

**VANCOUVER ACUTE- PHARMACEUTICAL SCIENCES CSU  
DRUG DATA SHEET FOR  
BUCCAL METHADONE**

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**Drug Name/Strength/**

- Methadone solution for buccal administration (10 mg/mL or 50 mg/mL)
    - higher concentration of **50 mg/mL restricted to Palliative Care Unit** and is compounded by pharmacy (stable for 7 days at Room temperature in amber bottle)
    - Blue food dye is added to the 50 mg/mL strength to help distinguish this higher strength from the 10 mg/mL methadone solution
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**Indications**

- Pain relief in palliative care patients who are unable to use the oral route
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**Pharmacology**

- Methadone is a potent analgesic that is an opioid receptor agonist and NMDA receptor antagonist
  - Methadone is highly lipophilic with rapid absorption in the upper gastrointestinal tract. Buccal absorption can take up to 10 minutes and has an onset of action within ~ 30 minutes. Peak levels occur 2 to 4 hours after buccal or oral administration.
  - Methadone has an extremely long half-life (up to 190 hours), which does not correlate with the observed duration of analgesia (6 to 12 hours). This can lead to drug accumulation.
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**Dosage and Administration**

- Dose range: 1 to 50 mg Q8H
    - for doses less than 10 mg – use methadone 10 mg/mL strength
    - for doses greater than or equal to 10 mg – use methadone 50 mg/mL strength
  - The buccal dose is approximately equal to the oral dose, although some patients will have higher buccal absorption than the oral route. A 1:1 conversion ratio of buccal:oral route is used.
  - For doses above 0.5 mL or in patients having trouble with aspiration or coughing, the dose can be given in separate buccal areas or in divided doses every 10 to 15 minutes
  - Instruct patient to not swallow for 3 to 5 minutes after administration of each dose
  - The solution should NOT be diluted as small volumes are required for buccal absorption
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**Side Effects**

- Similar to that of other opioids, common side effects include nausea, vomiting, constipation, sedation, dizziness, respiratory depression
  - The long half-life of methadone may lead to increased risk for sedation and respiratory depression, especially in the elderly or with rapid dose adjustments
  - May be associated with development of QT interval prolongation – ECG monitoring may be appropriate when changes in dosage are made (depending upon goals of care)
  - Methadone is metabolized by CYP450 3A4 and 1A2 enzymes and drugs that can inhibit or induce these enzymes can interact with methadone. Specific antibiotics to avoid while on methadone include ciprofloxacin and clarithromycin.
  - The 50 mg/mL buccal solution may have a bitter taste and cause blue colouration to the mouth
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**Monitoring**

- Monitor patient's ability to hold the methadone in the buccal space for 3 to 5 minutes.
  - Sedation scale and respiratory rate monitored within 30 minutes of initial dose and routinely at a minimum of every 4 hours afterwards or as needed
  - Monitor for pain relief
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