



PHARMACY NETWORK SERVICES

Morphine Solution: **HIGH ALERT**

There have been many reports and cases around the country involving medication errors with morphine solution that have led to severe harm/injury and fatalities. It is very important to be familiar and confident with this particular medication. Morphine solution is particularly dangerous due to concentration variability and it being an oral solution. There is even a black box warning summarized as:

WARNING: RISK OF MEDICATION ERRORS

Morphine Sulfate oral solution is indicated for use in opioid-tolerant patients only. Take care to avoid dosing errors due to confusion between different concentrations between mg and mL, which could result in accidental overdose and death.

Concentration Availability:

10mg/5mL	1mL = 2mg dose
20mg/5mL	1mL = 4mg dose
100mg/5mL (Roxanol)	1mL = 20mg dose

Getting the concentration and dose correct is vital, as it could lead to a 10 fold increase in dose. Here are a few tips on how to reduce potential medication errors with morphine solution:

1. Always give BOTH mg and mL when transcribing, talking, or writing anywhere.
2. BOTH mg and mL should be on the prescription, MAR, and all prescription labeling.
3. Always triple check MAR for dose.
4. Not everyone is great at math and in this case, a life is on the line.
 - a. If you are not 100% confident on your math, ask a coworker to calculate what they would give. Have them calculate it and tell you to match your answer.

Signs and Symptoms of Morphine Overdose:

- Tired, stops talking, unresponsive
- Breathing remains regular but becomes very slow, potentially less than six bpm
 - Terminal illness can cause breathing changes, but is usually more shallow and less regular, and sounds more like gasping

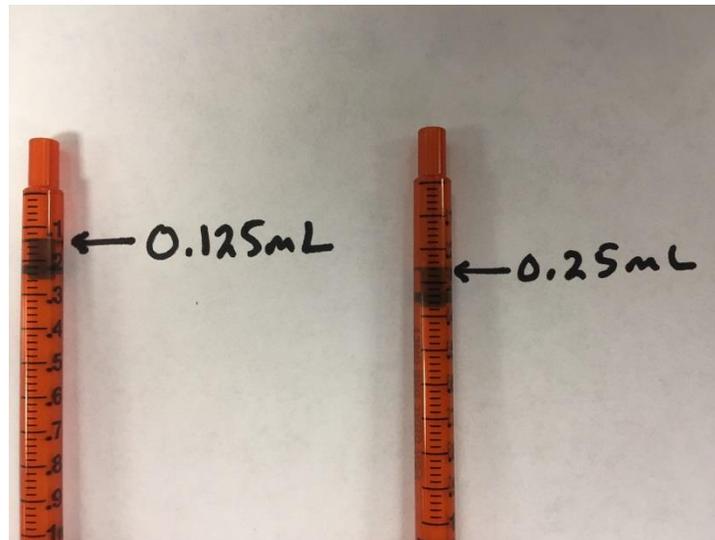
Treatment of Morphine Overdose:

- Contact physician/nurse practitioner
- If ordered/appropriate, administer naloxone (Narcan) available in ER box
 - 0.4mg-2mg IV, IM, or SQ repeat q 2-3mins PRN



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Drawing Up Dose:



0.125mL = 2.5mg dose

0.25mL = 5mg dose

Math: Cross multiply:

$X \text{ mg}/0.125\text{mL} = 20\text{mg}/\text{mL}$, $20\text{mg}/\text{mL} \times 0.125\text{mL} = 2.5\text{mg dose}$

Documenting Dose Given, Wastage, Spillage on Disposition Form:

1. Check amount left in bottle versus amount left documented from prior administration.
2. Measure dose, document dose given, and amount remaining on disposition sheet.
3. Document dose given on MAR, triple checking order is correct on MAR and measured amount is correct.
4. If patient doesn't take dose, document waste on disposition sheet.
5. When wasting a dose or adjusting quantity, there must be another nurse to sign as witness.
6. Document amount left on disposition sheet. Mathematically, it should be simple subtraction, however sometimes there is spillage or adherence to inside of cap/bottle. Document this difference, if necessary, on the disposition sheet.