Subcutaneous Drug Infusion Compatibility Guidelines
(Companion document to EMRPCC Compatibility Guidelines)
Review date: October 2018

Gippsland Region Palliative Care Consortium
Clinical Practice Group

Title
Subcutaneous Drug Infusion Compatibility Guidelines (A Companion Document to EMRPCC guidelines)

Keywords
Guideline, Palliative, Care, Clinical, Practice and drug compatibility

Ratified
GRPCC Clinical Practice Group

Effective Date
October 2018

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September 2020

Purpose
This guideline has been endorsed by the GRPCC Clinical Practice Group and is based on current evidence and best practice components. It is recommended this guideline be used to inform health services policies and procedures regarding injectable medication and continuous subcutaneous infusions in clinical practice across the region.

Enquiries can be directed to GRPCC by email GRPCC.enquiries@wghg.com.au

Pages
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Disclaimer

The intent of the GRPCC Clinical Practice Group endorsed clinical guidelines is to make them available to health services and clinical staff across the Gippsland region to promote evidence-based practice when delivering palliative care.

Clinical guidelines are intended to provide general advice to the medical, nursing, and allied health staff working with clients with a life limiting illness. These endorsed clinical guidelines are not a substitute to comprehensive assessment and critical thinking relevant to the particular patient’s individual clinical circumstances and degree of symptom burden. There may also be strong clinical evidence for choosing a therapeutic intervention that may be different to what is recommended in these guidelines. Timely consultation and advice from the palliative care service is always recommended, if appropriate, when using these guidelines.

When developing clinical guidelines, the GRPCC ensures the guidelines content is accurate and based on evidence. The GRPCC takes no responsibility for new clinical evidence or information that become available or be published following guideline distribution or nominated review date.

The GRPCCS guidelines may be used by providers to develop similar protocols and procedures that can be customised according to the organising clinical context and requirements. Health organisations must also ensure that utilisation of these guidelines complement their organisational governance structure including health professional palliative care delivery scope of practice.
Acknowledgment
Eastern Metro Region Palliative Care Consortium (EMRPCC)
Considerable information contained in this guideline was taken from Calvary Health Care Bethlehem related documents, when this guideline was first developed.

Policy Statement
In palliative care clinical practice, the oral route of administration is the preferred option. However, when the parenteral route is required, the subcutaneous route should be the first option. Drugs may be given as infusions over 24 hours or as bolus doses.

The combination of drugs for subcutaneous infusions must be checked for compatibility prior to prescription and administration of injectable medication.

This guideline must be used in conjunction with its companion document The Eastern Metropolitan Region Palliative Care Consortium (Victoria) Syringe Driver Drug Compatibility-Practice Guidelines 2016

Procedure
Drugs that CAN be administered subcutaneously:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Drug</th>
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<tbody>
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<td>cyclizine</td>
<td>clonazepam</td>
<td>dexamethasone</td>
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<td>fentanyl</td>
<td>hyoscine butylbromide</td>
<td>hyoscine hydrobromide</td>
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<td>glycopyrrolate</td>
<td>haloperidol</td>
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<td>ketamine</td>
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<td>levomepromazine</td>
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<td>metoclopramide</td>
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<td>morphine</td>
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<td>oxycodone</td>
<td>phenobarbitone</td>
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</table>

Drugs that CANNOT be administered subcutaneously:

- Phenothiazines - Prochlorperazine, Chlorpromazine, Promethazine (irritant)
- Phenytoin
- Diazepam - absorbed onto PVC. Precipitates at certain dilutions

Drugs that need SPECIAL CONSIDERATION when administered subcutaneously:

- Cyclizine, levomepromazine and ketamine tend to be infused alone, rather than in combination with other drugs due to cost considerations
- Clonazepam - significant loss of clonazepam occurs when infused through PVC tubing, hence it tends not to be given as a continuous subcutaneous infusion.
- Phenobarbitone sodium - can be too irritating if not well diluted (with Sodium Chloride) - pH 8.5 – 10
  Should be administered IV, but can be administered by CSCI (will possibly need site changes daily).
Number of drugs in infusion
Generally, it is recommended that no more than two drugs should be combined in an infusion. In the event that more than two drugs are proposed, please check compatibility in “Drug Compatibility in Subcutaneous Infusions Chart in Standard Forms” (p.4 of these guidelines), or other validated resource.

The administration of other drug combinations may be considered if there is supporting literature for drug compatibility.

Procedure
1. Subcutaneous infusions will be initiated in accordance with each organisation’s subcutaneous administration of medication policy
2. Check the compatibility table and references of the different drugs before commencing.
3. Infusion site:
   a. A plastic, teflon or vialon cannula should be used rather than a metal butterfly needle to minimise the risk of site inflammation (Safe-T-Intima is a commonly used device).
   b. Infusion sites may last up to seven days, depending on the drugs/combination used.
   c. Check the insertion site each visit for:
      - Inflammation
      - Induration
      - Bleeding
      - Leaking
      - Pain
   d. The overall integrity and patency of the Safe-T-Intima™ catheter will vary from client to client. The recommendation from the manufacturer is that it should be replaced weekly but the site should be changed if any of the above symptoms are present.
4. Diluent for infusions
   a. Sodium Chloride 0.9% is the preferred diluent as it produces a solution which is as close to physiological tonicity as possible
   b. The main exceptions to this rule are solutions containing cyclizine, in which case Water for Injection should be used.
5. Storage conditions for drug infusions
   Infusions (syringe drug/s combinations) should be prepared immediately prior to commencement of infusion.
   Syringes containing any drug or drugs combinations should be protected from light e.g. by placing the syringe driver in a pouch.
6. Duration of Infusion
   The duration of drug infusions should be limited to 24 hours. However, if circumstances require otherwise (e.g. in the community) the duration of the infusions may be extended pending on stability data in published literature and client’s symptom stability.
**Key Performance Indicator**

100% of drugs in a subcutaneous infusion are checked for compatibility before the preparation and administration of the prescribed combination.

**References**


2. Syringe Driver Compatibility Table. The Palliative Care Handbook: Guidelines for clinical management and symptom control 2018 pages 160-161

3. Syringe Driver - Drug Compatibility database. Palliative Care Matters


5. Palliative Drugs [www.palliativedrugs.com](http://www.palliativedrugs.com)

## Drug Compatibility in Subcutaneous Infusions Chart in Standard Forms

<table>
<thead>
<tr>
<th>Drug Compatibility Database</th>
<th>Cyclizine</th>
<th>Dexamethasone</th>
<th>Fentanyl</th>
<th>Glycopyrrolate</th>
<th>Haloperidol</th>
<th>Hydroxycine</th>
<th>Hydroxycine Butyrylhydrazide</th>
<th>Ketamine</th>
<th>Ketorolac</th>
<th>Levomethasone</th>
<th>Metoclopramide</th>
<th>Methadone</th>
<th>Midazolam</th>
<th>Morphine Sulfate</th>
<th>Octreotide</th>
<th>Ondansetron</th>
<th>Oxydolone</th>
<th>Phenobarbital Sodium</th>
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### KEY
- ** incompatible
- ** compatible
- ** sometimes incompatible (usually at higher concentrations) - observe carefully
- ** unknown
- ** na not usually used together

### Please note:
- This table should be used as a general guide only as high concentrations of drug combinations will affect the compatibility of the desired infusion. Vigilance is required in all cases. pH may vary with different formulations; check product information or consult the manufacturer.
- Where there is no symbol indicating medication compatibility OR unknown symbol, it is not recommended for use, or proceed with caution and closely monitor administration site.

### References:
2. The Palliative Care Handbook: Guidelines for clinical management and symptom control 2018, pages 160-161

Subcutaneous Drug Infusion Compatibility Guidelines - Final