Using naloxone for opiate-induced respiratory depression

Attention: Prescribers and Nurses:

After an in-depth analysis of naloxone usage within the Methodist system, several areas of improvement were discovered. The analysis indicated that <20% of patients actually had a respiratory rate (RR) ≤ 12 breaths per minute (bpm), while 54% were in the normal range (13-20 bpm), and 21% had RR ≥ 21 bpm. This shows that at MLH, respiratory depression does not appear to have been a precipitating factor for naloxone use. In fact, in the majority of cases, an indication for using naloxone was not documented at all.

Naloxone is FDA indicated for complete or partial reversal of opioid drug effects, including respiratory depression, management of known or suspected opioid overdose, and diagnosis of suspected opioid dependence or acute opioid overdose (Lexicomp 2012). One recommendation from the analysis was to provide education to all staff concerning proper indications and use of naloxone in general patient care areas, outside of the ED and the PACU.

Please consider the following in your diagnostic differential when assessing a patient in distress:

1. Respiratory depression is determined in relation to baseline patient characteristics prior to the event so that respiratory depression is considered a concurrent decreased rate of respirations (typically less than 12 bpm; normal 12-20), decreased level of arousal, and impaired cognition.

2. Assess for other potential causes of overt sedation:
   a. Hypoglycemia – if no recent accucheck, obtain a current level
   b. Infection/Sepsis – (Does patient meet the following criteria?)
      i. Systemic Inflammatory Response System (SIRS) criteria:
         1. RR >20
         2. HR >90
         3. Temp < 36°C or >38°C
         4. WBC <4 or >12
   c. Administration of other central depressant agents – benzodiazepines, antihistamines, sedative hypnotics, antiemetics, within the previous hour

3. If patient has respiratory depression and all of the causes listed in #2 above have been ruled out, then consider opioids as the potential cause.

Naloxone should be administered as 0.04-0.08 mg IV q30-60 seconds (1 vial 0.4 mg/ml in 9 ml normal saline 1-2 ml q30-60s). If up to 1mg total dose of naloxone is given with no change in patient status, alert MD or MRT and consider alternate causes for the change in patient status. Administration of naloxone and surrounding events should be documented as an adverse event in Safeguard and the patient’s chart.