Medical Policy
Monitored Anesthesia Care (MAC)

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Policy Number: 154
BCBSA Reference Number: 7.02.01
NCD/LCD: N/A

Related Policies
Manipulation under Anesthesia, #483

Policy
Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity Medicare HMO Blue℠ and Medicare PPO Blue℠ Members

The use of monitored anesthesia care may be considered MEDICALLY NECESSARY for gastrointestinal endoscopy, bronchoscopy, and interventional pain procedures, when there is documentation by the proceduralist and anesthesiologist that specific risk factors or significant medical conditions are present. Those risk factors or significant medical conditions include any of the following:

- Increased risk for complications due to severe co-morbidity (American Society of Anesthesiologists class III, IV, or V [see Table PG1])
  - Morbid obesity (BMI [body mass index] >40kg/m²)
- Documented sleep apnea
- Inability to follow simple commands (cognitive dysfunction, intoxication, or psychological impairment)
- Spasticity or movement disorder complicating procedure
- History or anticipated intolerance to standard sedatives, such as
  - Chronic opioid use, or
  - Chronic benzodiazepine use
- Patients with active medical problems related to drug or alcohol abuse
- Patients younger than 18 years or 70 years or older
- Patients who are pregnant
- Patients with increased risk for airway obstruction due to anatomic variation, such as:
  - History of stridor
  - Dysmorphic facial features
  - Oral abnormalities (eg, macroglossia)
  - Neck abnormalities (eg, neck mass)
 Jaw abnormalities (eg, micrognathia)
• Acutely agitated, uncooperative patients, or
• Prolonged or therapeutic gastrointestinal endoscopy procedures requiring deep sedation.

*Examples of prolonged endoscopy procedures that may require deep sedation include the following: endoscopy in patients with adhesions after abdominal surgery, endoscopic retrograde cholangiopancreatography, stent placement in the upper gastrointestinal tract, and complex therapeutic procedures such as plication of the cardioesophageal junction.

Table PG1. ASA's Physical Status Classification System

<table>
<thead>
<tr>
<th>Class</th>
<th>Definition</th>
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<tbody>
<tr>
<td>ASA I</td>
<td>A normal, healthy patient</td>
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<tr>
<td>ASA II</td>
<td>A patient with mild systemic disease</td>
</tr>
<tr>
<td>ASA III</td>
<td>A patient with severe systemic disease</td>
</tr>
<tr>
<td>ASA IV</td>
<td>A patient with severe systemic disease that is a constant threat to life</td>
</tr>
<tr>
<td>ASA V</td>
<td>A moribund patient who is not expected to survive without the operation</td>
</tr>
<tr>
<td>ASA VI</td>
<td>A declared brain-dead patient whose organs are being harvested</td>
</tr>
</tbody>
</table>

ASA: American Society of Anesthesiologists.

The use of monitored anesthesia care is considered **NOT MEDICALLY NECESSARY** for gastrointestinal endoscopic, bronchoscopic, or interventional pain procedures in patients at average risk related to use of anesthesia and sedation.

**Prior Authorization Information**
Pre-service approval is required for all inpatient services for all products.
See below for situations where prior authorization may be required or may not be required for outpatient services.
Yes indicates that prior authorization is required.
No indicates that prior authorization is not required.
N/A indicates that this service is primarily performed in an inpatient setting.

<table>
<thead>
<tr>
<th>Outpatient</th>
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<tbody>
<tr>
<td>Commercial Managed Care (HMO and POS)</td>
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<tr>
<td>Commercial PPO and Indemnity</td>
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<tr>
<td>Medicare HMO Blue℠</td>
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<tr>
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**CPT Codes / HCPCS Codes / ICD Codes**
Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member’s contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member.

Providers should report all services using the most up-to-date industry-standard procedure, revenue, and diagnosis codes, including modifiers where applicable.

**CPT Codes**

<table>
<thead>
<tr>
<th>CPT codes</th>
<th>Code Description</th>
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<tbody>
<tr>
<td>00520</td>
<td>Anesthesia for closed chest procedures (including bronchoscopy)</td>
</tr>
<tr>
<td>00635</td>
<td>Anesthesia for procedures in lumbar region; diagnostic or therapeutic lumbar puncture</td>
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</table>
Description
MONITORED ANESTHESIA CARE
Monitored anesthesia care (MAC) is a set of anesthesia services defined by the type of anesthesia personnel present during a procedure, not specifically by the level of anesthesia needed. The American Society of Anesthesiologists (ASA defined MAC,\textsuperscript{1,2} and the following is derived from the ASA’s statements:

“Monitored anesthesia care is a specific anesthesia service for a diagnostic or therapeutic procedure. Indications for monitored anesthesia care include the nature of the procedure, the patient’s clinical condition and/or the potential need to convert to a general or regional anesthetic.

Monitored anesthesia care includes all aspects of anesthesia care—a preprocedure visit, intraprocedure care, and postprocedure anesthesia management. During monitored anesthesia care, the anesthesiologist provides or medically directs a number of specific services, including but not limited to:

- Diagnosis and treatment of clinical problems that occur during the procedure
- Support of vital functions
- Administration of sedatives, analgesics, hypnotics, anesthetic agents or other medications as necessary for patient safety
- Psychological support and physical comfort
- Provision of other medical services as needed to complete the procedure safely.

Monitored anesthesia care may include varying levels of sedation, analgesia, and anxiolysis as necessary. The provider of monitored anesthesia care must be prepared and qualified to convert to general anesthesia when necessary. If the patient loses consciousness and the ability to respond purposefully, the anesthesia care is a general anesthetic, irrespective of whether airway instrumentation is required.”

Sedation Depth
In 2004 (amended in 2014), ASA defined 4 levels of sedation and analgesia, as shown in Table 1.
Table 1. ASA’s Definitions of General Anesthesia and Levels of Sedation and Analgesia

<table>
<thead>
<tr>
<th>Terms</th>
<th>Minimal Sedation (Anxiolysis)</th>
<th>Moderate Sedation or Analgesia (Conscious Sedation)</th>
<th>Deep Sedation or Analgesia</th>
<th>General Anesthesia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsiveness</td>
<td>Normal response to verbal stimulation</td>
<td>Purposeful response to verbal or tactile stimulation</td>
<td>Purposeful response following repeated or painful stimulation</td>
<td>Unarousable even with painful stimulation</td>
</tr>
<tr>
<td>Airway</td>
<td>Unaffected</td>
<td>No intervention required</td>
<td>Intervention may be required</td>
<td>Intervention often required</td>
</tr>
<tr>
<td>Spontaneous ventilation</td>
<td>Unaffected</td>
<td>Adequate</td>
<td>May be inadequate</td>
<td>Frequently inadequate</td>
</tr>
<tr>
<td>Cardiovascular function</td>
<td>Unaffected</td>
<td>Usually maintained</td>
<td>Usually maintained</td>
<td>May be impaired</td>
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</table>

Adapted from American Society of Anesthesiologists (2013).3
ASA: American Society of Anesthesiologists.

Because sedation is a continuum, it is not always possible to predict how a patient will respond. Hence, practitioners intending to produce a given level of sedation should be able to rescue patients whose level of sedation becomes deeper than initially intended. Individuals administering moderate sedation or analgesia (conscious sedation) should be able to rescue patients who enter a state of deep sedation or analgesia, while those administering deep sedation or analgesia should be able to rescue patients who enter a state of general anesthesia.

**Sedation for Diagnostic and Therapeutic Procedures**

Multiple diagnostic and therapeutic procedures performed in the outpatient setting (eg, endoscopy, colonoscopy, bronchoscopy, interventional pain management procedures) rely on some degree of sedation for anxiolysis and pain control. Regardless of sedation depth, sedation and anesthesia services provided in outpatient settings should be administered by qualified and appropriately trained personnel. Moderate sedation is generally sufficient for many diagnostic and uncomplicated therapeutic procedures. Moderate sedation using benzodiazepines, with or without narcotics, is frequently administered under the supervision of the proceduralist.

According to the ASA’s standard for monitoring, MAC should be provided by qualified anesthesia personnel, including physicians and nurse specialists. By this standard, the personnel must be, in addition to the proceduralist, present continuously to monitor the patient and provide anesthesia care. For patients at high risk of an unsuccessful procedure under moderate sedation, this allows for the safe continuation of the procedure under deep sedation or general anesthesia by trained personnel.

Moderate sedation can be achieved using pharmacologic agents for sedation, anxiolysis, and analgesia. A frequently used combination is an opioid and benzodiazepine (eg, fentanyl with midazolam) at doses individualized to obtain the desired sedative effect. Other combinations have also been used. While benzodiazepines and opioids can cause respiratory depression, effective reversal agents exist for both.

Propofol has increasingly been used to provide sedation for procedures. It is associated with a rapid onset of action and fast recovery from sedation. However, there are concerns about potential adverse effects and safety when used by nonanesthesiologists. Propofol has the potential to induce general anesthesia, and there is no pharmacologic antagonist to reverse its action. When used as moderate sedation, propofol may be administered by anesthesia personnel or under the direction of the proceduralist. ASA has offered practice guidelines for the provision of sedation by nonanesthesiologists, stating that personnel must be prepared to respond to deep sedation and loss of airway protection should these complications inadvertently occur during sedation.4
Summary
Adequate sedation and analgesia are important parts of many diagnostic and therapeutic procedures. Various levels of sedation and analgesia (anesthesia) may be used, depending on the patient’s condition and the procedure being performed. Monitored anesthesia care (MAC) refers to a set of physician services, not a particular level of sedation. The services include the ability to convert a patient to general anesthesia (if needed) and to intervene in the event a patient’s airway becomes compromised.

For individuals who have planned endoscopy and certain risk factors or significant medical conditions who receive MAC, the evidence includes systematic reviews, a randomized controlled trial (RCT), and observational studies. Relevant outcomes are overall survival, morbid events, hospitalizations, and treatment-related mortality and morbidity. A literature review for the American Gastroenterological Association Institute identified potential indications requiring an anesthesia specialist. However, the evidence from RCTs is sparse. The single RCT comparing propofol administration by anesthesiologists for the purpose of anesthesia with propofol administered by non-anesthesiologists for sedation during colonoscopy reported that patients receiving propofol from anesthesiologists indicated greater willingness to undergo further colonoscopies under the same conditions. This trial did not show any differences in procedure time or patient satisfaction and reported a higher rate of hypoxia in patients treated by anesthesiologists with propofol. However, this trial may have been underpowered to detect differences in complication rates. The evidence is insufficient to determine the effects of the technology on health outcomes.

For individuals who have planned bronchoscopy and certain risk factors or significant medical conditions who receive MAC, the evidence includes no studies that directly address this issue. Relevant outcomes are overall survival, morbid events, hospitalizations, treatment-related mortality and morbidity. There is a lack of published evidence on MAC for bronchoscopy procedures; no RCTs, nonrandomized comparative studies, or large case series were identified. The evidence is insufficient to determine the effects of the technology on health outcomes.

For individuals who have a planned interventional pain management procedures and certain risk factors or significant medical conditions who receive MAC, the evidence includes no studies that directly address this issue. Relevant outcomes are overall survival, morbid events, hospitalizations, treatment-related mortality and morbidity. There is a lack of published evidence on MAC for interventional pain management procedures; no RCTs, nonrandomized comparative studies, or large case series were identified. The evidence is insufficient to determine the effects of the technology on health outcomes.

National guidelines (eg, from the American Society of Anesthesiologists) support the use of MAC for patients undergoing outpatient procedures who have certain risk factors or significant medical conditions. Therefore, MAC is considered medically necessary in these situations.

Policy History

<table>
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<tr>
<td>1/2018</td>
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<tr>
<td>12/2016</td>
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</tr>
<tr>
<td>3/2015</td>
<td>New references added from BCBSA National medical policy.</td>
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References


