



Pediatric Sedation

Sedation of children is different from sedation of adults. Sedatives are generally administered to gain the cooperation of the child. The ability of the child to cooperate depends on the chronological and developmental age. Often, children younger than 6 years and those with developmental delays require deeper levels of sedation to gain their cooperation. Children in this age group are particularly vulnerable to the adverse effects of sedatives on respiratory drive, patency of the airway, and protective reflexes. Therefore, only physicians with training and experience in airway management and resuscitation will be granted privileges for pediatric sedation.

The following criteria must be met in order to obtain pediatric clinical privileges for pediatric sedation.

A packet is available for your convenience to meet the requirements for the criteria reflected in 2.c.

Criteria

1. Eligibility Criteria

Licensed: MD, DO AND

2. Training/Experience

- a) Demonstrated successful completion of a residency or fellowship training program (within the last 5 years) with at least four weeks exposure to anesthesia (including IV conscious sedation, indications, contraindications, pre-anesthesia assessment, procedural care, procedure monitoring and post anesthesia care); **OR**
- b) Previous experience with evidence that the applicant has performed pediatric procedural sedation for at least **12** patients within the past **24** months *and has demonstrated airway management skills*; **OR**
- c) Evidence of participation in a procedural sedation course within the past 24 months, comprised of pharmacology, cardiac rhythm interpretation, respiratory physiology-transport & uptake, use of oxygen delivery devices, recognition & treatment of complications, airway management, legal ramifications, and liability components. Documentation attesting to successful completion of the same course or equivalent must accompany this application.



Pediatric Sedation Examination Sacred Heart Medical Center

NEEDS ASSESSMENT: This one training video and questionnaire is designed to assist those who wish to provide moderate and deep sedation in accordance with policies and procedures at Sacred Heart Medical Center.

TARGET AUDIENCE: The target audience for this module is those physicians seeking privileges in moderate and deep sedation.

EDUCATIONAL CONTENT: Sedation for diagnostic and painful procedures is a growing and dynamic area of pediatric practice. This course is intended to present the basic information required to provide safe sedation. The course has been designed to include three components:

1. Video "Sedation of the Pediatric Patient"
2. Witness sedation with a privileged provider in pediatric sedation.
3. One hour airway training with an anesthesiologist.

NEEDS ADDRESSED and LEARNING OBJECTIVES: This training addresses the need to provide comprehensive training on the management of the patient undergoing procedural sedation. At the end of the DVD, the participant will:

1. Define moderate sedation, identifying the differences between moderate and deep sedation.
2. To understand the systematic approach towards performing a safe sedation for children.
3. To understand the pre-procedure assessment.

PRESENTING FACULTY: Chris Hammond, MD

In accordance with the Accreditation Council for Continuing Medical Education Standards for Commercial Support, all persons, and organizations that are in a position to control the content of an education activity planners and speakers have not financial relationships to disclose.

COURSE DIRECTOR: Chris Hammond, MD



Date of Implementation: July 1st 2010: Expiration date: February 8, 2013
EVALUATION METHODS: The quiz and evaluation form are required Category I CME credit will be provided upon completion of the module. Please submit the Quiz Progress Page by fax to 541-335-2310

Accreditation:

Sacred Heart Medical Center is accredited by the Oregon Medical Association to provide continuing medical education for physicians. Sacred Heart Medical Center designates this enduring activity for a maximum of *1 Category I credits™* toward the AMA Physician's Recognition Award.

Name _____

Completion Requirements: (one of the following)

- Attended lecture "Pediatric Sedation" on 2-8-10
- Watch video online www.peacehealth.org.cme

And the following three components must be completed

- Completed PHMG Pediatric Sedation Examination with an 80% or higher score.

Please have the following signed by appropriate individuals and return the medical staff office:

- Witnessed sedation with credentialed staff:

Printed Name Initials

- One hour with Anesthesiologist to do practice sedation:

Printed Name Initials
SHMC Pediatric Sedation Examination

Name _____



- 1) Which of the following medical conditions would **NOT** place a child at significantly greater risk to receive sedation?
 - A. History of obstructive sleep apnea
 - B. Age younger than 1 year
 - C. ASA level III
 - D. A well-controlled seizure disorder

- 2) Which of the following statements is **FALSE** when considering pulse oximetry?
 - A. Required for sedation.
 - B. A time lag exists between oxygen desaturation detected by pulse oximetry and arterial oxygen desaturation.
 - C. Below 90% is indicative of clinically relevant hypoxemia.
 - D. Is not needed during patient transfer between sites when sedated.

- 3) Ketamine is relatively contraindicated in the patient populations described below **EXCEPT**:
 - A. A teenager with schizophrenia
 - B. A child with medical-renal disease and prominent hypertension
 - C. A child with increased intracranial pressure
 - D. A teenager who had an emergence reaction from a previous administration
 - E. A child with asthma

- 4) Parental and patient education prior to sedation includes discussion of all of the following **EXCEPT**:
 - A. Potential adverse events
 - B. Anticipated sedative effects
 - C. NPO status
 - D. Options for monitoring vital signs

- 5) Fentanyl is *more effective* than morphine for acute procedural pain control because:
 - A. Fentanyl is more potent
 - B. Fentanyl has a rapid onset of action and duration of action



- C. Fentanyl has fewer respiratory depressants effects
 - D. Fentanyl induces histamine release
- 6) A poor outcome following an adverse sedation event is **NOT** associated with:
- A. Incomplete patient assessment
 - B. Inadequate monitoring
 - C. Insufficient practitioner education
 - D. Intravenous sedation
- 7) What part of the physical exam *is required* prior to sedative administration?
- A. Weight in kilograms
 - B. Airway assessment
 - C. Baseline pain assessment
 - D. Brief neurological exam
 - E. All of the above
- 8) Which of the following is **true** with regards to a deeply sedated child?
- A. Reduced oropharyngeal muscle tone
 - B. Decreased ventilator response to CO₂
 - C. Responds only to a deep, hard sternal rub
 - D. Needs some assistance with maintaining spontaneous ventilation
 - E. All of the above
- 9) Goals of pediatric moderate sedation include all of the following **EXCEPT**:
- A. Control of physical discomfort and pain
 - B. Maintenance of patient safety
 - C. Safe completion of a diagnostic or therapeutic procedure
 - D. Upcoding your H&P to a level 3
- 10) At this time and according to PHMG pediatric moderate sedation policy, what ASA score dictates an anesthesiology consult prior to sedation?



- A. ASA class 1
- B. ASA class 2
- C. ASA class 3
- D. ASA class 4
- E. ASA class 5

11) What certification must you maintain in order to be credentialed to perform pediatric moderate sedations for PHMG?

- A. AAP
- B. NRP
- C. NRA
- D. PALS
- E. AMEX

12) At this time and according to PHMG pediatric moderate sedation policy, what is the lower age limit for pediatric moderate sedation performed by hospitalists?

- A. 6 weeks
- B. 6 months
- C. 12 months
- D. 24 months

13) The best reversal agent for a teenager who has rigid chest syndrome and hypoventilation who received Fentanyl and Versed for moderate sedation is:

- A. Narcan
- B. Flumazaniil
- C. Benadryl
- D. Precedex

14) The best agent to treat a teenager with an emergence reaction from Ketamine sedation is:



- A. Diazepam
- B. Flumazenil
- C. Narcan
- D. Time, hydration, and a dark room
- E. A little more ketamine and a parent holding their hand

15) What should be performed or documented for moderate sedation?

- A. A “time out”
- B. Parental consent
- C. Weight in kg
- D. Medication and doses given
- E. All of the above