

Recommended Metrics for Procedural Sedation & Analgesia

Procedural sedation and analgesia is the treatment of patients with systemic anesthetic drugs used to facilitate a diagnostic study or minimally invasive surgical procedure. Procedural sedation and analgesia is common in dentistry, the Emergency Department, for radiologic studies, cardiac catheterization, gastroenterology, pediatric and ophthalmologic procedures but it may also be performed for many other purposes.

The Centers for Medicare and Medicaid Services (CMS) “Conditions of Participation” (CoP) state that the Director of Anesthesia Services (DAS) is responsible for supervision of all anesthesia services including anesthesia and sedation/analgesia performed in the institution. At a minimum, the DAS must:

1. Recognize all locations in the hospital where sedation/analgesia is performed.
2. Maintain credentialing policies for all providers administering and supervising sedation/analgesia.
3. Create documentation standards for every sedation/analgesia case.
4. Direct a program for continuous quality improvement in sedation/analgesia.

Improving the quality of procedural sedation and analgesia depends on measuring patient safety and clinical outcomes. The institution may already collect pertinent data for other purposes (e.g., quality assurance, quality improvement, billing, registry) and this data should be sought before adding other data collection systems. An ASA Committee on Quality Management & Departmental Administration (QMDA) workgroup makes the following recommendations for data capture and outcomes reporting:

Core Elements

Case Volumes

- Type and number of procedures performed in every unit performing sedation/analgesia
- Number of patients receiving minimal or moderate sedation/analgesia
 - Number treated using Computer-Assisted Personalized Sedation (CAPS)
- Number of patients receiving deep sedation
- Number of patients cared for by an anesthesia team (any level of sedation)

Outcomes

- Cases completed as planned, without complication, versus:
- Cases cancelled due to patient discomfort or anxiety
- Cases with unplanned escalation in the continuum of sedation (e.g., from moderate to deep sedation)
- Patients receiving rescue medication: flumazenil or naloxone
- Placement of nasal trumpet or oral airway (not including bite block for oral procedures)
- Placement of supraglottic airway (e.g., LMA) or endotracheal tube
- Assisted ventilation with bag-valve-mask
- Oxygen saturation < 85% for greater than 3 minutes
- Patients experiencing a serious adverse event (e.g., perforation, anaphylaxis, cardiac arrest)
- Unplanned admission of an outpatient within 24 hours
- Unplanned patient transfer to an Emergency Department
- Cases with a code call or activation of an emergency response

Optional Elements

When available, these data elements should be added to stratify and analyze outcomes:

- Patient demographics: age, gender, ASA physical status
- Procedure duration (start and stop time)
- Medications used: doses and times
- PACU and facility length of stay
- Patient satisfaction: at PACU discharge and at 48-hours post-procedure
- Provider satisfaction: proceduralist and nursing staff

CAPS Metrics

When a CAPS device is used, the following data elements should be captured:

- Programming parameters
- Medications automatically administered: doses and times
- Number of alerts
- Number of “overrides” or clinician-delivered doses
- Vital signs at 1-minute intervals (heart rate, saturation, end-tidal carbon dioxide, responsiveness)

