

**PALLIATIVE CARE TIPS – Edited by Yoko Tarumi, MD, Capital Health Regional Palliative Care Program, Grey Nuns Community Hospital - Issue #14 (Originator: C. Jenkins, MD) (Collect them all) (Re-issued May 2006)**

**Subcutaneous Administration of Opioids and Anti-emetics**

- 60%-70% of palliative patients will become unable to take oral medications during the course of their illness, and will require medications through either the rectal or the parenteral route (intravenous, subcutaneous or intramuscular).
- Intravenous access is difficult to manage in the home setting, particularly since many patients have already had extensive intravenous therapy and therefore, have few remaining accessible veins.
- Intramuscular versus subcutaneous: There are several theoretical advantages of the subcutaneous route:
  - subcutaneous tissues are less vascular than muscles, so there is less risk of hematoma formation.
  - nerve damage from the needle is less likely.
  - a smaller caliber needle is used for subcutaneous injections so that the injection should be less painful.
  - a butterfly needle can be left in site for 5 to 7 days, reducing the need for repeat needle sticks.
  - absorption is slower with the subcutaneous route than the intramuscular route, which is an advantage when the aim is to provide even medication coverage despite intermittent administration.
- For these reasons, the subcutaneous route is preferred whenever possible.

The majority of opioid and antiemetic medications were developed before use of the subcutaneous route became commonplace. Therefore, this route was not tested during the drug licensing process and the route is not listed in the CPS. However, there has been extensive clinical experience in using the subcutaneous route for opioid and analgesic medications that are licensed for intramuscular injection. And, there is one study suggesting the majority of patients actually had their medications delivered to subcutaneous tissues when receiving an injection intended for the intramuscular route [Cockshott, et al, NEJM 1982]. The following medications are commonly given by the subcutaneous route.

**Antiemetics**

Metoclopramide (Maxeran)  
Haloperidol (Haldol)  
Dexamethasone  
Dimenhydrinate (Gravol)  
Hyoscine Butylbromide (Buscopan)

**Opioids**

Morphine  
Hydromorphone (Dilaudid)  
Fentanyl (continuous infusion)  
Oxycodone  
Codeine

The major complication with the subcutaneous route is pain with medication injection. If this occurs:

- a) check site for inflammation, infection. If present, change site.
- b) inject medication slowly and, if possible, reduce volume of injection.

**REMEMBER:** For referrals, questions, or telephone consultations call 496-1300 weekdays and weekends.

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