary for use in upper or lower gastrointestinal endoscopy in "high-risk" members, defined as those with ONE of the following criteria:

1. Anticipated intolerance to standard sedatives, defined as at least ONE of the following:
    a. Previous reaction or complication with sedation or anesthesia; *or*
    b. Opiate, sedative, or hypnotic dependence or tolerance due to chronic use; *or*
    c. Active alcohol or substance abuse.

Additional Indications for Deep Sedation or General Anesthesia

The Plan considers general anesthesia or deep sedation requiring anesthesiologist or anesthetist attendance medically necessary for use in upper or lower gastrointestinal endoscopy in "high-risk" members, defined as those with ONE of the following criteria:

1. Additional situations where deep sedation or general anesthesia may be required, defined as at least ONE of the following:
    a. Uncooperative or combative patients (e.g., those with dementia, psychiatric disorders, or young children); *or*
    b. Complex or prolonged procedures or invasive therapeutic endoscopies, such as the following:
        i. Endoscopic retrograde cholangiopancreatography [ERCP]
        ii. Endoscopic ultrasound [EUS]
        iii. Esophageal stenting
        iv. Emergency therapeutic procedures such as acute GI bleeding
        v. A patient with a complex condition who may experience more pain or discomfort
        vi. A patient with a history of prolonged procedures or history of difficult intubation
        vii. A patient requiring a repeat endoscopic procedure (e.g., long or tortuous colon) due to the inability to be sedated with conscious/moderate sedation at the initial endoscopic procedure or due to the result of another issue from the initial endoscopic procedure that a repeat was medically warranted.

Experimental or Investigational / Not Medically Necessary

Sedation requiring anesthesiologist or anesthetist care (e.g., general anesthesia, MAC, or deep sedation) is not considered medically necessary for members with an "average risk" of surgical complications who are undergoing standard upper or lower endoscopic procedures, defined as ASA Class I-II and not meeting the "high-risk" criteria in this guideline. These members should undergo procedures with moderate sedation/analgesia as indicated and provided by the endoscopist, where it is not medically necessary for an anesthesiologist or anesthetist to be present.

Applicable Billing Codes

Table 1	
Anesthesia and Sedation in Endoscopy	
CPT/HCPCS codes considered medically necessary if criteria are met:	
Code	*Description*
00731	Anesthesia for upper gastrointestinal endoscopic procedures, endoscope introduced proximal to duodenum; not otherwise specified
00732	Anesthesia for upper gastrointestinal endoscopic procedures, endoscope introduced proximal to duodenum; endoscopic retrograde cholangiopancreatography (ERCP)

Table 1	
Anesthesia and Sedation in Endoscopy	
CPT/HCPCS codes considered medically necessary if criteria are met:	
Code	*Description*
00811	Anesthesia for lower intestinal endoscopic procedures, endoscope introduced distal to duodenum; not otherwise specified
00812	Anesthesia for lower intestinal endoscopic procedures, endoscope introduced distal to duodenum; screening colonoscopy
00813	Anesthesia for combined upper and lower gastrointestinal endoscopic procedures, endoscope introduced both proximal to and distal to the duodenum
99100	Anesthesia for patient of extreme age, younger than 1 year and older than 70 (List separately in addition to code for primary anesthesia procedure)
99140	Anesthesia complicated by emergency conditions (specify) (List separately in addition to code for primary anesthesia procedure)
99151	Moderate sedation services provided by the same physician or other qualified health care professional performing the diagnostic or therapeutic service that the sedation supports, requiring the presence of an independent trained observer to assist in the monitoring of the patient's level of consciousness and physiological status; initial 15 minutes of intraservice time, patient younger than 5 years of age
99152	Moderate sedation services provided by the same physician or other qualified health care professional performing the diagnostic or therapeutic service that the sedation supports, requiring the presence of an independent trained observer to assist in the monitoring of the patient's level of consciousness and physiological status; initial 15 minutes of intraservice time, patient age 5 years or older
99153	Moderate sedation services provided by the same physician or other qualified health care professional performing the diagnostic or therapeutic service that the sedation supports, requiring the presence of an independent trained observer to assist in the monitoring of the patient's level of consciousness and physiological status; each additional 15 minutes intraservice time (List separately in addition to code for primary service)

Table 1	
Anesthesia and Sedation in Endoscopy	
CPT/HCPCS codes considered medically necessary if criteria are met:	
Code	*Description*
99155	Moderate sedation services provided by a physician or other qualified health care professional other than the physician or other qualified health care professional performing the diagnostic or therapeutic service that the sedation supports; initial 15 minutes of intraservice time, patient younger than 5 years of age
99156	Moderate sedation services provided by a physician or other qualified health care professional other than the physician or other qualified health care professional performing the diagnostic or therapeutic service that the sedation supports; initial 15 minutes of intraservice time, patient age 5 years or older
99157	Moderate sedation services provided by a physician or other qualified health care professional other than the physician or other qualified health care professional performing the diagnostic or therapeutic service that the sedation supports; each additional 15 minutes intraservice time (List separately in addition to code for primary service)
G0500	Moderate sedation services provided by the same physician or other qualified health care professional performing a gastrointestinal endoscopic service that sedation supports, requiring the presence of an independent trained observer to assist in the monitoring of the patient's level of consciousness and physiological status; initial 15 minutes of intra-service time; patient age 5 years or older (additional time may be reported with 99153, as appropriate)

Table 2	
ICD-10 codes considered medically necessary with Table 1 codes if criteria are met:	
Code	*Description*
E66.01	Morbid (severe) obesity due to excess calories
E66.2	Morbid obesity
F10.10 - F19.99	Mental and behavioral disorders due to psychoactive substance use
G40.0 - G40.8	Epilepsy and recurrent seizures

Table 2	
ICD-10 codes considered medically necessary with Table 1 codes if criteria are met:	
Code	*Description*
G47.30	Sleep apnea, unspecified
G47.31	Primary central sleep apnea
G47.33	Obstructive sleep apnea (adult) (pediatric)
G47.37	Central sleep apnea in conditions classified elsewhere
G47.39	Other sleep apnea
J35.1	Hypertrophy of tonsils
M26.02	Maxillary hypoplasia
M26.04	Mandibular hypoplasia
M26.09	Other specified anomalies of jaw size [micrognathia]
M26.19	Other specified anomalies of jaw-cranial base relationship [retrognathia]
P28.30 - P28.39	Primary sleep apnea of newborn
Q18.8	Other specified congenital malformations of face and neck
Q38.2	Macroglossia
Q75.0 - Q75.9	Other congenital malformations of the skull and face bones
Q90.0 - Q90.9	Down syndrome
R06.1	Stridor
R22.1	Localized swelling, mass and lump, neck
R25.2	Cramp and spasm
S12.000A - S12.9XXS	Fracture of cervical vertebra and other parts of neck

Table 2	
ICD-10 codes considered medically necessary with Table 1 codes if criteria are met:	
Code	*Description*
S14.2XXA - S14.2XXS	Injury of nerve root of cervical spine
Z33.1	Pregnant state, incidental
Z33.3	Pregnant state, gestational carrier

References

1. Adams, M. A., Prenovost, K. M., Dominitz, J. A., Kerr, E. A., Krein, S. L., Saini, S. D., & Rubenstein, J. H. (2017). National trends in use of monitored anesthesia care for outpatient gastrointestinal endoscopy in the Veterans Health Administration. *JAMA Internal Medicine*, 177(3), 436–438. https://doi.org/10.1001/jamainternmed.2016.8566
2. Adams, M. A., Saleh, A., & Rubenstein, J. H. (2016). A systematic review of factors associated with utilization of monitored anesthesia care for gastrointestinal endoscopy. *Gastroenterology & Hepatology*, 12(6), 361–370.
3. American Society of Anesthesiologists. (2020, December 13). *ASA Physical Status Classification System*. https://www.asahq.org/standards-and-guidelines/asa-physical-status-classification-system
4. American Society of Anesthesiologists. (2019, October 23). *Continuum of depth of sedation: Definition of general anesthesia and levels of sedation/analgesia*. https://www.asahq.org/standards-and-guidelines/continuum-of-depth-of-sedation-definition-of-general-anesthesia-and-levels-of-sedationanalgesia
5. American Society of Anesthesiologists. (2023, October 18). *Distinguishing monitored anesthesia care ("MAC") from moderate sedation/analgesia (conscious sedation).* https://www.asahq.org/standards-and-guidelines/distinguishing-monitored-anesthesia-care-mac-from-moderate-sedationanalgesia-conscious-sedation
6. American Society of Anesthesiologists. *Statement on respiratory monitoring during endoscopic procedures* (2024, October 23). https://www.asahq.org/standards-and-practice-parameters/statement-on-respiratory-monitoring-during-endoscopic-procedures
7. Apfelbaum, J. L., Hagberg, C. A., Connis, R. T., Abdelmalak, B. B., Agarkar, M., Dutton, R. P., Fiadjoe, J. E., Greif, R., Klock, P. A., Mercier, D., Myatra, S. N., O'Sullivan, E. P., Rosenblatt, W. H., Sorbello, M., & Tung, A. (2022). 2022 American Society of Anesthesiologists practice guidelines for management of the difficult airway. *Anesthesiology*, 136(1), 31–81. https://doi.org/10.1097/ALN.0000000000004002

8. Brown, C.A. (2025). Approach to the anatomically difficult airway in adults outside the operating room. *UpToDate*. https://www.uptodate.com/contents/approach-to-the-anatomically-difficult-airway-in-adults-outside-the-operating-room
9. Cohen, J. (2025). Gastrointestinal endoscopy in adults: Procedural sedation administered by endoscopists. *UpToDate*. https://www.uptodate.com/contents/gastrointestinal-endoscopy-in-adults-procedural-sedation-administered-by-endoscopists
10. Dossa, F., Medeiros, B., Keng, C., Acuna, S. A., & Baxter, N. N. (2020). Propofol versus midazolam with or without short-acting opioids for sedation in colonoscopy: A systematic review and meta-analysis of safety, satisfaction, and efficiency outcomes. *Gastrointestinal Endoscopy*, 91(5), 1015–1026.e7. https://doi.org/10.1016/j.gie.2019.12.047
11. Early, D. S., Lightdale, J. R., Vargo, J. J., Acosta, R. D., Chandrasekhara, V., Chathadi, K. V., Evans, J. A., Fisher, D. A., Fonkalsrud, L., Hwang, J. H., Khashab, M. A., Muthusamy, V. R., Pasha, S. F., Saltzman, J. R., Shergill, A. K., Cash, B. D., & DeWitt, J. M. (2018). Guidelines for sedation and anesthesia in GI endoscopy. *Gastrointestinal Endoscopy*, 87(2), 327–337. https://doi.org/10.1016/j.gie.2017.07.018
12. Elmunzer, B. J., Anderson, M. A., Mishra, G., Rex, D. K., Yadlapati, R., & Shaheen, N. J. (2024). Quality indicators common to all gastrointestinal endoscopic procedures. *The American Journal of Gastroenterology*, 119(9), 1781–1791. https://doi.org/10.14309/ajg.0000000000002988
13. Hinkelbein, J., Lamperti, M., Akeson, J., Santos, J., Costa, J., De Robertis, E., Longrois, D., Novak-Jankovic, V., Petrini, F., Struys, M. M. R. F., Veyckemans, F., Fuchs-Buder, T., & Fitzgerald, R. (2018). European Society of Anaesthesiology and European Board of Anaesthesiology guidelines for procedural sedation and analgesia in adults. *European Journal of Anaesthesiology*, 35(1), 6–24. https://doi.org/10.1097/EJA.0000000000000683
14. Hocevar, L. A., & Fitzgerald, B. M. (2023, January 29). American Society of Anesthesiologists staging. StatPearls - NCBI Bookshelf. https://www.ncbi.nlm.nih.gov/books/NBK549785/
15. Goudra, B. (2025). Anesthesia for gastrointestinal endoscopy in adults. *UpToDate*. https://www.uptodate.com/contents/anesthesia-for-gastrointestinal-endoscopy-in-adults
16. Goudra, B., Nuzat, A., Singh, P. M., Borle, A., Carlin, A., & Gouda, G. (2017). Association between type of sedation and the adverse events associated with gastrointestinal endoscopy: An analysis of 5 years' data from a tertiary center in the USA. *Clinical Endoscopy*, 50(2), 161–169. https://doi.org/10.5946/ce.2016.019
17. Harjai, M., Alam, S., & Bhaskar, P. (2021). Clinical relevance of Mallampati grading in predicting difficult intubation in the era of various new clinical predictors. *Cureus*, 13(7), e16396. https://doi.org/10.7759/cureus.16396
18. Johnson, G., Okoli, G. N., Askin, N., Abou-Setta, A. M., & Singh, H. (2025). Propofol for sedation during colonoscopy. *The Cochrane Database of Systematic Reviews*, 10(10), CD006268. https://doi.org/10.1002/14651858.CD006268.pub3

19. Kaan, H. L., Khor, V., Liew, W. C., Loh, T. F., Leong, S. W., Teo, S. L., & Keh, C. H. L. (2022). The efficacy of on-demand sedation colonoscopy: A STROBE-compliant retrospective cohort study. *Surgical Endoscopy*, 36(2), 930–935. https://doi.org/10.1007/s00464-021-08351-y
20. Khan, F., Hur, C., Lebwohl, B., & Krigel, A. (2020). Unsedated colonoscopy: Impact on quality indicators. *Digestive Diseases and Sciences*, 65(11), 3116–3122. https://doi.org/10.1007/s10620-020-06491-0
21. Kim, D. B., Kim, J. S., Huh, C. W., Ma, D. W., Ji, J. S., Kim, B. W., & Choi, H. (2021). Propofol compared with bolus and titrated midazolam for sedation in outpatient colonoscopy: A prospective randomized double-blind study. *Gastrointestinal Endoscopy*, 93(1), 201–208. https://doi.org/10.1016/j.gie.2020.05.045
22. Li, J., Liu, Y., Chen, S., Dai, X., & Wang, J. (2025). Pharmacological agents for procedural sedation and analgesia in patients undergoing gastrointestinal endoscopy: A systematic review and network meta-analysis. *EClinicalMedicine*, 85, 103307. https://doi.org/10.1016/j.eclinm.2025.103307
23. Lieber, S. R., Heller, B. J., Howard, C. W., Sandler, R. S., Crockett, S., & Barritt, A. S., 4th (2020). Complications associated with anesthesia services in endoscopic procedures among patients with cirrhosis. *Hepatology*, 72(6), 2109–2118. https://doi.org/10.1002/hep.31224
24. Lieber, S. R., Heller, B. J., Martin, C. F., Howard, C. W., & Crockett, S. (2020). Complications of anesthesia services in gastrointestinal endoscopic procedures. *Clinical Gastroenterology and Hepatology*, 18(9), 2118–2127.e4. https://doi.org/10.1016/j.cgh.2019.10.011
25. Lin, O. S., La Selva, D., Kozarek, R. A., Weigel, W., Beecher, R., Gluck, M., Chiorean, M., Boden, E., Venu, N., Krishnamoorthi, R., Larsen, M., & Ross, A. (2021). Nurse-administered propofol continuous infusion sedation: A new paradigm for gastrointestinal procedural sedation. *The American Journal of Gastroenterology*, 116(4), 710–716. https://doi.org/10.14309/ajg.0000000000000969
26. Liu, Y., Xiao, J., Chen, T., Shi, D., Qiao, Y., & Liao, X. (2025). Comparative efficacy and safety of anesthetic and sedative regimens for endoscopic retrograde cholangiopancreatography: A network meta-analysis. *Digestive Diseases* (Basel, Switzerland), 43(1), 84–95. https://doi.org/10.1159/000542380.
27. The Joint Commission. (2021, October 19). Sedation and Anesthesia - Understanding the Assessment Requirements. What are the assessment requirements organizations need to understand? https://www.jointcommission.org/standards/standard-faqs/ambulatory/provision-of-care-treatment-and-services-pc/000001645/
28. Practice Guidelines for Moderate Procedural Sedation and Analgesia 2018: A Report by the American Society of Anesthesiologists Task Force on Moderate Procedural Sedation and Analgesia, the American Association of Oral and Maxillofacial Surgeons, American College of Radiology, American Dental Association, American Society of Dentist Anesthesiologists, and Society of Interventional Radiology. (2018). *Anesthesiology*, 128(3), 437–479. https://doi.org/10.1097/aln.0000000000002043

29. Quaye, A. N., Hisey, W. M., Mackenzie, T. A., Robinson, C. M., Richard, J. M., Anderson, J. C., Warters, R. D., & Butterly, L. F. (2024). Association between colonoscopy sedation type and polyp detection: A registry-based cohort study. *Anesthesiology*, 140(6), 1088–1097. https://doi.org/10.1097/ALN.0000000000004955
30. Rosero, E.B. (2020). Monitored anesthesia care in adults. *UpToDate*. https://www.uptodate.com/contents/monitored-anesthesia-care-in-adults
31. Vargo, J. J., Niklewski, P. J., Williams, J. L., Martin, J. F., & Faigel, D. O. (2017). Patient safety during sedation by anesthesia professionals during routine upper endoscopy and colonoscopy: an analysis of 1.38 million procedures. *Gastrointestinal Endoscopy*, 85(1), 101–108. https://doi.org/10.1016/j.gie.2016.02.007
32. Walsh, C. M., Lightdale, J. R., Leibowitz, I. H., Lerner, D. G., Liu, Q. Y., Mack, D. R., Mamula, P., Narula, P., Oliva, S., Riley, M. R., Rosh, J. R., Tavares, M., Utterson, E. C., Amil-Dias, J., Bontems, P., Brill, H., Croft, N. M., Fishman, D. S., Furlano, R. I., Gillett, P. M., … PEnQuIN Working Group (2022). Pediatric endoscopy quality improvement network quality standards and indicators for pediatric endoscopists and endoscopists in training: A joint NASPGHAN/ESPGHAN guideline. *Journal of Pediatric Gastroenterology and Nutrition*, 74(S1 Suppl 1), S44–S52. https://doi.org/10.1097/MPG.0000000000003265
33. Wernli, K. J., Brenner, A. T., Rutter, C. M., & Inadomi, J. M. (2016). Risks associated with anesthesia services during colonoscopy. *Gastroenterology*, 150(4), 888–e18. https://doi.org/10.1053/j.gastro.2015.12.018
34. Yadlapati, R. H., & Shaheen, N. J. (2025). Gastro-esophageal disorders of the geriatric population. *The American Journal of Gastroenterology*, 120(10S), S34–S44. https://doi.org/10.14309/ajg.0000000000003641.05

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