

## **MODERATE SEDATION SELF STUDY MODULE FOR NON-ANESTHESIOLOGISTS**

Date of Original Study Module: May 10, 1999; Revision: 6/01; 4/03; 4/05; 6/07,1/2008  
Length of Study: Two (2) hours. Continuing Medical Education credit designation for this program is for a period of two years or until the next update, whichever is sooner.

**OBJECTIVES:** Upon completion of this module, the participants will be able to:

1. Define Moderate Sedation.
2. Describe common medications, guidelines for Moderate Sedation and intended use of agents.
3. Recognize the role of the physician and RN in relation to Moderate Sedation, as well as nationally recognized Standards of Care.
4. Identify key aspects of patient care to include pre-procedural, intra-procedural, and post-procedural care.
5. Demonstrate airway management and emergency intubation (Physicians and Dentists only)

**FACULTY:** Jonathan Schroeder, M.D., Board Certified, Anesthesiology

**TARGET AUDIENCE:** Physicians, Dentists, CRNA's, ARNP's, RN's, Pharmacists, RT's. Required for staff involved in the care of patients receiving Moderate Sedation.

**THIS ACTIVITY INCLUDES THE FOLLOWING:**

1. Moderate Sedation Policy 1.10.7a NUR 91-6
2. Moderate Sedation Study Module
3. Moderate Sedation Monitoring Form
4. Competency Test
5. Airway management competency verification form
6. Evaluation

**TO RECEIVE CREDIT:** The participant must complete the Competency Test and Evaluation. Physicians return test and evaluation to the CME Coordinator located in Community and Physician Relations. Non-physicians return test and evaluation to the Staff Development office. To successfully complete this study module, a passing score of 85% or greater is required. Physicians, Dentists and ARNP's must have a current ACLS certification to be credentialed for Moderate Sedation

**ACCREDITATION STATEMENT:**

The Jupiter Medical Center is accredited by the Florida Medical Association to provide continuing medical education for physicians.

The Jupiter Medical Center designates this educational activity for a maximum of 2.0 category 1 credit towards the AMA Physician's Recognition Award. Each physician should only claim those credits that he/she actually spent in the activity.

Nursing Continuing Education: Following successful program completion, the nursing participant may earn two (2.0) contact hours through Jupiter Medical Center Nursing Education Provider Number FBN 2690.

**DISCLOSURE STATEMENT: In accordance with the Accreditation Council for Continuing Medical Education (ACCME) Standards for Commercial Support, the faculty for this program has been asked to complete a Disclosure of Relevant Financial Relationships Form, This form is on file and may be reviewed in the office of the CME Coordinator.**

## **MODERATE SEDATION STUDY MODULE**

### **Definition of Minimal Sedation (Anxiolysis):**

A drug-induced state during which patients respond normally to commands. Although cognitive function and coordination may be impaired, ventilation and cardiovascular functions are unaffected.

### **Definition of Moderate Sedation (Conscious Sedation):**

Is defined as 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. Reflex withdrawal from a painful stimulus is not considered a purposeful response.

### **Definition of 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.

### **Mallampati Airway Class/or Grade**

Class I = visualization of the soft palate, fauces, uvula, tonsillar pillars.

Class II = visualization of the soft palate, fauces; and tip of the uvula obscured.

Class III = visualization of the soft palate and visualize hard palate only.

Class IV = visualize hard palate only.

### **Privileging and Competency Development:**

The qualified individual administering the moderate sedation and/or monitoring the patient must be a member in good standing of the medical staff at Jupiter Medical Center with privileges in one of the recognized clinical departments.

Medical Staff member must read and agree to abide by the Jupiter Medical Center moderate sedation policy.

Medical Staff member must take a written competency test and must have an 85% or better to pass.

**OBJECTIVES OF MODERATE SEDATION:**

1. Blunting of anxiety and fear.
2. To elicit cooperation from the patient.
3. To afford amnesia for the patient.
4. To increase the pain threshold.

**THE NATIONAL STANDARDS OF CARE AS DICTATED BY THE AMERICAN SOCIETY OF POST ANESTHESIA NURSING INCLUDE:**

1. The administration of IV Moderate sedation medications by non-anesthetist RN's are allowed by state law and institutional policy/protocol.
2. A qualified physician selects and orders the medication to achieve IV Moderate sedation.
3. **The RN managing the care of the patient during the procedure, while giving IV Moderate sedation, should have no other responsibilities that would leave the patient unattended or compromise continuous monitoring.**

**The RN must be able to:**

- a. Assess respiratory rate, oxygen saturation, blood pressure, cardiac rate, and rhythm and patient's level of consciousness.
- b. Understand and demonstrate the ability to use oxygen delivery devices.
- c. Anticipate and recognize potential complications of IV Moderate sedation in relation to the type of medication being administered.
- d. Possess the knowledge and skills to assess, diagnose, and intervene in the event of complications or undesired outcomes and to institute nursing interventions in compliance with orders or institutional protocols or guidelines.
- e. Demonstrate skill in airway management resuscitation.

**HOW TO MONITOR BREATHING DURING MODERATE SEDATION:**

1. Observe the rhythmic rise and fall of the chest.
2. Observe the rate and pattern of breathing.

**SIGNS OF UPPER AIRWAY OBSTRUCTION:**

1. Paradoxical thoraco-abdominal rocking motion (abdomen rises/chest falls-opposite to normal).
2. Retractions of supraclavicular and intercostals spaces.
3. Nasal flaring.
4. Strider- a harsh sound during respiration due to obstruction in the air passages.

### **PULSE OXIMETRY IS THE STANDARD OF CARE:**

1. PaO<sub>2</sub> is the partial pressure of oxygen in the blood  
SaO<sub>2</sub> of 100% = a PaO<sub>2</sub> of 150  
SaO<sub>2</sub> of 90% = a PaO<sub>2</sub> of 60 = **WARNING**  
SaO<sub>2</sub> of 75% = a PaO<sub>2</sub> of 40 = **DANGER**
2. Normal PaO<sub>2</sub> is between 80 –100 mmHg.
3. The accuracy of the pulse oximetry readings is affected by ambient light, movement of the patient, skin pigment, some nail polish, IV dye, hypothermia, anemia and or a low cardiac output.

### **TIPS ON O<sub>2</sub> DELIVERY:**

1. Nasal Cannula –low flow system - O<sub>2</sub> flow rate of 1-6 L/minute delivers 24-44% O<sub>2</sub> Concentration.
2. Face mask – low flow system –8-10 L/minute = 40-60% O<sub>2</sub> concentration
3. Face mask with O<sub>2</sub> reservoir 6L/minute = 60%, 10L/minute = 100%
4. Ambu bag = 100% O<sub>2</sub> concentration. Delivery is dependent on technique. Experience is important. Head tilt, chin lift, apply mask to face, compress bag with free hand, watch chest rise and fall.

### **OPENING THE AIRWAY: BLS SKILLS**

1. Head tilt 2. Chin lift 3. Place nasal or oral airway

Recommended **first line drugs for intravenous moderate sedation** are listed below:

**ADULT DOSAGES – IV**

Drug	Usual Dose (mg)	Usual Dose Range	Onset	Duration
Morphine (Narcotic analgesic)	0.03 - 0.15 mg/kg	2 - 10 mg	1 - 2 min	30 - 60 min
Meperidine (Narcotic analgesic)	1.0 – 1.5 mg/kg	25 - 100 mg	1 - 2 min	20 - 40 min
Fentanyl (Narcotic analgesic)	1-3 mcg/kg	25 - 200/mcg	1 min	10 - 15 min
Midazolam (Sedative)	0.5 – 1 mg	1 – 5 mg	1 - 3 min	15 - 30 min
Lorazepam (Ativan)	0.5 – 2 mg	1 – 6 mg	5 – 20 min	6 - 8 hrs
Etomidate(amidate)	0.1 – 0.2 mg/kg	5 – 20 mg	30 – 60 sec	2 – 3 min

**PEDIATRIC DOSAGES – IV**

(under the age of 12 years)

Medication – Pediatric IV/IM	Dose (Pediatric)	Comments Incremental Dose Interval
Midazolam (Versed)	0.05 – 0.1 mg/kg	Q 3 – 5 min
Fentanyl	Load 1 mcg/kg increase to 0.5 mcg/kg q 5 min up to 3 mcg/kg	Q 15 – 30 min
Morphine	0.05 – 0.1 mg/kg	Given over 5 min Q 5 – 15 min
Meperidine (Demerol)	0.5 – 1 mg	Q 5 min (max dose 2 mg/kg)
Lorazepam (Ativan)	0.02 – 0.09 mg/kg	Q 10 min
** Etomidate(Amidate)	0.1 – 0.2 mg/kg	

**\*In pediatric sedation, note that benzodiazepines may be associated with disinhibition.**

**\*\*Dosing information in children < 10 years old limited with Etomidate**

**PEDIATRIC DOSAGES PO/RECTAL/NASAL/SL**

(under the age of 12 years)

Medication – Pediatric PO/RECTAL/NASAL/SL	Dosing Guidelines (Pediatric)	Comments
Midazolam (Versed)	0.3 – 1 mg/kg po/rectal/nasal/SL	Max dose 15 mg Allow 15 – 30 min for effect
Diazepam (Valium)	a) – 0.3 mg/kg po/rectal	Max 10 mg

Specific antagonists: The benzodiazepine antagonist, flumazenil, and the narcotic antagonist, naloxone, will be immediately available when moderate sedation is being performed.

### ADULT REVERSAL DOSAGES

Drug	Administration
Flumazenil	0.2 mg over 15 seconds; may repeat 0.2 mg up to maximum dose of 1 mg
Naloxone	0.4 - 2 mg

### PEDIATRIC REVERSAL DOSAGES (under the age of 12 years)

Sedation / Analgesia Antagonists (Reversal Agents)	Administration (Pediatric)
Naloxone (Narcan)	2-10 mcg/kg
Flumazenil (Romazicon)	0.01 mg/kg (up to 0.2 mg) over 15 seconds; may be repeated up to four times to maximum dose of either 0.05 mg/kg or 1 mg, whichever is lower
<p>The goal is to administer the minimum dose necessary to achieve the desired outcome. Over dosage of the sedatives may cause significant morbidity or mortality despite the administration of these antagonists.  <b>Note: RN's may not administer Diprivan (Propofol), or Etomidate (Amidate) for moderate sedation.</b></p> <p>4/07 Merged with Surgical Services Policy Moderate Sedation 100737-26</p>	

**THE FOLLOWING EQUIPMENT SHOULD BE AVAILABLE IN THE IMMEDIATE AREA WHERE MODERATE SEDATION IS ADMINISTERED AND WHERE THE PATIENT RECOVERS FROM SEDATION:**

1. Code cart with monitor, defibrillator and external pacemaker
2. Oxygen and pulse oximeter
3. Suction
4. Ambu bag and mask
5. Oral, nasopharyngeal airways, endotracheal tubes in various sizes, and stylets
6. Laryngoscopes and various laryngoscope blades
7. EKG
8. Blood pressure monitoring apparatus
9. Adequate lighting
10. Emergency communications system(s)

**LEGAL ISSUES**

1. Common causes of liability
  - a. Failure to monitor
  - b. Errors in the use of equipment
  - c. Failure to communicate adverse reactions
  - d. Failure to follow policy and procedure
  
2. Prevention of Liability
  - a. Personal accountability
  - b. Knowledge
  - c. Document, document, document

## **PRE-PROCEDURAL FASTING**

In 2000 the JCAHO provided a videoconference on Proper Use of Anesthesia & Conscious Sedation included a report by the American Society of Anesthesiologists Task Force on Sedation and Analgesia by Non-Anesthesiologists. This report addressed pre-procedure fasting as follows: “sedatives and analgesics tend to impair airway reflexes in proportion to the degree of sedation/analgesia achieved, members of the Task Force support the concept of pre-procedure fasting before sedation/analgesia for elective procedures.

Recommendations include “patients undergoing sedation/analgesia for elective procedures should not drink fluids or eat solid foods for a sufficient period of time to allow for gastric emptying before their procedure.

In urgent, emergent, or other situations when gastric emptying is impaired, the potential for pulmonary aspiration of gastric contents must be considered in determining the timing of the intervention and the degree of sedation/analgesia.”

### Fasting (NPO) Protocol:

Sedative and analgesic medications tend to impair airway reflexes in proportion to the degree of sedation achieved. Patients may be at risk of aspirating gastric contents should regurgitation occur. This risk may be minimized by allowing sufficient time for gastric emptying before the procedure begins. For elective procedures fasting recommendation should be considered

- 1) Patients should be NPO for solids and non-clear liquids after midnight or for six to eight hours prior to the procedure; patients, however, may have clear liquids up to four hours prior to the procedure. Medications and enteral feedings may be continued as ordered.
- 2) In emergent situations or with impaired gastric emptying (bowel obstruction, pregnancy, opioids, pain), pulmonary aspiration risk should be considered in determining timing of the procedure and target level of sedation.

## **PRE-PROCEDURAL CARE**

1. **PRIOR TO MODERATE SEDATION, THE FOLLOWING INFORMATION MUST BE AVAILABLE IN THE PATIENT'S MEDICAL RECORD:**
  - a. Current medications.
  - b. Anesthetic and sedation history, adverse reactions.
  - c. Drug allergies.
  - d. Pertinent laboratory and diagnostic studies if required.
  - e. American Society of Anesthesiologists (ASA) Physical Status Classification.
  - f. Airway evaluation to determine if deformities of the airway anatomy or resistance to opening mouth exist.
  - g. Proposed procedure.
  - h. Proposed plan for moderate sedation (sedation note must include various items such as risks, alternatives, informed consent for moderate sedation and procedure, labs reviewed etc. as per policy).
  - i. Documentation of informed consent that includes the use of moderate sedation and properly completed consent form.
  
- 2. ANESTHESIA CONSULTATION MAY BE REQUESTED BY THE OPERATING PHYSICIAN, BASED UPON PREPROCEDURE EVALUATION OF THE PATIENT.**
  
3. Verify the presence of a driver to take the outpatient home following the procedure.
  
4. The patient's compliance with dietary restrictions and/or pre-procedure instructions is confirmed and documented.
  
5. Baseline vital signs, level of consciousness, peripheral oxygen saturation and airway status (cough, gag, and swallow reflexes) are assessed and documented.
  
6. Pulse oximetry and continuous cardiac monitoring are initiated.
  
7. IV access is established and maintained during the procedure.
  
8. Immediately prior to the procedure, the operating physician performs a clinical assessment of the patient to determine that the diagnostic or therapeutic plan remains consistent with the patient's current status.

## **INTRAPROCEDURAL CARE.**

1. Blood pressure, heart rate and rhythm, respiratory rate, oxygen saturation and level of consciousness are continuously monitored with documentation on the moderate sedation flow sheet at intervals appropriate to the patient condition. For cases lasting one hour or less, documentation is required **every 5 minutes**, as long as the sedation is being administered. For cases lasting longer than one hour, monitoring and documentation occurs every five minutes for the first hour and no less often than every fifteen minutes after the first sixty minutes. Following a repeat dose of medication, monitoring is documented every five minutes for at least fifteen minutes.
2. Sedation is administered by the physician or by a registered nurse under the direct physician supervision.
  - a. The medication is titrated to the patient's response.
  - b. There must be a physician order for the total doses of each medication given during moderate sedation.
  - c. The moderate sedation flow sheet completed by the registered nurse will reflect the divided doses of the medication and the time that it was delivered.
3. During the procedure, assessment of the patient's condition, all pharmacological agents administered, fluids and blood products administered, untoward events, any treatment rendered, and the patient's condition at the conclusion of the procedure are documented.
4. The qualified RN entrusted with the observation of the patient receiving moderate sedation shall not have other responsibilities that would compromise monitoring during the procedure.
5. Before transport to the post-procedure recovery area, the patient should have stable vital signs and a stable patent airway.

## **POST PROCEURAL CARE**

1. Blood pressure, heart rate and rhythm, respiratory rate, oxygen saturation and level of consciousness are monitored and documented at least every fifteen minutes or less, for a minimum of thirty minutes after the last dose of sedation medication.
2. **If the patient received a reversal agent, the patient must be in a monitored environment for two hours between the last administration of that reversal agent and discharge, to ensure that the patient has not become re-sedated after reversal effects have abated.**
3. Post Anesthesia Recovery (PAR) scores are calculated and documented prior to discharge from post procedural monitoring. Physician is called when patient fails to meet discharge criteria.
4. A physician order is written or pre-approved discharge criteria are utilized to discharge the patient from the recovery/procedural area. Discharge criteria include:

Baseline vital signs, level of consciousness, peripheral oxygen saturation and airway status (cough, gag, and swallow reflexes) are assessed and documented.

5. After a patient meets discharge criteria he or she will be released from the recovery/procedural area.

## **PRIOR TO DISCHARGE FROM MEDICAL CENTER**

1. Vital signs must remain stable and the patient must be free from active bleeding or excessive pain.
2. The patient must be ambulatory or meet the same pre-sedation level of independence.
3. The patient must be able to tolerate fluids.
4. The presence of a driver must again be verified. The patient should be reminded not to drive for at least twenty-four (24) hours.
5. Written discharge instructions, including when and how to obtain unscheduled treatment, are provided. These instructions should contain information pertinent to moderate sedation as well as to the procedure performed.

## **RESPONSIBILITY**

### **THE PHYSICIAN PERFORMING THE PROCEDURE AND ADMINISTERING MODERATE SEDATION IS RESPONSIBLE FOR:**

1. History and physical by physician performing procedure to include: age, review of systems specific to cardiopulmonary disease and current medications, a history of any adverse or allergic drug reactions with anesthesia or sedation and indications for the procedure.
2. Obtaining informed consent after discussing with the patient, family or legal guardian, in understandable terms, the name, nature and details of the proposed procedure, indications for the procedure, potential risks and benefits, potential complications or side effects, reasonable and available alternative treatments or procedures, and anticipated results.
3. Risk Assessment
4. ASA Classification
5. Airway Assessment
6. A re-evaluation of the patient just prior to planned sedation
7. Knowledge of agents to be used including the manufacturer's description, indications and recommended dosage of the sedative/analgesics and antagonist agents. He or she selects the appropriate agent(s) and dosage(s) as determined by the patient's age, weight, concurrent medications and clinical status.
8. The physician or his/her designee is responsible for discharging the patient from the treatment/recovery area or approving the use of pre-defined discharge criteria.

### **THE NURSING STAFF IS RESPONSIBLE FOR:**

1. Nursing staff, in collaboration with the physician and other staff, ensure that appropriate equipment is available and in good working order.
2. Verifying and documenting that each outpatient is accompanied by a responsible adult.
3. Documenting baseline patient assessment to include Vital Signs (heart rate, blood pressure, respiratory rate, oxygen saturation), EKG rhythm, allergy status, pregnancy status (order Beta HCG per Anesthesia protocol), pre-procedure medications, Pre-procedure Aldrete Score,

4. Confirm and document compliance with pre-procedure instructions. Document last time food or fluids intake occurred.
5. Conduct a “TIME OUT” immediately before starting the procedure, following JMC’s established procedure for “Universal Protocol”.
6. Intra-procedure and post-procedure monitoring and documentation of patient parameters (Vital Signs, EKG rhythm, level of consciousness) until discharge criteria are met.
7. Establishing and maintaining IV access until Discharge Criteria met.
8. Providing post-procedure instructions to the patient and/or accompanying adult.

**THE PATIENT AND FAMILY ARE RESPONSIBLE FOR:**

The patient and family are responsible for providing accurate information regarding medical history, for participating in the preparation for the procedure, and understanding their role in meeting the patient’s continuing care needs.

**AMERICAN SOCIETY OF ANESTHESIOLOGISTS**  
**PHYSICAL STATUS CLASSIFICATION**

Physical Status or ASA Class	Description
1	Normal Healthy patient
2	A patient with mild systemic disease (Examples: moderate obesity, diet-controlled diabetes mellitus, mild hypertension)
3	A patient with severe systemic disease (Examples: coronary artery disease with angina, insulin-dependent diabetes mellitus, morbid obesity, moderate to severe pulmonary insufficiency)
4	A patient with severe systemic disease that is a constant threat to life (Examples: organic heart disease with marked cardiac insufficiency, persisting angina, intractable arrhythmia, advanced pulmonary, renal, hepatic or endocrine insufficiency.
5	A moribund patient who is not expected to survive with or without the operation (Examples: ruptured abdominal aneurysm with profound shock)
6	A declared brain-dead patient whose organs are being harvested for donor purposes
E	The suffix E is used to denote any patient in one of these categories who is operated on as an <b>emergency</b> .

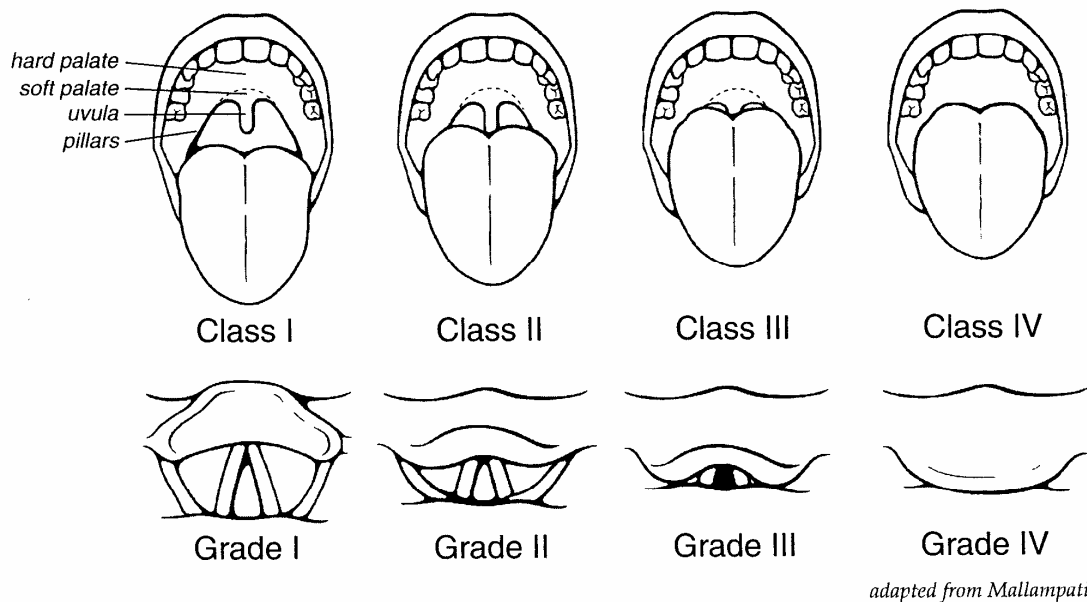
**Levels of consciousness (LOC)**

1. Alert and oriented
2. Mild sedation – oriented, able to answer questions
3. Moderate sedation – easily arousable; has ability to maintain airway
4. Deep Sedation – depressed consciousness, NOT easily aroused, but has the ability to maintain a patent airway independently. May respond purposefully to physical stimulation or verbal commands
5. General Anesthesia – unconscious, unarousable, may be accompanied by partial or complete loss of the ability to maintain a patent airway and to respond purposefully to physical stimulation or verbal commands.

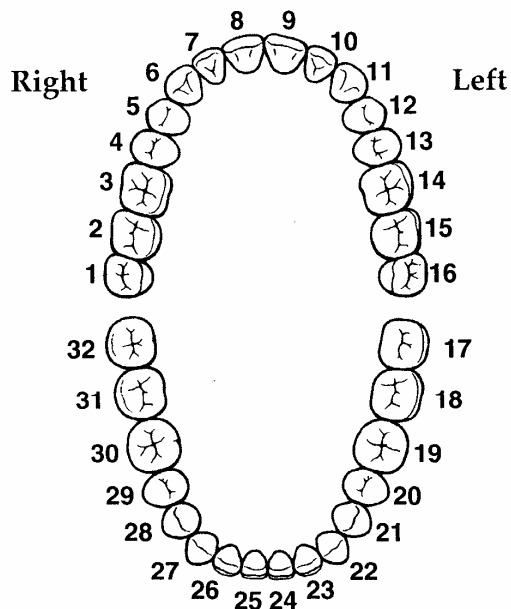
### **Aldrete Scoring System**

Activity	Score
Able to move four extremities voluntarily or on command	2
Able to move two extremities voluntarily or on command	1
Unable to move extremities voluntarily or on command	0
Respiration	
Able to breathe freely and cough deeply	2
Dyspnea or limited breathing	1
Apnic	0
Circulation	
BP +/- 20% of pre-anesthesia level	2
BP +/- 21-49% of pre-anesthesia level	1
BP +/- greater than 50% of pre-anesthesia level	0
Consciousness	
Fully awake	2
Arousable on calling	2
No response	0
O2 Saturation	
Able to maintain O2 saturation > 92% on room air	2
Needs O2 inhalation to maintain > 90%	1
O2 saturation 90% or less, even with O2 supplement	0

**Oral Exam:** Have patients sit upright with head tipped back, mouth opened and tongue protruded. Compare your view of the posterior pharyngeal structures with the diagram below. Class III and IV views predict a likely difficult intubation. Additionally, a high-arched palate or malocclusion can signal a possible difficult intubation. Note mouth opening (4 cm is normal in an adult) and any limitations of neck extension.



Note the overall condition of dentition, documenting the position of missing, loose or broken teeth, caps, bridge work or implants and partial plates or dentures (see diagram). Palpate anterior neck to check for tracheal deviation.



**Other Physical Exam Tips:**

**Body habitus:** Obese people can be difficult to mask and intubate. **Face:** Edentulous patients and those with facial hair may be difficult to ventilate with a mask. **Neck:** Note size and mobility. Landmarks are difficult to palpate on patients with short, "thick" necks. Patients with decreased neck flexion and extension can be difficult to mask ventilate and intubate. Patients with **rheumatoid arthritis** involving the neck or **Down's syndrome** can be difficult to mask ventilate and intubate. **Jaw:** Patients with a small jaw, receding chin or small mouth opening may be difficult to intubate.

# Jupiter Medical Center

## MODERATE SEDATION SELF-STUDY MODULE

Title: \_\_\_\_\_

Program Evaluation: Please complete this evaluation using the rating scale below.  
Example: 1-Poor, 2-Fair, 3-Good, 4-VeryGood.

- 
- |  |   |   |   |   |
|--|---|---|---|---|
| 1. The printed material is easy to understand.                   | 1 | 2 | 3 | 4 |
| 2. The program content met my professional needs.                | 1 | 2 | 3 | 4 |
| 3. The teaching method (independent study) enhances my learning. | 1 | 2 | 3 | 4 |
| 4. Overall I would rate this offering as:                        | 1 | 2 | 3 | 4 |

### Course Objectives: (rate level of achievement)

- |  |   |   |   |   |
|--|---|---|---|---|
| 5. Define moderate sedation.   | 1 | 2 | 3 | 4 |
| 6. Describe common medications, guidelines for Moderate Sedation, and intended use of agents.                              | 1 | 2 | 3 | 4 |
| 7. Recognize the role of the physician in relation to Moderate Sedation, as well as national recognized Standards of Care. | 1 | 2 | 3 | 4 |
| 8. Identify key aspects of patient care to include pre-procedural, intra-procedural, and post procedural care.             | 1 | 2 | 3 | 4 |

### Comments/Suggestions: (please keep responses inside the box)

Signature \_\_\_\_\_ Date \_\_\_\_\_

Print Name \_\_\_\_\_

NAME \_\_\_\_\_

DATE \_\_\_\_\_

### MODERATE SEDATION COMPETENCY TEST

1. Define moderate sedation?
  
  
  
  
  
  
  
  
  
  
2. Define minimal sedation?
  
  
  
  
  
  
  
  
  
  
3. Define deep sedation?
  
  
  
  
  
  
  
  
  
  
4. What are 4 objectives of moderate sedation?
  - a.
  - b.
  - c.
  - d.
  
  
  
  
  
  
  
  
  
  
5. Identify the appropriate antagonist for each of the following medications

___ Meperidine	a. Flumazenil
___ Morphine	b. Narcan
___ Midazolam	
___ Fentanyl	
___ Diazepam	
  
  
  
  
  
  
  
  
  
  
6. The RN whose responsibility is directed only to the patient may administer medication, monitor the patient, and observe the patient's responses to both the sedation and the procedure. This RN must be with the patient at all times and may not engage in tasks that would compromise continuous monitoring during the procedure.
  - a. True
  - b. False
  
  
  
  
  
  
  
  
  
  
7. What are signs of upper airway obstruction?
  - a. Paradoxical thoraco-abdominal rocking motion
  - b. Retractions of supraclavicular and intercostals spaces
  - c. Nasal flaring
  - d. Stridor
  - e. All of the above

8. An SaO<sub>2</sub> of 90 = a PaO<sub>2</sub> of  
a. 70            b. 60            c. 50            d. 40
9. Nasal cannula oxygen at 1-6L/minute flow rate delivers \_\_\_\_\_%O<sub>2</sub>  
a. 25-30        b. 24-44        c. 45-60
10. How do you open up an obstructed airway?  
a. head lift  
b. chin lift  
c. oropharyngeal airway  
d. nasopharyngeal airway  
e. all of the above
11. Initial typical IV dose of valium for healthy patient as listed in the dosage guidelines  
a. 1-2 mg  
b. 2.5-5 mg  
c. 10 mg
12. Initial typical dose of fentanyl for moderate sedation as listed in the dosage guidelines  
a. 100 mcg  
b. 200 mcg  
c. 25-50 mcg  
d. 50-100 mcg
13. Maximum dose of Demerol per hour in moderate sedation patients per guidelines  
a. 50-100 mg  
b. 100-200 mg  
c. no limit
14. Typical initial dose of midazolam in healthy patient undergoing moderate sedation per guidelines  
a. 5-7 mg  
b. 2.5-5 mg  
c. 1-2.5 mg  
d. 1 mg
15. Initial and total dose of IV flumazenil for reversing benzodiazapines  
a. 1 mg/2mg  
b. 0.5 mg/1mg  
c. 0.2 mg/1mg
16. Typical initial dose of naloxone given every 2-3 minutes to reverse narcotics  
a. 1 mg  
b. 0.5 mg  
c. 0.4 mg

17. Ways to prevent liability.
- Personal accountability
  - Follow facility policy and procedure
  - Document, document, document
  - All of the above
18. You give the patient only 1 mg of Versed for the procedure. The patient then asks if he can drive home because his driver left with someone else. You say
- Sure, it was only one mg of Versed.
  - No, you can not drive yourself home.
19. During the first hour of a procedure, vital signs are required every \_\_\_\_\_minutes
- 2 minutes
  - 5 minutes
  - 10 minutes
  - 15 minutes
20. The minimum amount of time a patients vital signs are monitored after moderate sedation is
- 15 minutes
  - 30 minutes
  - 60 minutes
  - 2 hours
21. How much time must elapse between last dose of reversal agent (flumazenil, naloxone) and discharge?
- 3 hours
  - 2 hours
  - 1 hour
  - 30 minutes
22. An ASA III patient is a
- Healthy patient
  - A patient with mild systemic disease
  - A patient with severe systemic disease
  - A patient with severe systemic disease that is a constant threat to life
23. Patients undergoing sedation/analgesia for elective procedures should not drink fluids or eat solids for a sufficient period of time to allow for gastric emptying before their procedure
- True
  - False
24. All of these are true for moderate sedation patients except:
- Patients must be NPO for solids after midnight or 6 to 8 hours prior to procedure.
  - Patients may have clear liquids up to 4 hours prior to procedure
  - I'm the doctor/nurse and I can do what I want
25. Before a moderate sedation case can begin the physician must fill out a physician pre-anesthesia assessment.
- True**
  - False**