
Nurses Self Paced Learning Module on Pain Management

**Dominican Santa Cruz Hospital
Santa Cruz, California**

**Developed by:
Strategic Planning Committee
Dominican Santa Cruz Hospital
1555 Soquel Drive
Santa Cruz, CA 95065
(831) 462-7653**

[Graphic of a nurse could not be reproduced with the current software. Please refer to the MPRC index for ordering information. This graphic does not add to the informative content in this paper.]

**NURSES SELF PACED LEARNING
MODULE ON
PAIN MANAGEMENT 1/98**

- **Answer questions**
- **Remove Dosing Data Card (your gift)**
- **Return answer sheet to B. Lesser, L. Stratton, H. Bartlett, or J. Goddard within 2 weeks. *Thank you.***

Dominican Hospital
CHW

Answer sheet for pain management module

1. T F
2. a b c d
3. a b c d
4. T F
5. a b c d
- 6.a) What doses of the following provide approximately the same analgesia as Meperidine 100 mg IV/IM

_____ mg of Morphine Sulfate SC/ IM/ IV
_____ mg of Hydromorphone (Dilaudid) SC/ IM/ IV
- b) What oral doses of the following IM opioids are required to achieve approximately equal analgesia?
Dilaudid 1.5 mg SC would have to be replaced with approximately _____ mg of Dilaudid PO.
- c) MS 10 mg IV/ IM/ SC would have to be replaced with approximately _____ mg MS PO.
7. a b c
8. T F
9. T F
10. T F
11. a b c d
12. a b c d
13. T F
14. a b c d
15. a b c d
16. a b c d

What classes would you like to see taught in the future? _____

CONCEPTS:

Definition of term Addiction, Tolerance, Physical dependence:

Addiction - Behavior of overwhelming involvement with obtain and using a drug for its psychic effects, not for approved medical reasons. High tendency to relapse back to continuing the drug once the pain is gone.

Tolerance - After repeated administration of a narcotic, a given dose begins to lose its effectiveness, resulting in the need for larger and larger doses. The first indication of tolerance is decreased duration, then decreased analgesia. Tolerance is not addiction.

Physical Dependence - After repeated administration of a narcotic, withdrawal symptoms occur if the narcotic is abruptly stopped. Physical dependence is not addiction. This can be prevented with tapering the drug usage.

Research shows that addiction occurs in less than 1% of hospitalized patients treated with opioids. This fact needs to be discussed with patients, families, and physicians if they seem hesitant to use pain medications.

Patient example:

After exhaustive titration of Mrs. S's hydromorphone, her pain from the end-stage ovarian cancer was finally at a pain rating that was satisfactory to her. Before she was discharged home, the resident cautioned her about increasing the dose, stating that he did not want her to become an addict. The RN asked him to explain what he meant by addiction. The reply was that she was at risk for addiction because she needed higher and higher doses to control her pain. (In fact, at home, Mrs. S. gradually decreased the narcotic dosage on her own.) The nurse pointed out that what he described was either drug tolerance or the result of progressive disease. These are not the same as addiction. The physician concluded that it was all a lot of semantics! But it was not just semantics to Mrs. S, who was terrified of becoming addicted. This label from a physician was devastating. In our society, addicts are not "good" people. The nurse approached the resident the next day with copies of articles. She stated that she wanted to follow up their discussion on addiction with these articles.

What about treating pain for a suspected or known addict?

- When a patient with a known addiction problem becomes injured or is treated with surgery, it is not the appropriate time to initiate efforts for drug withdrawal.

Use attached answer sheet (please, do not mark in module) Questions:

1. Addiction occurs when repeated doses of opioids begin to lose effectiveness. T F
2. The likelihood of addiction (psychological dependence) resulting from the use of opioids to treat pain in terminally ill patients occurs:
 - a. In less than 1% of patients
 - b. In 10% of patients
 - c. In 25% of patients
 - d. In greater than 50% of patients

[Graphic of nurse and patient could not be reproduced with the current software. Please see the MPRC Index for ordering information. This graphic does not add to the informative content of this paper.]

3. The goal of treatment of a patient in pain who is a known substance abuser is:
 - a. Prevent withdrawal
 - b. Control pain
 - c. Delay rehabilitation until appropriate time
 - d. All of the above
4. When a recovering substance abuser with postoperative pain requests for pain relief, the nurse should refuse to administer them. T F

Dosage changes

- Titrating the analgesic dose and interval means finding the lowest dose and longest interval of a drug that relieves pain to the patient's satisfaction with minimal side effects.
- Titrate medication dosages by either:
 - Changing the dose
 - Changing the interval between doses
 - Changing the route of administration or
 - Changing the drug
- When changing from IV/ IM administration to PO medications, maintain a constant dose of the PO medications while tapering the IV/ IM medications.

[Graphic of a medicine bottle could not be reproduced with the current software. Please refer to the MPRC index for ordering information. This graphic does not add to the informative content in this paper.]

- Use transdermal Fentanyl patches when pain is first under control by another route. This allows the appropriate dose to be determined. It is difficult to titrate Fentanyl patch doses because of their long half-life. DSCH is going to start using a Fentanyl patch when Epidural dc'd on orthopedic patients.
- There is not easy formula for increasing or decreasing a narcotic dose. Guidelines include the following for continuous dosing:
 - Determine the dosage by a) checking the pt's respiratory rate, b) noting the pt's pain rating, and c) using the following percentages to change the rate:
 1. Change the dose by 10% if the pain is almost controlled
 2. Change the dose by 50% if pain is partially controlled
 3. Change by 100% if there is no pain relief and noted by the pain scale
- For breakthrough doses, use approximately 10-15% of the total daily dose.

Patient example:

- Example of titrating up: If the patient is breathing well, e.g. 12/min, with a pain rating of 8 (0 to 10 scale), the milligrams of analgesic should be increased probably by 50% to 100%.
- Example of titrating down due to problems with respiratory function: If the patient's respiratory rate has dropped from 12 to 6/min during the hour following IV narcotic administration, the milligrams of analgesic should be decreased, probably by 50%, and possibly even discontinued until the respiratory rate improves.

Questions:

5. Successful conversion of the patient from IV/ IM to PO medication is best accomplished by the gradual:
- Decrease of IV/IM medication as the PO medication is increased
 - Maintenance of a constant dose of PO medication, as the IV/IM medicine is reduced
 - Administering the PO medication as needed, while the IV/IM medicine is reduced
 - Gradual reduction of medication via both routes

Equianalgesic Chart:

- The table is to be used as a guide when tailoring drug and dosage of pain medication. The treatment regime needs to be determined by individual response.
- The equianalgesic chart compares different medications and different routes of administration.

Analgesic	IV route (mg)	PO route (mg)
Morphine	10	60
Codeine	75	130
Hydromorphone	1.5	7.5
Meperidine	100	300
Oxycodone		30
Propoxyphene Hcl		500

An Equianalgesic Chart for you:

[The Equianalgesic Chart could not be reproduced with the current software. Please refer to the MPRC index for ordering information. This chart adds to the informative content in this paper.]

6. Use of equianalgesic chart for:

a) Switching from one opioid to another (i.e. Codeine to MS)

What doses of the following provide approximately the same analgesia as Meperidine 100 mg IM/IV?

_____ mg of Morphine Sulfate SC/ IM/ IV

_____ mg of Hydromorphone (Dilaudid) SC/ IM/ IV

b) What oral doses of the following IV/IM opioids are required to achieve approximately equal analgesia?

Dilaudid 1.5 mg SC would have to be replaced with approximately _____ mg of Dilaudid PO.

MS 10 mg IM/SC/IV would have to be replaced with approximately _____ mg MS PO.

Elderly:

- The factors which affect distribution of drugs are altered by increasing age are as follows:
 - a. Increase in proportion of body fat results in a decrease in the size of the dose needed
 - b. Decrease in protein as seen in malnutrition and chronic disease, increases the portion of circulating unbound protein which results in an increase in the effect of the drug and
 - c. Decrease in kidney function results in decrease clearance of the drugs, hence medications stay in the body longer.

- As a general rule, the older the patient, the longer the action of the drug.

[Graphic of a nurse and patient could not be reproduced with the current software. Please refer to the MPRC index for ordering information. This graphic does not add to the informative content in this paper.]

Pain:

- There is no ceiling on the dosing levels with the strong narcotics i.e. Morphine, meaning the more medication you administer the more effective the pain relief.
- Around the clock dosing is better than PRN. It is better to medicate the patient before the pain returns and/or increases.
- Continuous infusion avoids peaks and valleys and maintains a constant level of pain control This method is not recommended for elderly.
- Taking medication on an “as needed” basis may be appropriate in instances when pain is incidental, intermittent, or unpredictable.
- Distraction such as music, TV, reading, meditation, visiting, etc. are often used by patients to assist with their pain relief, thus a person might not appear to be in pain when asking for pain medication.

[Graphic of an adult and child could not be reproduced with the current software. Please refer to the MPRC index for ordering information. This graphic does not add to the informative content in this paper.]

Question:

7. If a PCA narcotic administration technique is ordered for an elderly patient would you recommend:
 - a. Continuous and PCA bolus mode
 - b. PCA bolus mode only
 - c. Continuous rate only
8. If the patient can be distracted from his pain, this usually means that he does not have as high an intensity of pain as he indicates. T F
9. When pain medication IV push or IM is prescribed PRN for pain relief in the post operative patient, the nurse must administer it only when the patient feels pain. T F
10. Beyond a certain dosage of MS, increases in dosage will not increase pain relief. T F
11. What is the most appropriate nursing action when responding to a patient stating, but not exhibiting pain?
 - a. Accepting the patient’s report of pain when they say it exists
 - b. Ignoring reports of pain until the patient visibly shows signs of being in pain
 - c. Ignoring reports of pain until the patient visibly shows signs of being in pain
 - d. Educate the patient regarding cues that nurses look for when assessing pain

12. Nursing interventions which help ensure the relief of pain include all of the following except:
- Administering the amount of medication necessary, as often as necessary
 - Observing the patient to ensure a safe and effective dose
 - Instructing the patient and family about the medication
 - Stressing to the patient the danger of opioid overdose

Adjuvant Medications:

- Non-narcotics are more effective than people think.
- Non-narcotics work peripherally, while narcotics work on the CNS.
- Giving narcotics and non-narcotics together result in an additive effect.
- The World Health Organization recommends starting with PO medication for cancer pain even though they are slower in action. Treatment of a patient with cancer pain starts at step 1 and proceeds to step 3.

Questions:

13. Giving aspirin or acetaminophen along with opioids is a recommended method of increasing pain relief. T F
14. The World Health Organization (WHO) recommends the use of adjuvant analgesics:
- As a substitute for opioid analgesics
 - To relieve depression, thus enabling opioids and nonopioids to work efficiently
 - Because they work rapidly and are useful in treating acute pain
 - As a supplement to each step in the management of cancer pain

Side Effects:

- The drug Meperidine (Demerol) has some particular side effects. They are as follows:
 - It is shorter acting than other narcotics.
 - It is irritating to the tissues and has the potential for severe tissue fibrosis with frequent injections.
 - It can be responsible for neuro effects such as disorientation, bizarre feelings and hallucinations.
 - It accumulates an active metabolite (normeperidine) which is a CNS stimulant which may result in seizures.
 - May be constipating.

[Graphic of a medicine bottle could not be reproduced with the current software. Please refer to the MPRC index for ordering information. This graphic does not add to the informative content in this paper.]

- Possible side effects with all narcotics include the following:
 - a. Respiratory depression – the first dose causes the biggest potential problem.
 - b. Pruritus – not dose related, usually occurs in the face, reverses with Naloxone.
 - c. Urinary retention – occurs mostly in the elderly and in people with previous history of bladder disorders. There is a higher incidence post op.
 - d. Nausea and vomiting – this often occurs when the narcotic is first begun and subsides within the first few days. Changing the narcotic may be helpful. Mix different types of antiemetics for relief of symptoms.
 - e. Constipation – this occurs because the narcotics bind to receptor sites in the GI tract. This decreases motility. Use stool softeners with the narcotics. The patient should have a BM q 2-3 days.
 - f. Sedation – it is difficult to distinguish lethargy produced from the narcotic and lethargy due to exhaustion from dealing with the pain.

Questions:

15. All of the following are disadvantages of Meperidine except:
 - a. Meperidine is short acting
 - b. Meperidine is irritating to tissues and can cause muscle fibrosis
 - c. Meperidine is probably less constipating and causes less spasm to the biliary tract
 - d. Meperidine is more toxic due to the accumulation of the active metabolite normeperidine

 16. The risk of opioid induced respiratory depression is greatest with:
 - a. Repeated doses
 - b. Extended use of the medication
 - c. The first dose administered
 - d. Doses given close to the opioid “ceiling”
- Remember to use a standardized pain assessment scale (0-5) and document the results.
 - Reassessment after any pain medication is given is essential to evaluate the medication’s effectiveness.
 - “The only safe and effective way to administer an analgesic is to monitor the individual’s response to the drug.”

Completion of this module recertifies you as a pain resource nurse.

Module based on: McCaffery, M. & Beebe, A. (1989). Pain, Clinical Manual for Nursing Practice, Mosby.