

JOHN C. LINCOLN DEER VALLEY HOSPITAL
Phoenix, Arizona

CRITERIA FOR PRIVILEGES
TO ORDER/ADMINISTER IV CONSCIOUS SEDATION

Qualifications and competency requirements for privileges to administer conscious sedation by an applicant at the time of appointment and reappointment to the Medical Staff and as an Emergency Department Nurse Practitioner include:

INITIAL REQUEST - CRITERIA FOR GRANTING PRIVILEGES

ADULT Patients:

- A. Signed acknowledgment that the applicant has reviewed and understands the John C. Lincoln Deer Valley Patient Services Policy, Management of Conscious Sedation #14.17.0.60 and the John C. Lincoln Deer Valley Conscious Sedation Learning Packet; **AND**
- B. ACLS certification; **AND**
- C. Training and education during residency, fellowship or continuing medical education courses that include:
 - i. Evaluation and care of patients receiving conscious sedation and a course of study that includes conscious sedation medications; **OR**
 - ii. Successful completion of the attached Conscious Sedation Post Test

PEDIATRIC Patients

- A. Signed acknowledgment that the applicant has reviewed and understands the John C. Lincoln Deer Valley Patient Services Policy, Management of Conscious Sedation #14.17.0.60 and the John C. Lincoln Deer Valley Conscious Sedation Patient Learning Packet; **AND**
- B. PALS certification; **AND**
- C. Training and education during residency, fellowship or continuing medical education courses that include:
 - i. Evaluation and care of patients receiving conscious sedation and a course of study that includes conscious sedation medications; **OR**
 - ii. Successful completion of the attached Conscious Sedation Post Test

REAPPOINTMENT REQUEST - CRITERIA FOR CONTINUING PRIVILEGES

ADULT & PEDIATRIC Patients:

- A. Signed acknowledgment that the applicant has reviewed and understands the John C. Lincoln Deer Valley Patient Services Policy, Management of Conscious Sedation #14.17.0.60; **AND**
- B. ACLS certification. PALS certification for pediatric patients.

_____ I do NOT require Conscious Sedation privileges.

_____ I do utilize Conscious Sedation in my practice. I have read the enclosed Policy and Procedure for the administration of Conscious Sedation at John C. Lincoln Deer Valley Hospital and agree to abide by this policy.

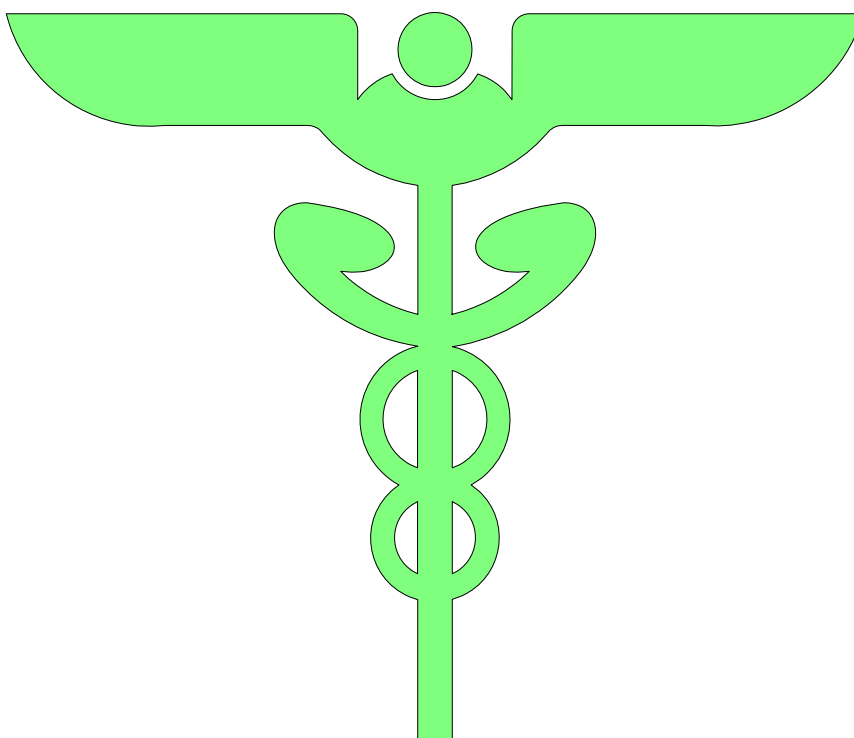
Signature

Date

Specialty

**JOHN C. LINCOLN
DEER VALLEY HOSPITAL**

**CONSCIOUS SEDATION
PATIENT MANAGEMENT**



INDIVIDUAL LEARNING PACKET

Effective January 1, 2007

LEARNER OBJECTIVES:

Upon completion of this packet the learner will be able to:

1. Define conscious sedation and differentiate between conscious sedation and anesthesia.
2. List the personnel requirements that are mandatory to care for a patient receiving conscious sedation.
3. List the patient care areas that are designated to monitor patients who have received conscious sedation.
4. Describe the JCL standard of care for patients that have received conscious sedation.
5. Describe patient preparation/assessment prior to conscious sedation.
6. Identify equipment necessary to monitor a patient during conscious sedation.
7. Identify the required time intervals and the five assessments performed to evaluate a patient after completion of conscious sedation.
8. Identify the discharge criteria requirements for a patient who has received conscious sedation.
9. Describe the objectives and benefits of conscious sedation.
10. Identify the undesirable effects of conscious sedation.
11. Identify nursing interventions to rectify patient problems related to conscious sedation.
12. Identify contraindications to conscious sedation.
13. Discuss the action, side effects, dosage and reversal agent for each drug typically used for conscious sedation.

I. DEFINITION:

“Conscious sedation is produced by the administration of pharmacological agents. A patient under conscious sedation has a depressed level of consciousness, but retains the ability to independently and continuously maintain a patent airway and respond appropriately to physical stimulation and/or verbal command.” (ANA Position Statement)

JCL-DV policy provides guidelines for administration of conscious sedation. Conscious sedation refers to the administration of IV sedative, hypnotic, and opioid drugs to produce sedation, analgesia, and amnesia. While conscious sedation is within the nurse’s scope of practice, administration of anesthesia is not. * (See Exception).

**EXCEPTION: RNs may assist a licensed provider by administering anesthetic agents in situations where the licensed provider is present but unable to personally inject the anesthetic agent because the provider is performing these critical tasks for the patient: airway management or placement of a peripheral nerve block requiring the use of both hands. (Advisory Opinion, ASBN, May, June, July 2003)*

In order to achieve all the desired effects of conscious sedation, the physician will generally order both an analgesic and sedative agent. This takes advantage of synergistic sedative effects and decreases the total amount of each drug that is needed. Dose requirements for conscious sedation vary from patient to patient based on many factors such as body size and physical condition. Since it is the patient’s response to the medication, rather than the dose given, that determines safety and efficacy, it is important that an assessment is done between each dose of medication.

If the patient progresses beyond responding to verbal command or physical stimulation then the patient is under anesthesia. The patient may no longer be able to maintain a patent airway.

PERSONNEL REQUIREMENTS FOR ADMINISTRATION OF CONSCIOUS SEDATION:

The registered nurse administering the medication and/or monitoring the patient receiving the medication shall have successfully completed ACLS and conscious sedation education. The nurse must be trained in maintaining an open airway should a deeper sedation level occur.

Conscious sedation will only be administered by an ACLS certified RN or an ACLS certified physician.

III. DESIGNATED PATIENT CARE AREAS:

Conscious sedation will be given only in the following designated patient care areas:

- Cardiac Catheterization Laboratory
- CCU/ICU
- Emergency Department (ED)
- Endoscopy Department
- Surgery Department
- Telemetry Department
- PACU/ ambulatory surgery
- Diagnostic Imaging

IV. STANDARD OF CARE:

- Each patient will be assessed pre-procedure, intra-procedure, and post-procedure.
- Each patient will be continuously monitored by direct observation and indirect physiologic measurement.
- The physician will order dose and frequency of medications used.
- IV access will be maintained throughout the duration of conscious sedation.
- Emergency resuscitative equipment will be immediately available to staff who are monitoring patients receiving conscious sedation.
- Patients receiving conscious sedation will be monitored for no less than 30 minutes after receiving the last dose of medication.
- Patients will not be transferred to an unmonitored bed until return to a safe or pre-procedure LOC and have stable vital signs.
- Outpatients discharged home will meet established discharge criteria that demonstrate that the patient has returned to a safe physiological level (or to the same pre-procedural level).

V. PREPROCEDURE ASSESSMENT/PREPARATION OF THE PATIENT:

- Verify patient history, current medications, and drug allergies.
- Assess history of previous sedation problems.
- Assess NPO status.
- Perform appropriate physical assessment
- Verify height and weight.
- Assess chief complaint.
- Determine the patient's baseline communication ability.
- Teach patient about the procedure.
- Obtain informed consent for the procedure and for conscious sedation.
- Verify code cart accessibility. Verify suction, ambu bag with mask, oxygen, airways, and appropriate reversal agents are available in the room.
- Obtain ECG monitor, pulse oximeter, and BP cuff.
- Verify monitor alarms are on.
- Document baseline vital signs, oxygen saturation, ECG monitor strip, and level of consciousness.
- Ensure a patent IV.
- Report any abnormalities in the assessment or labs to the physician. Arrhythmias, abnormal lab values, abnormal vital signs may need to be treated prior to the start of the procedure.

VI. INTRAPROCEDURE ASSESSMENT OF THE PATIENT:

- The RN's primary responsibility is to monitor the patient. There should be enough qualified individuals present to perform the procedure and monitor the patient.
- The patient will be continuously monitored by direct observation and indirect physiologic measurement.
- Ensure continuous IV access. Document fluids given.
- Ensure oxygen availability.
- Monitor and document vital signs, respiratory status, oxygen saturation, heart rhythm, level of consciousness, and skin color.
- Administer medications as ordered by the physician and document drug, dose, route, time, and the patient's response.
- Observe for allergic reactions, depressed respiratory efforts, agitation, hypotension, arrhythmias, and decreased oxygen saturation. Document any interventions.
- Document q 5-15 minutes and prn throughout the procedure.

VII. POSTPROCEDURE ASSESSMENT OF THE PATIENT:

- The patient must be monitored for no less than 30 minutes after receiving the last dose of medication.
- Monitor the ECG.
- Monitor vital signs, respiratory effort, oxygen saturation, stability of blood pressure, level of consciousness, activity level, and skin color. This assessment will provide a recovery assessment score. Use the conscious sedation flow sheet that provides a pre-sedation assessment, sedation assessment and post-sedation assessment.

The Ramsay Sedation Scale is the measure of sedation most commonly applied in the hospital setting. This scale ranges from 1 (awake, anxious, agitated and restless) to 6 (asleep and not responsive). Below is a modified Ramsay Scale to be utilized in determining the level of sedation.

Sedation Level	Description
1	Awake, anxious, agitated or restless
2	Cooperative, tranquil, orientated
3	Responds to verbal commands
4	Asleep with brisk response to light stimuli
5	Asleep without response to light stimuli
6	No response, non-responsive to voice or physical stimulation

VIII. DISCHARGE CRITERIA AND PATIENT CARE:

- A score of 1 on the assessment indicates that the patient has returned to his pre-procedure state.
- Thirty minutes after the last dose of medication, the patient must have a score of less than 3 on the assessment in order to be discharged to home or to an unmonitored bed.
- A patient with a score of greater than 4 will be held for further monitoring and assessment or transferred to another monitored unit.
- Written discharge instructions will be given to patients and/or to their significant others.
- Patients receiving conscious sedation will be discharged to the care of an adult.

IX. BENEFITS OF CONSCIOUS SEDATION:

- Alteration of mood – patient relaxed.
- Maintenance of consciousness – patient able to cooperate.
- Increased pain threshold – procedure less painful.
- Stable vital signs.
- Some degree of amnesia, arousable sleep - patient may not remember any procedural discomforts.
- Decreased recovery time/early ambulation.
- Rapid onset of medication.
- Titration to patient response – sedation individualized for patient’s comfort.
- Rapid recovery.

X. UNDESIRABLE EFFECTS OF CONSCIOUS SEDATION:

- Nystagmus and severely slurred speech.
- Dysrhythmias.
- Respiratory obstruction due to decreased oropharyngeal muscle tone – patient unable to protect his/her own airway.
- Respiratory depression - hypoxia and hypercapnia. May be evidenced by low oxygen saturation, periods of apnea, irregular respiratory efforts, or decreased respiratory rate.
- Hypotension due to peripheral vasodilatation and cardiopulmonary depression.
- Agitation/combativeness.
- Allergic reaction.

XI. RELATIVE CONTRAINDICATIONS TO CONSCIOUS SEDATION:

- Pregnancy.
- Significant hepatic dysfunction.
- Known allergy to conscious sedation medications.

XII. MEDICATIONS COMMONLY USED FOR CONSCIOUS SEDATION:

Most physicians use a combination of opioid analgesics and sedative-hypnotics during conscious sedation.

OPIOID	DOSE & INFUSION RATE	ONSET, PEAK & DURATION	NURSING CONSIDERATIONS
FENTANYL (SUBLIMAZE)	25 mcg increments to a maximum of 2 mcg/kg given over 1-2 minutes prn. (80 x more potent than MS) Dilute with at least 5 cc of NS to facilitate titration. If given too quickly, spasm of the chest wall may inhibit respiration.	Onset: immediate Peak: 2-5 minutes. Duration: 30-60 minutes. Metabolized in the liver and excreted in the urine.	<ul style="list-style-type: none"> ▪ Watch for respiratory depression, nausea, vomiting, chest wall rigidity, bradycardia and hypotension. ▪ Respiratory depression outlasts the analgesic effects. ▪ Narcan will reverse its effects. ▪ If chest wall rigidity occurs, emergent intubation and a neuromuscular blocking agent may be required.
MEPERIDINE (DEMEROL)	0.5 – 2.0 mg/kg. In increments as high as 25 mg IV push.	Onset: 1 minute. Peak effect in 5-20 min. Duration: 2-4 hours.	<ul style="list-style-type: none"> ▪ Same as above. ▪ Narcan will reverse its effects.
MORPHINE	1-2 mg increments, infused over 5 minutes, titrated to patient response.	Onset: 1-3 minutes. Peak: 20 minutes. Duration: 4 hours.	<ul style="list-style-type: none"> ▪ Same as above. ▪ Titrated to pain relief and respiratory status.

SEDATIVE	DOSE & INFUSION RATE	ONSET, PEAK & DURATION	NURSING CONSIDERATIONS
MIDAZOLAM (VERSED)	<p>Incremental doses of 0.5 – 1.0 mg IVP; titrate slowly to meet patient’s needs. Wait two minutes after each dose before deciding whether to give an additional dose.</p> <p>Reduce dose in patients over 60 or debilitated or chronically ill patients.</p>	<p>Onset: 3-5 minutes. Peak: Within 5 minutes. Duration: Typically 30-40 minutes, may last up to 6 hours.</p>	<ul style="list-style-type: none"> ▪ Resp. depression more apt to occur when given with opioids, MAO inhibitors, clonidine (Catapres), or cimetidine (Tagamet). ▪ Major side effects include: airway obstruction, apnea, ataxia, blurred vision, bronchospasm, cardiac arrest, and cardiac dysrhythmias. ▪ Flumazenil (Romazicon) will reverse all sedative effects.
DIAZEPAM (VALIUM)	<p>2.5-10 mg given slowly IVP– not to exceed 5 mg/min. May repeat q 5-10 minutes up to 20 mg. Give only 1/3 this dose if the patient is also receiving a narcotic.</p>	<p>Onset: 30 sec. – 2 min. Peak: 5 minutes. Duration: lasts 4 hours but substantially longer in patients taking MAO inhibitors or who have renal, cardiac, or hepatic disease.</p>	<ul style="list-style-type: none"> ▪ Same as Versed. ▪ The drug is very irritating to blood vessels. Administering the drug into a large vein will reduce the risk of thrombophlebitis, swelling, pain, and local inflammation.
LORAZEPAM (ATIVAN)	<p>0.02 mg/kg –0.1 mg/kg to a maximum of 4 mg. Each 2 mg or fraction thereof over 1 minute.</p>	<p>Onset: 30 sec. – 2 min. Peak: 15- 20 minutes. Duration: 6-8 hours</p>	<ul style="list-style-type: none"> ▪ Same as Versed. ▪ Bed rest required for a minimum of 3 hours after IV injection, and assistance may be required for up to 8h. ▪ Must be diluted with equal volume NS before administration.
CHLORAL HYDRATE	<p>Pediatric dose: 25-75 mg/kg (max dose of 100mg/kg)</p>	<p>Onset 40-60 minutes Duration: 4-6 hours</p>	<ul style="list-style-type: none"> ▪ Most adverse reactions occur when administering in combination with other sedatives. Side effects include motor imbalance, nausea, vomiting, diarrhea, and restlessness

OTHER SEDATIVES	DOSE & INFUSION RATE	ONSET, PEAK & DURATION	NURSING CONSIDERATIONS
PROPOFOL (DIPRIVAN)	5-80 mcg/kg/min	Very rapid onset of action (1-2 minutes) very short half life (10-15 minutes)	<ul style="list-style-type: none"> ▪ Must be given by physician unless he is performing a critical task ▪ No analgesic properties ▪ Requires a dedicated IV line ▪ Respiratory depression ▪ Bradycardia ▪ Pain at infusion site
KETAMINE	<p>Adult: IM:3-8mg/kg IV: Range: 1-4.5 mg/kg; usual induction dosage: 1-2 mg/kg Maintenance: Supplemental doses of 1/3 to 1/2 of initial dose</p> <p>Pediatric: Oral: 6-10 mg/kg for 1 dose (mixed in 0.2-0.3 mL/kg of cola or other beverage) given 30 minutes before the procedure IM: 3-7 mg/kg IV: Range: 0.5-2 mg/kg, use smaller doses (0.5-1 mg/kg) for sedation for minor procedures; usual induction dosage: 1-2 mg/kg. Maintenance: Supplemental doses of 1/3 to 1/2 of initial dose Continuous I.V. infusion: 5-20 mcg/kg/minute</p>	Half-life elimination: 11-17 minutes; Elimination: 2.5-3.1 hours	<ul style="list-style-type: none"> ▪ Must be given by physician unless he is performing a critical task ▪ Used in combination with anticholinergic agents to decrease hypersalivation. ▪ Analgesic properties ▪ Little respiratory depression ▪ Intrinsic bronchodilator properties ▪ Side effects: associated with bad dreams ("disassociative state"), increases intracranial pressure, increases blood pressure, excess secretions (can be blocked with pre-medication using Glycopyrrolate (Robinul))
ETOMIDATE (AMIDATE)	0.2 mg/kg over 30 -60 seconds IV (Ketamine is usually preferred in children)	Onset: 1 minute of IV dose Duration: 3-5 minutes	<ul style="list-style-type: none"> ▪ Must be given by physician unless he is performing a critical task ▪ Metabolized by the liver and effect may be prolonged in patients with liver failure ▪ Side effects: Muscle twitching, Nausea and vomiting, respiratory depression

REVERSAL AGENTS	DOSE & INFUSION RATE	ONSET, PEAK & DURATION	NURSING CONSIDERATIONS
FLUMAZENIL (ROMAZICON)	0.2 mg over 15 sec. After one minute, another dose of 0.2 mg may be given and repeated q minute until reaching a maximum of 1.0 mg. In benzodiazepam overdose – 0.3 mg up to 3 mg max.	Onset: 1-2 minutes. Peak: 6-10 minutes. Duration: 30-60 minutes.	<ul style="list-style-type: none"> ▪ The duration of benzodiazepines (Versed, Valium) is longer than the duration of flumazenil. Re-sedation can occur so monitor closely for recurrence of respiratory depression.
NALOXONE (NARCAN)	0.2 – 2.0 mg IVP, titrated as needed.	Onset: 2-3 minutes. Duration: 30-60 minutes.	<ul style="list-style-type: none"> ▪ Although the drug can reverse respiratory depression, it can also eliminate the narcotic's analgesic effects. If you give too much, the patient will experience pain that cannot be managed with any narcotic for 60 minutes. On the other hand, it's also possible for naloxone's effects to wear off too soon, so watch for re-emergence of respiratory depression.

References:

Gahart, B. & Nazareno, A. (1995) 1996 Intravenous medications, 12th ed. Mosby: St. Louis.

Kost, M. (1999). Conscious sedation: guarding your patient against complications. Nursing 99, 29 (4), 34-39.

Micromedix, 2000.

Lorazepam Product Information, Abbott Laboratories.

CONSCIOUS SEDATION POST-TEST

NAME: _____ EMPLOYEE #: _____ UNIT: _____ DATE: _____

1. Which of the following effects is not a benefit of conscious sedation?
 - a. It allows the patient to follow verbal commands.
 - b. It decreases ventilatory effort.
 - c. It reduces pain.
 - d. It induces amnesia for the procedure.

2. The physician orders an additional 1 mg of Versed. Versed is used for:
 - a. Analgesia
 - b. Amnesia
 - c. Anesthesia
 - d. Antidote for opioid toxicity

3. During the procedure, the nurse notes that the respiratory rate has fallen to 8/min with apneic periods and oxygen saturations less than 90% on 2L/min of oxygen. Which of these interventions is appropriate?
 - a. Obtain an order to administer Flumazenil 0.2 mg over 15 seconds
 - b. Provide verbal and physical stimulation
 - c. Continue the procedure
 - d. Immediately intubate
 - e. Administer Naloxone 10 mg IVP

4. The nurse gives 2 mg of IV Ativan to a patient going for a radiology procedure. Which of the following statements is correct?
 - a. Since only IV Ativan was given, the patient did not receive conscious sedation.
 - b. No monitoring is required unless the consent states “conscious sedation.”
 - c. Ativan’s peak effect can be judged before transport.
 - d. The patient’s level of sedation is the indicator of whether conscious sedation has been given.

5. At JCL, which of the following is TRUE regarding nurses that administer conscious sedation?
 - a. They do not need physician supervision.
 - b. They can rely on the respiratory department to rescue patients that lose their airway.
 - c. They can be certified nursing assistants.
 - d. They must be prepared to provide airway management interventions.

6. Which of the following is TRUE regarding synergism?
 - a. It allows more medication to be given.
 - b. It decreases the risk of prolonged sedation.
 - c. It increases the risk of ventilatory depression.
 - d. It makes identifying the drug responsible for over-sedation easy.

7. The ideal regimen for conscious sedation would
 - a. have a long duration.
 - b. result in procedural amnesia.
 - c. metabolize slowly to inactive metabolites.
 - d. have a gradual onset.

8. Which of the following are benefits of conscious sedation?
 - a. Maintenance of consciousness
 - b. Increased pain threshold
 - c. Stable vital signs
 - d. A, B & C

9. The nurse should anticipate that the duration of action for Versed may last up to:
 - a. 1 hour
 - b. 2 hours
 - c. 4 hours
 - d. 6 hours

10. Significant hypotension due to opioid administration should be reversed with:
 - a. Dopamine
 - b. Naloxone
 - c. Flumazenil
 - d. 1 liter D5W fluid bolus

11. Romazicon should be available during the administration of sedation because it:
 - a. Enhances the effects of opiates
 - b. Provides pain relief
 - c. Prevents bronchospasm
 - d. Reverses the effects of benzodiazepines

12. The following assessment should be completed on a patient who has received conscious sedation:
 - a. Skin color
 - b. Level of consciousness
 - c. BP
 - d. Respiratory rate
 - e. Activity
 - f. All of the above

13. During a procedure requiring IV sedation, the nurse's primary responsibility is to
- Assist the physician with the procedure
 - Provide education and support to the family
 - Select the medications and the dosage to be used
 - Monitor the patient and administer the medications
14. At the end of a procedure, the patient's SpO₂ drops to 90% and the respiratory rate drops to 10. A reversal agent is given and the patient immediately becomes more alert, the respiratory rate increases to 14-16 per minute, BP is stable, skin is pink, oxygenation on room air increases to 96%, and the patient is pain free. Which statement is correct?
- The patient may be transferred immediately back to an unmonitored unit.
 - Flumazenil has a shorter duration than Versed; therefore, the patient may have a recurrence of respiratory depression in 30-60 minutes.
 - Narcan reverses respiratory depression caused by opiates and sedatives.
 - The patient's modified Ramsay score is less than 6.
15. Current monitoring standards during conscious sedation administration require which of the following:
- Cardiac monitoring only after the procedure
 - Only one nurse to monitor the patient and assist with the procedure
 - Drugs and equipment for routine and emergency care
 - Monitoring of vital signs every 30 minutes
16. Which drug has a high risk of producing respiratory depression ?
- Ketamine
 - Flumazenil
 - Midazolam
 - Fentanyl
17. During conscious sedation the patient may require airway assistance.
- TRUE FALSE
18. Only BCLS RNs and physicians can administer conscious sedation.
- TRUE FALSE
19. Which of the following patients would be a poor candidate for conscious sedation?
- A patient with heart failure requiring a vascath insertion
 - A patient requiring a lumbar puncture
 - A patient requiring a cardioversion
 - A patient requiring sutures for a skin laceration
20. The nurse caring for a patient who received Narcan (Naloxone) can expect the effects to last:
- 10 -20 minutes
 - 20- 60 minutes
 - 60- 90- minutes
 - 90-120 minutes