Winnipeg Regional Health Authority
Caring for Health

Office régional de la santé de Winnipeg
À l'écoute de notre santé

CLINICAL PROTOCOL FOR THE NURSING RESPONSE TO SUSPECTED EXCESSIVE OPIOID-INDUCED CENTRAL NERVOUS SYSTEM AND RESPIRATORY DEPRESSION IN COMMUNITY PALLIATIVE CARE PATIENTS

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INTRODUCTION

A large proportion of dying individuals will require treatment with opioids, administered by a variety of routes, for management of symptoms as they approach end of life. In most cases, patients receiving opioids in the community setting have had their doses titrated to comfort without any untoward effects. However, the aggressive management of symptoms with opioids of differing durations of action and routes of administration in this frail population does carry a risk of dose-related adverse effects.

If it is suspected that someone is experiencing excessive side effects from their opioid medications, a timely response is required to reverse the central nervous system (CNS) and respiratory depressant effects.

PURPOSE

This clinical protocol was developed to facilitate timely and effective response to excessive CNS and respiratory depression suspected to be related to opioids in palliative care community patients registered on the WRHA Palliative Care Palliative Care Program.

KEY POINTS

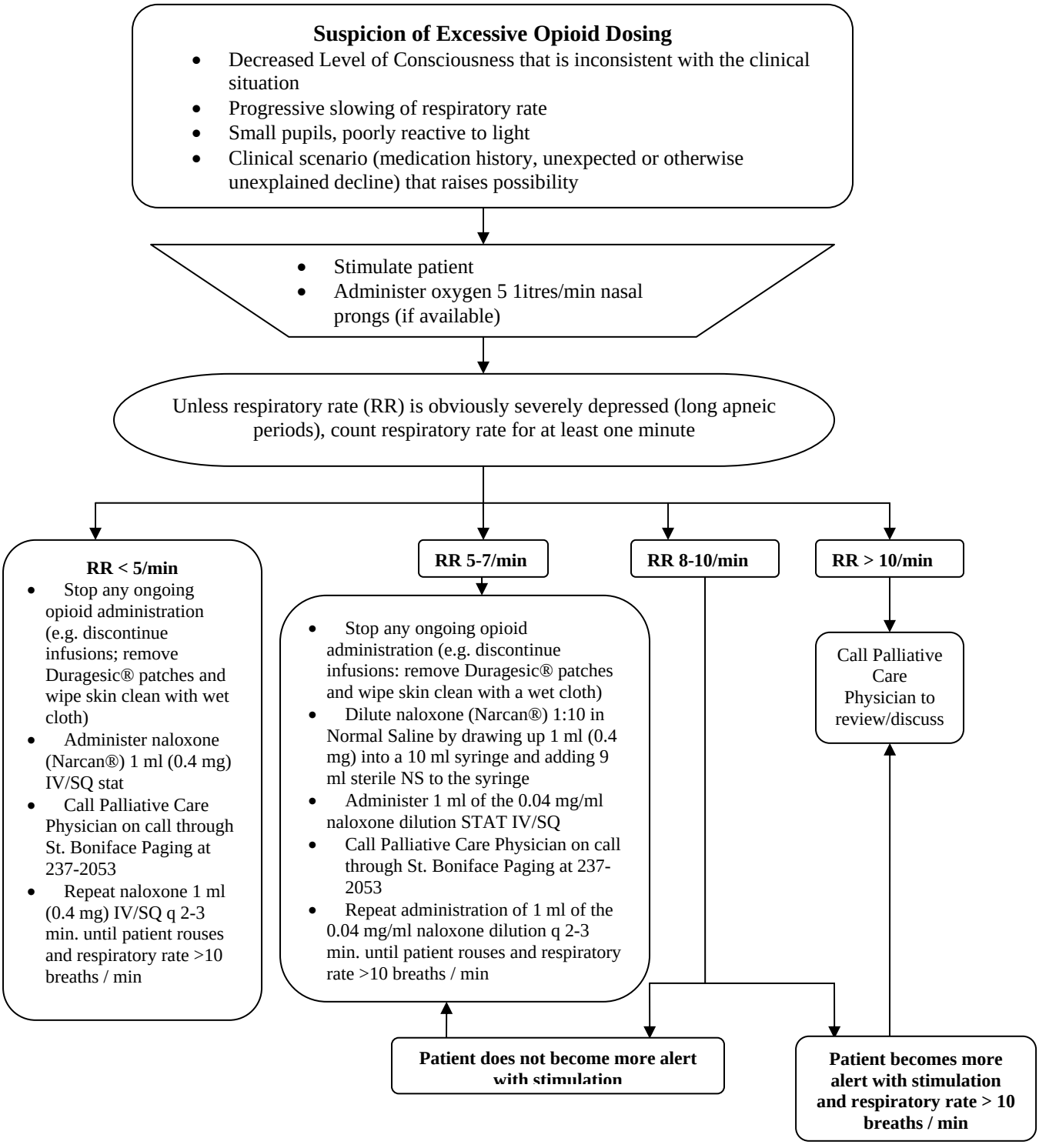
1. Only Community Palliative Care Nurses may utilize this clinical protocol.
2. All community Palliative Care Nurses carry Naloxone for use as required. It is the responsibility of community nurses to replace expired or used medication and to review this clinical protocol regularly to stay current in their practice. A Naloxone information package and self learning test is included in this protocol (see Appendix A and B) to assist the nurse in maintaining competence.

ASSESSMENT / DECISION MAKING ALGORITHM

1. If excessive opioid CNS and respiratory depression is suspected based on the following assessment findings:
   - Decreased level of consciousness
   - Progressive slowing of respiratory rate
   - Small pupils that are poorly reactive to light
   - Clinical scenario that raises the possibility (medication history, unexpected or otherwise unexplained decline)

Follow steps on the ***Flowchart for Nursing Response to Suspected Excessive Opioid Dosing in a Community Palliative Care Client.***

Flowchart for Nursing Response to Suspected Excessive Opioid Dosing in a Community Palliative Care Client



PROCEDURE

Equipment for Naloxone Administration

• Naloxone injectable (Narcan®) 0.4mg/ml, 1 ml ampoule
• Alcohol swab
• 10 ml syringe
• Clean disposable gloves
• 25G 5/8" needle
• 10 ml of 0.9% saline solution injectable
• Sharps disposal container

Administration of Naloxone

1. Administration of Nalaxone is via **direct injection** using the subcutaneous route. **Existing Subcutaneous sites (SQ lines) must NOT be used.**

2. Following the implementation of the protocol, the nurse and physician must detail a plan for ongoing monitoring of the patient status and for further analgesia. **The onset of action of Naloxone is very short (effects are reached within 2-5 minutes of IV, IM or SQ administration) however the duration of action is short (i.e. it lasts approximately 1-2 hours).** Patients using medications with a longer half life (such as methadone) or who have been receiving analgesia through sustained release preparations (MS Contin, Hydromorph Contin, or Fentanyl patches) may require admission for close monitoring and repeat dosing as required.

Documentation of Naloxone Usage:

Documentation of naloxone administration will be recorded in the patient's medical record in the home and will include:

- documentation on the medication administration record
- documentation in the narrative notes regarding:
    - symptoms of opioid overdose
    - patient's response to Naloxone administration
    - patient outcome
    - communication with the physician
    - plan for ongoing monitoring of patient status

Nurses will also complete the Naloxone Usage Record for Suspected Excessive Opioid-Induced CNS and Respiratory Sedation (see Appendix C). Completed forms will be faxed to the attention of the WRHA Palliative Care Program Manager, Fax #237-9162.

Follow-up to Naloxone Administration in the Community:

After receiving the Naloxone Usage Record for Suspected Excessive Opioid-Induced CNS and Respiratory Sedation, the Program Team Manager will follow up with the Visiting Palliative Care Nurse, on the nurse's next scheduled day of work, to review the clinical event leading to need for Naloxone administration and to identify whether any further action on the part of the Palliative Care Program is required.

Storage and Replacement of Naloxone

Naloxone ampoules should be stored in a container to prevent breakage.

Naloxone ampoules should not be left in car for extended periods to avoid freezing or excessive heat.

Each nurse is responsible for ensuring they have the appropriate supplies needed to administer the Naloxone as per the clinical protocol.

Each nurse is responsible for checking their Naloxone supply on a regular basis to ensure that the medication has not expired.

Community Palliative Care Nurses can replace expired Naloxone or used ampoules by contacting the Program Secretary. The Program Secretary will fill out a Naloxone Replacement Form and arrange for pick up of replacement ampoules. Expired ampoules must be turned in to the Program Secretary for appropriate disposal.

The Program Secretary is responsible for keeping a log of nurses who have been issued or returned a Naloxone ampoule.

References

Abrams, Anne Collins. (2004). *Clinical Drug Therapy: Rationales for Nursing Practice* (7th ed.). Philadelphia: Lippincott Williams & Wilkins.

Lexi-Drugs for Palm OS. (2004). Naloxone – Narcan ®.

Way, W. L., Fields, H. L., & Schumacher, M. A. (2001). *Opioid analgesics & antagonists. In Basic & Clinical Pharmacology*. Katzung, B. G. (Ed). New York: Lange Medical Books/McGraw-Hill.

Appendix A
Naloxone (Narcan®) Information Sheet

Naloxone (Narcan®)

Class: Opioid Antagonist

Description

Naloxone is an opioid receptor antagonist. It has proven to be effective in the management and reversal of symptoms of overdose caused by opioids.

Mechanism of Action

Naloxone is chemically similar to opioids, however, it acts only as an opioid receptor antagonist. Naloxone competes for opiate receptors in the CNS and displaces opioid molecules from opiate receptors. It can quickly reverse respiratory depression, altered level of consciousness, pupil constriction, altered bowel function and other symptoms associated with opioid overdose. It also reverses the analgesic effects of opioids. **The onset of action of the medication is very rapid (within 2-5 minutes after IV, IM or SQ injection), but the duration of action is short – approximately 1 to 2 hours.** Tolerance to the opioid receptor antagonistic effect does not develop. Naloxone does not reverse the symptoms of overdose of other medications (e.g. sedatives, anti-anxiety agents, anti-psychotics) (Abrams, 2004; Way, et al., 2001, p. 528).

Indications

Naloxone is used for the complete or partial reversal of central nervous system and respiratory depression caused by opioids.

Contraindications

Naloxone should not be administered to a patient with a history of hypersensitivity to the drug.

Usual Dose

IM, IV, SQ: 0.4 – 2 mg every 2-3 minutes as needed.
Doses may need to be repeated every 20-60 minutes due to short half-life and duration of action. If no response is observed after 10 mg, the diagnosis of opioid-induced CNS and respiratory depression should be questioned.

Side effects

Side effects associated with naloxone are rare. However, hypotension, hypertension, tachycardia, ventricular arrhythmias cardiac arrest ,irritability, anxiety, restlessness, seizures, nausea and vomiting, diarrhea, tremulousness, dyspnea, pulmonary edema, runny nose, sneezing and sweating have been reported. The most likely side effects that should be anticipated with use of naloxone are secondary to acute reversal of narcotic analgesia, and not related to the naloxone itself.

Adverse effects

A potential adverse effect of administering naloxone to a person who is physically

dependent on the medication (chronic use) is acute opioid withdrawal including sudden exacerbation in pain, along with abstinence syndrome symptoms such as: anxiety, aggressiveness, restlessness, generalized body aches, insomnia, lacrimation, rhinorrhea, perspiration, pupil dilation, goose bumps, anorexia, nausea and vomiting, diarrhea, elevated vital signs, abdominal and other muscle cramps (Abrams, 2004, p. 93). These symptoms have a rapid onset, but a short duration given the short duration of action of the medication (Abrams, 2004).

Appendix B
Nursing Response to Suspected Opioid Overdose Self Test

1. Three key features which aid in <u>distinguishing suspected excessive opioid side effects from normal physiologic changes</u> at the end of life are:

a. ↓ level of consciousness, decreased urine output, progressive slowing of respiratory rate
b. progressive slowing of respiratory rate, pinpoint pupils poorly reactive to light, recent increase in opioid intake
c. pinpoint pupils poorly reactive to light, cardiovascular changes, recent changes to opioid intake
d. recent changes to opioid intake, ↓ oral intake, ↓ level of consciousness

2. A respiratory pattern that is MOST indicative of excessive opioid side effects is:

a. Slow, regular respirations
b. Rapid, shallow respirations
c. Rapid respirations, with periods of apnea (Cheyne-Stokes)
d. Slow, irregular respirations with periods of apnea

3. The ONSET of action of parenterally (IV, IM, SQ) administered naloxone is _____ minutes.

4. The DURATION of action of parenterally (IV, IM, SQ) administered naloxone is _____ hours.

5. Naloxone will also reverse the side effects of other medications such as sedatives or anti-anxiety agents. True _____ False _____

6. The analgesic effects of opioids are not reversed by naloxone, only the side effects are reversed. True _____ False _____

7. Factors that increase the risk of developing excessive side effects from opioids include all of the following EXCEPT:

a. impaired liver or kidney function
b. parenteral route of opioid administration
c. increased age
d. presence of infection

8. Potential adverse effects of naloxone administration include:

a. acute opioid withdrawal
b. increased sedation
c. sudden exacerbation of pain

1. Only a
2. Only c
3. Only b
4. a and c
5. a and b
6. b and c

Answers: 1 (b), 2 (a), 3 (2-5), 4(1-2), 5(F), 6(F), 7 (d), 8 (4)

Appendix C
Documentation of Naloxone Usage for Suspected Excessive Opioid-Induced CNS and Respiratory Depression

Date: _____ Community Nurse's Name: _____
Patient's Name:_____
PHIN:_____ DOB:_____

1. Which symptom(s) precipitated the use of Naloxone?
   Excessive sedation – please describe:
   Respiratory depression: respiratory rate: _____
   Describe respirations:

2. Were the symptoms reversed with Naloxone administration? YES NO
   Excessive sedation – please describe:

   Respiratory depression: respiratory rate: _____
   Describe respirations:

3. Did the palliative care physician make a home visit? YES NO
   If no, why not?

4. a. As a result of the suspected excessive opioid-induced CNS and respiratory depression was the patient transferred from the home to another setting? YES NO
   If yes, where was the patient transferred?
   St. Boniface Palliative Care Unit
   Riverview Palliative Care Unit
   Emergency room (specify at which hospital) _____

   b. Were other factors (aside from the suspected excessive opioid-induced CNS and respiratory depression a factor in the patient being transferred? YES NO

c. Any other relevant information about the outcome of the situation? (e.g. did the patient die shortly after this event?)

5. What was the entire length of the nursing visit, starting from the time the nurse arrived at the patient's home to the time the nurse left? _____

6. If the patient remained at home, what was the plan for ongoing monitoring of patient status and further analgesia?

DO NOT LEAVE FORM IN PATIENT'S CHART
As soon as possible, fax completed form to the WRHA Palliative Care Program Fax number: (204) 237-9162, Attention: "Palliative Care Program Manager"