

Moderate Sedation Self Study for Nurses - Post Test

Name: (Print) _____ (Signature) _____

Unit: _____ Date: _____ Score: _____ / 75 = _____ % (80% needed to pass)

1. A 5-year-old is receiving IV sedation. The nurse monitoring this patient is taking vital signs every 5 minutes, and monitors the heart rhythm and oxygen saturation. The nurse notices that the child's respiratory rate has decreased and the oxygen saturation has dropped to 87%. The nurse has to vigorously stimulate the child to get a response. The most appropriate action for the nurse to take is:
 - a. Lift the chin and jaw, attempt to provide for a better airway, notify the physician immediately of the change in the patient's condition. Increase the patient's oxygen delivery via oxygen mask/cannula or Ambu bag. Call for help, and consider reversal of sedative/narcotic medication effects.
 - b. Continue to monitor for further changes; reduce the next dose of sedation medication by half.
 - c. Document the patient's status on the assessment form; notify the MD at the conclusion of the procedure.
2. The development of chest wall rigidity ("wooden chest") can result in serious respiratory compromise and is most often seen with the rapid administration of:
 - a. Fentanyl (Sublimaze)
 - b. Morphine
 - c. Ketamine (Ketalar)
 - d. Flumazenil (Romazicon)
3. The reversal agent and initial dose preferred for a 44 pound (22kg) child who has had morphine, meperidine, and fentanyl during a procedure is:
 - a. Flumazenil (Romazicon) 0.1 mg – 0.2 mg
 - b. Naloxone (Narcan) 0.2 mg
 - c. None of the above
4. The reversal agent and initial dose preferred for a 300 pound 18 year-old who has had Diazepam, Midazolam, and Lorazepam during a procedure is:
 - a. Flumazenil (Romazicon) 0.2 mg, repeat every 1-2 minutes as needed
 - b. Naloxone (Narcan) 0.4 mg, repeat every 2-3 minutes as needed
 - c. Both a and b
5. Which **PO** midazolam (Versed) dose is appropriate for a healthy 10 kg (~22 pounds) 18 month old child:
 - a. 0.45 – 0.9 mg
 - b. 0.55 – 1.1 mg
 - c. 1 - 2 mg
 - d. 2.5 - 3 mg
6. The best example(s) of medication allergic reaction(s) would be:
 - a. Hives, wheezing, or hypotension
 - b. Constipation or diarrhea
 - c. Respiratory depression and low oxygen saturation

7. A patient showing paradoxical reaction(s) to benzodiazepines might exhibit:
 - a. Agitation
 - b. Lack of cooperation
 - c. Hyper-excitability reactions
 - d. All of the above
8. The FIRST action you take for your compromised patient:
 - a. Drug reversal with Narcan or Romazicon
 - b. Open and secure their airway, increase supplemental oxygen, and assure adequate ventilation
9. A 60-year-old 250 pound male patient with coronary artery disease undergoes a pacemaker implant under IV sedation. During the procedure the patient's oxygen saturation decreases to 84%. The patient is snoring and responds to vigorous stimulation. You should:
 - a. Lift the chin and jaw, attempt to provide a better airway, notify the physician immediately after the change in the patient's condition, increase oxygen delivery, call for assistance and consider reversal agents.
 - b. Continue to monitor for further changes; reduce the next dose of sedation medication by half.
 - c. Document the patient's status on the assessment form; notify the MD at the conclusion of the procedure.
10. The reversal agent and initial dose you would give to if the patient above had received a narcotic is:
 - a. Naloxone 1 mg (mixed in 9 ml injectable saline) and titrated to patient's response
 - b. Narcan 0.4 mg (mixed in 9 ml injectable saline) and titrated to patient's response
 - c. Flumazenil 0.2 mg (mixed in 9 ml injectable saline) and titrated to patient's response
 - d. None of the above
11. The patient above who received a mixed benzodiazepine / narcotic sedation for what became a very painful procedure becomes difficult to arouse. The physician asks you to give a reversal medication. What reversal regime might be preferred in this scenario:
 - a. First reverse the narcotic then the benzodiazepine if necessary
 - b. First reverse the benzodiazepine then the narcotic if necessary
 - c. Reverse the narcotic and the benzodiazepine with a largest dose by weight you can give.
12. Opioid adverse effects may include:
 - a. respiratory depression, nausea, vomiting
 - b. euphoria and amnesia
 - c. pupillary dilation and tachycardia
 - d. urinary incontinence and hypertension
13. On pre-procedure evaluation, you note that your patient can only open her mouth 1-cm because of temporomandibular joint disease. Which of the following is most likely?
 - a. It may be difficult to rescue the patient if she stops breathing
 - b. The patient is likely to become hypoxic during minimal sedation (anxiolysis)
 - c. The patient will require a greater-than-expected dose of sedative medications
14. Following administration of midazolam and meperidine for colonoscopy, a patient becomes sedated to the point where his airway is partially obstructed, but he responds purposefully following painful stimulation. This corresponds to which of the following levels of sedation?
 - a. Minimal sedation
 - b. Moderate "conscious" sedation
 - c. Deep sedation
 - d. General anesthesia

15. Findings of the pre-procedure evaluation should be reconfirmed:
- Only if a complication occurs
 - Within a week before the procedure
 - On the day before the procedure
 - Immediately before the procedure
16. An otherwise healthy patient requires moderate sedation for elective cardiac catheterization. He should not consume clear liquids for a minimum of how many hours before the beginning of the procedure?
- 2
 - 4
 - 6
17. A patient who is breathing supplemental nasal oxygen develops complete airway obstruction during moderate sedation. Which of the following is likely to occur first?
- Decrease in oxygen saturation reading by pulse oximeter
 - Cessation of breath sounds
 - Sinus bradycardia on electrocardiogram
 - Hypotension on automated blood pressure cuff
18. A specific individual should be dedicated to monitor patients during sedation and analgesia. During moderate sedation, this individual may assist with an endoscopic procedure under the following circumstances:
- They do not leave the procedure room for more than five minutes
 - The alarms of the pulse oximeter are activated
 - The tasks are minor and interruptible, and monitoring is maintained
 - Supplemental oxygen is administered
19. During moderate sedation, an individual with advanced life support skills must be available:
- Within the procedure room
 - Within five minutes
 - Within ten minutes
 - By calling "911"
20. During sedation with propofol, a patient stops breathing and becomes unresponsive to verbal or tactile stimulation. The pulse oximeter reads 86% and is dropping. To improve the patient's oxygenation you would use:
- Positive pressure ventilation
 - Supplemental nasal oxygen
 - Intravenous Flumazenil
 - Intravenous Naloxone
21. A patient with severe chronic obstructive pulmonary disease and congestive heart failure requires sedation for colonoscopy. Before sedation is administered, the following specialist(s) should be consulted:
- Pulmonologist
 - Cardiologist
 - Anesthesiologist
 - All of the above
22. The use of supplemental oxygen during sedation and analgesia _____.
- Delays the detection of apnea by pulse oximetry
 - Should be avoided during moderate "conscious" sedation
 - Decreases the likelihood of hypoxia

23. The usual initial dosage of IV meperidine for sedation and analgesia for a 60 Kg, 58 year-old patient is:
- 50 -100 mg
 - 30 - 60 mg
 - 100 - 125 mg
 - 5 - 25 mg
24. In a medical evaluation prior to the administration of moderate sedation, the history and examination should include an assessment of:
- Cardiovascular status
 - Past problems with anesthesia
 - Drug and alcohol use/abuse history
 - All of the above
25. A 42 year-old man scheduled for an excision has a history of non-insulin dependent diabetes, and well-controlled hypertension, without any other medical conditions is:
- Not a candidate for moderate sedation
 - ASA 3
 - ASA 2
 - ASA 1
26. Ketamine (mark the one that is true):
- Has a propensity to cause profound respiratory depression
 - May be given in the ED and ICU at Bay Regional Medical Center
 - May be given in the Emergency Department at Bay Regional Medical Center.
27. After receiving Morphine and Valium for sedation and analgesia, your patient loses consciousness and becomes dusky in appearance. The oxygen saturation has decreased rapidly from 95% to 75%, what responses should you take:
- Ambu bag delivery of oxygen
 - Nasal cannula delivery of oxygen
 - Be ready to give IV Narcan and Romazicon
 - A and C
28. You may only administer IV sedation under the guidance and order of a credentialed physician of Bay Regional Medical Center's staff:
- True
 - False
29. All patients with a SaO₂ less than _____ will receive supplemental oxygen via nasal cannula as ordered.
- 98 %
 - 94 %
 - 96 %
30. The patient receiving conscious/moderate sedation must have completed a signed consent form prior to receiving sedating agents:
- True
 - False
31. The nurse providing sedation during moderate sedation should remain with the patient at all times:
- True
 - False

32. Urinary retention is sometimes a side effect after the administration of narcotics:
- True
 - False
33. Benzodiazepines provide sedation and analgesia:
- True
 - False
34. The patient receiving Diprivan (propofol) awakens rapidly:
- True
 - False
35. Discharge criteria and an acceptable score for discharge are included on the conscious sedation flow sheet.
- True
 - False
36. Dysrhythmia development is the most common cardiovascular complication occurring with moderate sedation administration.
- True
 - False
37. Contrast media utilized in radiologic procedures has no effect on moderate sedation monitoring techniques.
- True
 - False
38. You notice your esophageal endoscopy patient is displaying signs of hypoxia. If the doctor pulls out the endoscope
- the patient may breath easier, and no reversal medication may be needed
 - the patient will not breath easier, a reversal medication must be given
39. The definition of moderate/conscious sedation includes:
- A depressed level of consciousness
 - Patient retracts the ability to independently and continuously maintain a patent airway
 - Patient retains the ability to respond appropriately to physical and verbal stimuli
 - All of the above
40. At a minimum, a pre-sedation assessment must include:
- Review of the cardiac system
 - Review of the respiratory system
 - Review of the neurologic system
 - All of the above
41. At the first signs of developing agitation and restlessness in the patient receiving sedating agents for a minor procedure, the nurse should **first** assess for:
- Pain
 - Fear
 - Hypoxia
 - Nausea and vomiting

42. Typical discharge criteria include:
- Adequate respiratory function and stable vital signs
 - Attainment of a preprocedural level of consciousness
 - Intact protective reflexes
 - All of the above
43. What score would a patient exhibiting the following criteria achieve utilizing the Discharge REACT Score (Post Anesthesia Recovery Score) found on IV BRMC's Moderate Sedation Record -
- Example:* able to move all 4 extremities, able to breathe deeply greater than 10/minute and cough freely, BP +25 of pre-anesthetic level, 95.2 F otic temperature, arousable on calling, able to maintain oxygen saturation greater than 92% on room air, dry dressing, pain free, dizziness when supine, nauseated, has voided.
- Score of 5
 - Score of 8
 - Score of 9
 - Score of 10
44. Which of the following information should be included in the discharge instructions provided to the patient prior to discharge?
- Do not consume alcoholic beverages in the next 2 hours
 - Do not make important decisions until the effects of the medication have worn off
 - Resume your regular diet starting with clear liquids
 - You can return to work this afternoon when you feel up to it
45. IV Versed (midazolam) has a length of action of approximately:
- 10 minutes
 - 30 minutes - 4 hours
 - over 5 hours
 - 1-2 minutes after discontinuation of drip
46. When utilizing Diprivan (propofol) it is important to change the IV tubing and solution every:
- 2-3 hours
 - 4 hours
 - 6 hours
 - 12 hours
47. The first signs of developing myocardial ischemia include:
- ST segment elevation
 - Q wave development
 - T wave inversion
 - Prolonged QRS interval
48. Patients at risk of over-or under-sedation include:
- Obese patients
 - Elderly patients
 - Pediatric patients
 - All of the above

49. Which of the following are normal changes with aging that will effect sedation medication administration?
- Cardiac output decrease
 - Decreased responsiveness to blood carbon dioxide levels
 - Decreased renal blood flow
 - All of the above
50. Which of the following administration concerns is/are part of safe drug delivery:
- Physicians must be physically present in the room prior to sedation administration
 - The Department of Anesthesia is responsible for certification of physician competency.
 - Both a and b
51. Emergency equipment which must be immediately accessible during IV sedation includes:
- Emergency cart with defibrillator, cardiac monitor, airways, Ambu bag and intubation tray
 - Emergency drugs including reversal agents
 - Oxygen and suction with tubing
 - All of the above
52. The following must be completed preprocedure.
- Vital signs including TPR and BP
 - Breath sounds and baseline oxygen saturation
 - Patent IV in a large vessel
 - All of the above
53. During conscious sedation vital signs and oxygenation status is recorded at least every ____ minutes.
- 1
 - 5
 - 15
54. Post procedure vital signs and oxygenation status are documented at least every ____ minutes, or until return to baseline status.
- 5
 - 15
 - 30
55. A patient meets the criteria for discharge following IV conscious sedation if:
- Patient has met the pre-established unit discharge criteria
 - Sufficient time has elapsed following the last administration of reversal agents and reversal effects have worn off
 - Patient has achieved a patient assessment score of 8-10
 - All of the above

Matching (Approved drugs for sedation)

- | | |
|--------------------|---------------------|
| 56. _____ MS | a. Meperidine |
| 57. _____ Demerol | b. Diazepam |
| 58. _____ Fentanyl | c. Midazolam |
| 59. _____ Valium | d. Morphine Sulfate |
| 60. _____ Versed | e. Sublimaze |

Matching Dose base on Approved Rate per minute to give IV Push (IVP) :

- 61. _____ MS a. 2 - 5 mg IVP over 1 minute
 - 62. _____ Demerol b. 5 mg IVP over 5 minutes
 - 63. _____ Fentanyl c. 10 mg IVP over 2 minutes
 - 64. _____ Valium d. 50 mg IVP over 2 minutes
 - 65. _____ Versed e. 50 mcg IVP over 1 minutes
66. In a moderately sedated patient, attempted insertion of which of the following may cause retching or laryngospasm?
- a. Nasopharyngeal airway
 - b. Oropharyngeal airway
 - c. Laryngeal mask airway
 - d. Endotracheal tube
 - e. All of the above
67. Baseline vital signs and patient responsiveness should be documented before:
- a. attaching monitoring equipment
 - b. any medication is administered
 - c. the consent form is signed
 - d. the caregiver leaves
68. Which of the following drugs must be available and the correct dose by weight calculated and ready, wherever opioids are administered?
- a. Flumazenil (Romazicon)
 - b. Neostigmine (Prostigmine)
 - c. Naloxone (Narcan)
 - d. Hydroxyzine (Vistiril)
69. Compared to diazepam (Valium), midazolam (Versed):
- a. causes venous irritation
 - b. produces more effective amnesia
 - c. produces moderate analgesia
70. The administration of small, incremental doses of medication is known as:
- a. variable-rate infusion
 - b. bolus technique
 - c. titration to effect
 - d. sedative steal
71. After a large total dose of diazepam (Valium), drowsiness may return in:
- a. 12 - 14 hours
 - b. 24 hours
 - c. 6 - 8 hours
 - d. 48 hours
72. Vasoconstriction, such as occurs with perioperative hypothermia, may interfere with accurate:
- a. electrocardiology
 - b. pulse oximetry
 - c. capnography
 - d. oscilloscope tracings

73. A patient who has received conscious sedation/analgesia should be discharged:
- Into the care of a "responsible adult"
 - As soon as reversal agents are effective
 - As soon as there is no evidence of orthostatic hypotension
 - Only after a release has been signed
74. What should I do if during a moderate sedation procedure, I am asked to give more medication than I think is prudent?
- Give the medication; let the physician worry about the consequences.
 - Refuse to give the medication and if the physician persists in giving it, leave the room to get my Coordinator/Manager/Supervisor.
 - Decline to give the medication, and continue to closely monitor the patient if the physician chooses to give the medication.
 - Argue with the doctor in front of the patient.
75. If a non-anesthesiologist doctor gives Diprivan IV push, and asks me to recover the deeply sedated patient I should:
- Begin to monitor the patient following sedation recovery policy
 - Request that the doctor remain with the patient until an anesthesiologist arrives
 - Notify my Supervisor/Coordinator/Manager and complete a Performance Improvement Report.
 - All of the above
76. Resedation following administration of Romazicon may occur because
- Romazicon's duration of action is shorter than all benzodiazepine's duration of action.
 - Romazicon doesn't reverse amnesic effects of benzodiazepines.
 - Romazicon causes pain on injection.
77. Calculate the dose :
- You want to give your 200 pound adult patient 0.2mg = _____ml
 - You want to give your 11 Kg Pediatric patient _____ml
78. Dilute Narcan 0.4 mg/ml in _____ ml of injectable normal saline to = _____mg/ml.
79. Calculate the dose – you mixed 1 vial Narcan (0.4 mg/cc) in 9cc Normal Saline:
- You want to give your adult patient 0.4 mg = _____ml
 - You want to give your 10 Kg Pediatric patient _____ml
80. I know to complete and turn in the evaluation for this self-study along with my post quiz as part of what I must do to receive contact hours for this.
- I want the contact hours
 - I do NOT want the contact hours



Return your completed test to your manager or coordinator. They will forward it to Deb Reinhardt, Annex Building - in order for you to get credit for completing this mandatory activity. Thank you!

“Moderate Sedation a Self-study for Nurses”
Course Evaluation

Name (Print): _____ Date: _____

Signature: _____ Unit: _____

It took me _____ hours and _____ minutes to complete the self-study and test. (Require an answer in order to give you the contact hours)

After completion of the self-study -

1. I can identify the difference between moderate and deep sedation.
a. Yes b. No
2. I can identify the purpose of moderate/conscious sedation.
a. Yes b. No
3. I can identify the elements required for pre-sedation, intra-procedure, and post-sedation assessment.
a. Yes b. No
4. I can identify discharge criteria for patients who have received moderate sedation.
a. Yes b. No
5. I can articulate actions, administration, potential side effects, contraindications and patient education related to specified drugs used in moderate/conscious sedation.
a. Yes b. No
6. I can identify the signs of respiratory depression and airway compromise.
a. Yes b. No
7. I can articulate the elements of airway management during moderate sedation.
a. Yes b. No
8. I can identify emergencies arising from moderate/conscious sedation, and the equipment that must be available in case of an emergency.
a. Yes b. No
10. The manner in which this material was presented was effective.
a. Yes b. No
11. The course material was presented in an understandable manner.
a. Yes b. No
12. The educational level of this course was appropriate for nurses.
a. Yes b. No
13. The course material was accurate and current.
a. Yes b. No
14. To make the learning packet better you should: _____

15. Something that will change in my practice or should change on my unit based on what I learned :

16. Some things I would like to know about sedation that weren't mentioned are:

Name: _____ Unit: _____ Date: _____

BRMC moderate sedation related policies:

I have reviewed the following policies on BRMC's Intranet

(check off all that you read):

- Critical Care: Propofol Titration in Critical Care
- Nursing General: Peripheral IV
- Nursing General Peripheral IV: Intravenous Access per Saline Lock or Keep Vein Open IV
- Nursing General : IV-Push & IVPB Guidelines for RN Administration
- Surgery: Intraoperative Nursing Management Protocol 0.01
- Surgery: IV Sedation Protocol 0.02
- Endo/Minor Procedure: Endoscopy/Minor Procedure Protocol 0.10
- Endo/Minor Procedure: Lithotripsy Protocol (non-invasive)
- MRI: Outpatient Sedation 17.00
- Diagnostic Imaging: Discharge Criteria for Adult Patient in Diagnostic Imaging 84.00

BRMC employees – Read the above policies (as appropriate to your role) and turn in your completed form to your manager along with your Moderate Sedation Self-study test and evaluation. Thank you!