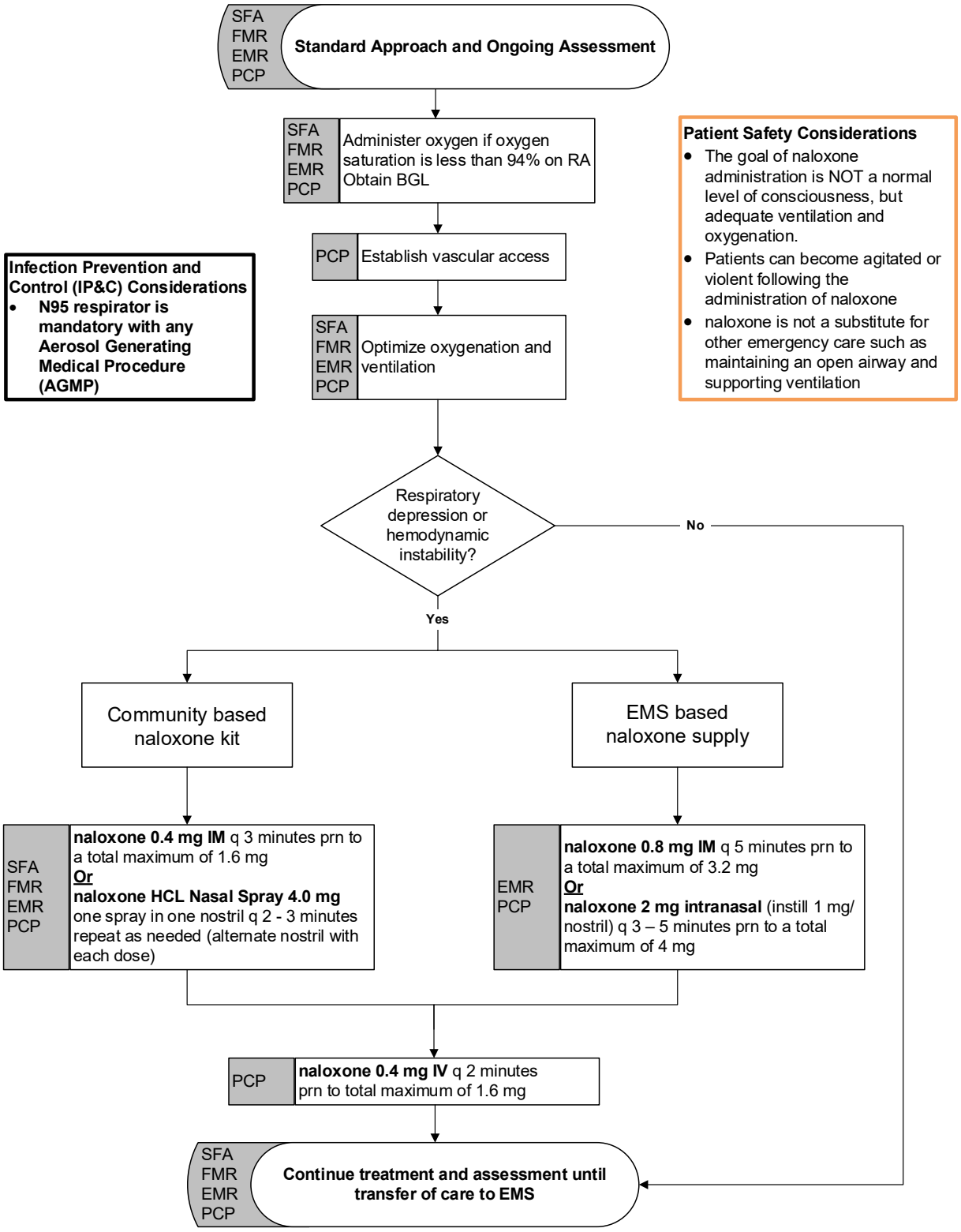
Opiate Overdose



Etiology

Opioid is a term used to describe the entire family of opiates including natural, synthetic and semi-synthetic drugs that are used for pain relief. Originally the word opiate was used to describe a narcotic substance (meaning numbness or sleep) called alkaloids derived directly from the poppy flower, such as opium, codeine, morphine and heroin. Now with the introduction of synthetically made chemicals the word opioid is used to cover all forms of narcotics.

When taken for pain, synthetic or partly-synthetic opioid drugs are manufactured to work the same way as natural opiates due to the similar nature of their molecular properties.

Types of opioids include:

- Methadone
- Percocet, Percodan, OxyContin (oxycodone)
- Vicodin, Lorcet, Lortab (hydrocodone)
- Demerol (pethidine)
- Dilaudid (hydromorphone)
- Duragesic (fentanyl)

The body naturally produces endorphins that provide relief and pleasure but usually not enough to remove the feeling of pain or to cause overdose. External opioids introduced into the body work by attaching themselves to the opioid receptor sites in the central nervous system.

Once attached to the receptor site they either prevent the release of neurotransmitters (a hormone that carries a signal from one neuron to the next) or prevents the reuptake of dopamine (a naturally occurring hormone that provides pleasure) causing a bath of this hormone to wash over the receptors of the next neuron. Neurons are the basic workings of the brain and nervous system designed to transmit signals from nerve cells, muscles or other body parts up to the brain and back to the body.

When an opioid has bonded to the opiate receptor site, the result is a feeling of comfort and decreased pain. The pain signals are still been generated from the site of the injury or disease but the signal isn't able to get to the brain. Side effects include a slowing of heart rate and breathing, at higher doses respirations can slow to the point of respiratory arrest leading to cardiac arrest. With opioids there is a small window between euphoria and death.

Current Crisis

When opioids are taken under medical direction and closely monitored there is normally little chance of developing drug dependency or respiratory distress. When opioids are consumed

for purposes other than pain management we see tragic results leading to overdoses or even death.

Individuals who abuse opioids exhaust the normal process of acquiring a prescription and purchasing opioids at a pharmacy. This has resulted in an increase for the demand of illegally produced replacement drugs throughout Canada. These drugs have little or no quality control during the manufacturing process and may contain unknown quantities of opioids. It is mostly these drugs that are causing the current fentanyl crisis in Alberta.

Signs of Opioid Overdose

Is there a suspicion of narcotic overdose? During your scene assessment look for evidence of opioid use such as drug paraphernalia, witnessed history, blue/green discoloration on face or mouth (pill coating) and patient assessment:

1. Miosis – excessive constriction of the pupil of the eyes (pin point)
2. Hypotension
3. Respiratory depression
4. Hypothermia
5. Decreased level of consciousness
6. Pulmonary edema (non-cardiogenic)

When opioids are taken with other chemicals such as alcohol or sedatives the effects of these drugs can produce a complicated presentation. Responders need to be prepared to deal with specific symptoms as they present.

Interventions

1. Maintain a patent airway and provide ventilatory support (e.g. oxygen, positive pressure ventilations) to ensure the patient remains well-oxygenated

2. Administer naloxone if unable to maintain adequate oxygen saturation with oxygen and ventilations

   Consider the **SAVE ME** acronym:
   Stimulate – check for responsiveness
   Airway – ensure no restrictions, suction if necessary
   Ventilation – rescue breathing or initiate CPR with compressions
   Evaluate the situation
   Muscular injection or intranasal spray of naloxone
   Evaluate again – continue rescue breathing. Administer 2nd dose if required

Naloxone Intervention

When administered to a patient in an opioid overdose, Naloxone (Brand name - Narcan) knocks the drug out of the opioid receptors allowing for the return of neurotransmitter flow in the neuron. This allows the body's respiratory function to return to normal.

While naloxone is an effective temporary treatment of opioid overdose it is often metabolized by the body more quickly than the opioid. Naloxone may need to be re-administered frequently until the opioid has been processed by the body and is no longer a risk in interfering

with patient respirations. It is important to constantly monitor the patient's airway patency and respiratory effort throughout intervention.

Sudden opioid withdrawal symptoms may include: vomiting, diaphoresis, body aches, diarrhea, increased heart rate, fever, runny nose, sneezing, goose bumps, stomach cramping, weakness, and hypertension

Pediatric Intervention - like adult interventions the child's respirations hold the highest priority of care. It is important to constantly monitor the patient's airway patency and respiratory effort throughout intervention. Finding positive evidence that the patient's symptoms are from an opioid exposure is important before the administration of naloxone. If not confirmed, naloxone treatment should be withheld in favour of managing their airway and respirations.

Infants under 4 weeks require careful monitoring against life threatening symptoms from withdrawal due to the likelihood of prolonged exposure to opioids through the mother's usage.

Patient Safety Considerations

- Patient may present with new symptoms after administration of naloxone. Constantly re-evaluate and treat according to the appropriate MCP.
- The use of naloxone in the setting of mixed overdoses, particularly those involving narcotics and stimulants (e.g. cocaine, amphetamines, etc.) has been known to cause complications related to the pure stimulant overdose (e.g. CVA, MI, VT, and VF) when the effect of the narcotic has been countered by the naloxone
- Patients can become agitated or violent following the administration of naloxone

Additional Notes

Common Street Names - Opiates

fentanyl

Apache	China Girl	China White
Friend	Dance Fever	Duragesic
Sublimaze	Actiq	Jackpot
Goodfella	King Ivory	TNT
Cash	Murder 8	Tango & Cash

Dilaudid/HYDROmorphone

D	Footballs	Smack

Demerol/meperidine

Pain Killers	demmies

methadone

Amidon	Fizzies	Chocolate Chip Cookies (with MDMA)

codeine

Captain Cody	Cody	School Boy
Doors & Fours	Pancakes & Syrup	T – three's
Loads		

heroin

Smack	H	Train
Thunder	Black Tar	China White
Junk	Antifreeze	Brown Sugar
Henry	Horse	Skag
Hero	Hell Dust	

oxyCODONE/Percocet

Ox/OC	Oxicotten/Oxycottons	Oxycet
Oxy	Hillbilly Heroin	Kickers/Killers
Jammed	Percs	Percodomes

Pharmacology

naloxone

Generic Name: naloxone	
Trade Name: narcan	
Classification: opioid antagonist	
Supplied: Varies	
Class Narcotic antagonist	**EMS Indications** Reversal of respiratory depression due to opiate overdose
Community based naloxone kit	
Adult and Pediatric Dose **Repeat Dose**	4.0 mg Nasal Spray **Or** **0**.4 mg IM **Or** **0**.4 mg IV/IO Nasal Spray prn 2 to 3 minutes (alternate nostril between each dose) **Or** IM q 3 minutes prn to a total maximum of 1.6 mg **Or** IV/IO q 2 minutes prn to a total maximum of 1.6 mg
EMS based naloxone supply	
Adult and Pediatric Dose **Repeat Dose**	0.8 mg IM **Or** 2 mg intranasal IM q 5 minutes prn to a total maximum of 3.2 mg **Or** Intranasal q 3 -5 minutes prn to a total maximum of 4 mg
EMS Contraindications	• Hypersensitivity

Notes	• The efficacy of IM naloxone is such that it is the preferred route of administration • Caution in opiate dependent patients; may become very agitated or violent • Duration of action may be shorter than that of the opiate; watch for return signs of respiratory depression • Administer only to reverse respiratory depression, not as a "diagnostic tool"