



TITLE: Subcutaneous Administration of Multiple Medications in Palliative Care Patients: Clinical Effectiveness and Guidelines

DATE: 28 October 2016

RESEARCH QUESTIONS

1. What is the clinical effectiveness of the subcutaneous administration of multiple medications via one site in palliative care patients?
2. What are the evidence-based guidelines regarding the subcutaneous administration of multiple medications for palliative care patients?

KEY FINDINGS

No relevant literature was identified regarding the subcutaneous administration of multiple medications via one site in palliative care patients.

METHODS

A limited literature search was conducted on key resources including PubMed, CINAHL, The Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No methodological filters were applied to limit retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2011 and October 13, 2016. Internet links were provided, where available.

SELECTION CRITERIA

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

Disclaimer: The Rapid Response Service is an information service for those involved in planning and providing health care in Canada. Rapid responses are based on a limited literature search and are not comprehensive, systematic reviews. The intent is to provide a list of sources of the best evidence on the topic that the Canadian Agency for Drugs and Technologies in Health (CADTH) could identify using all reasonable efforts within the time allowed. Rapid responses should be considered along with other types of information and health care considerations. The information included in this response is not intended to replace professional medical advice, nor should it be construed as a recommendation for or against the use of a particular health technology. Readers are also cautioned that a lack of good quality evidence does not necessarily mean a lack of effectiveness particularly in the case of new and emerging health technologies, for which little information can be found, but which may in future prove to be effective. While CADTH has taken care in the preparation of the report to ensure that its contents are accurate, complete and up to date, CADTH does not make any guarantee to that effect. CADTH is not liable for any loss or damages resulting from use of the information in the report.

Copyright: This report contains CADTH copyright material and may contain material in which a third party owns copyright. **This report may be used for the purposes of research or private study only.** It may not be copied, posted on a web site, redistributed by email or stored on an electronic system without the prior written permission of CADTH or applicable copyright owner.

Links: This report may contain links to other information available on the websites of third parties on the Internet. CADTH does not have control over the content of such sites. Use of third party sites is governed by the owners' own terms and conditions.

Table 1: Selection Criteria

Population	Palliative care patients in any setting (e.g., home care, hospital, long-term care facility)
Intervention	One site for the subcutaneous administration of multiple medications
Comparator	Q1: multiple sites for the subcutaneous administration of multiple medications, no comparator; Q2: no comparator necessary
Outcomes	Q1: clinical effectiveness and safety, medication errors, adverse events and harms, improved comfort and patient quality of life; Q2: guidelines and recommendations regarding the administration of multiple medications via the subcutaneous route
Study Designs	Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, evidence-based guidelines

RESULTS

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, and evidence-based guidelines.

No relevant health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, or evidence-based guidelines were identified regarding the subcutaneous administration of multiple medications via one site in palliative care patients.

References of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

No relevant literature was found regarding the subcutaneous administration of multiple medications via one site in palliative care patients; therefore, no summary can be provided.

REFERENCES SUMMARIZED

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses

No literature identified.

Randomized Controlled Trials

No literature identified.

Non-Randomized Studies

No literature identified.

Guidelines and Recommendations

No literature identified.

PREPARED BY:

Canadian Agency for Drugs and Technologies in Health

Tel: 1-866-898-8439

www.cadth.ca

APPENDIX – FURTHER INFORMATION:

Non-Randomized Studies – Number of Sites Not Specified

1. Bartz L, Klein C, Seifert A, Herget I, Ostgathe C, Stiel S. Subcutaneous administration of drugs in palliative care: results of a systematic observational study. *J Pain Symptom Manage.* 2014 Oct;48(4):540-7.
[PubMed: PM24766744](#)
2. Mitchell K, Pickard J, Herbert A, Lightfoot J, Roberts D. Incidence and causes for syringe driver site reactions in palliative care: a prospective hospice-based study. *Palliat Med.* 2012 Dec;26(8):979-85.
[PubMed: PM22084491](#)

Evidence-Based Guidelines – Multiple Medications at One Site Not Specified

3. National Guideline Clearinghouse. Guideline summary: care of dying adults in the last days of life. In: National Guideline Clearinghouse [Internet]. Rockville (MD): Agency for Healthcare Research and Quality; 2015 Dec 16 [cited 2016 Oct 26]. Available from: <https://www.guideline.gov/summaries/summary/49956>
4. Grove G, Howard P. Isle of Wight palliative medicine symptom advice guidelines [Internet]. [Newport (United Kingdom)]: The Earl Mountbatten Hospice; 2014 Oct. [2016 Oct 26]. Available from: <http://www.iwhospice.org/files/documents/palliative-medicine-advice-handbook-final-version-october-2014-v11pdf.pdf>

Clinical Practice Guidelines – Methodology Not Specified

5. Guiding principle for adults for subcutaneous therapy: intermittent and continuous [Internet]. Edmonton: Alberta Health Services; 2016 Jan. (Edmonton Zone Palliative Care Program). [2016 Oct 26]. Available from: http://palliative.org/NewPC/_pdfs/management/Subcutaneous%20Therapy.pdf
See: 3.2.3
6. Subcutaneous therapy - intermittent and continuous [Internet]. Saskatoon: Saskatoon Health Region; 2015 Jan. [2016 Oct 26]. Available from: <https://www.saskatoonhealthregion.ca/about/nursingmanual/1074.pdf>
See: 3.2.2
7. A guide to symptom management in palliative care: version 5.1 [Internet]. [Willerby (United Kingdom)]: Yorkshire Cancer Network; North East Yorkshire and Humber Clinical Alliance; 2012 Feb. [2016 Oct 26]. Available from: <https://www.yorkhospitals.nhs.uk/document.php?o=1212>
See: pages 48 to 49
8. Administration of subcutaneous medications in palliative care; intermittent and via a syringe driver procedure [Internet]. [Caringbah (Australia)]: South Eastern Sydney Local Health District; 2012 May. [2016 Oct 26]. Available from: http://www.seslhd.health.nsw.gov.au/Policies_Procedures_Guidelines/Clinical/Cancer_Services/Documents/SESLHDPD175-AdminOfSubcutaneousMedInPalliativeCare.pdf

See: 6.2 Multiple subcutaneous accesses, page 5

9. Giving subcutaneous bolus medication for symptom management in palliative care [Internet]. [Ashburton (New Zealand)]: Canterbury District Health Board; 2011 Apr. [2016 Oct 26]. Available from:
<http://cdhb.palliativecare.org.nz/Subcutaneous%20Bolus%20Administration.pdf>
Note: see page 3

Medication Guidance

10. Drugs for subcutaneous administration in syringe drivers [Internet]. Castletroy (Ireland): Milford Care Centre; 2015 Apr. [2016 Oct 26]. Available from:
<https://www.milfordcarecentre.ie/wp-content/uploads/2015/10/Drugs-for-SC-Admin-in-Syringe-Drivers-April-2015.pdf>
11. International Association for Hospice and Palliative Care. Essential medicines in palliative care: executive summary [Internet]. [Geneva]: World Health Organization; 2013 Jan. [2016 Oct 26]. Available from:
http://www.who.int/selection_medicines/committees/expert/19/applications/PalliativeCare_8_A_R.pdf

Review Articles

12. Thomas T, Barclay S. Continuous subcutaneous infusion in palliative care: a review of current practice. *Int J Palliat Nurs*. 2015 Feb;21(2):60, 62-4.
[PubMed: PM25715160](#)

Additional References

13. Destro M, Ottolini L, Vicentini L, Boschetti S. Physical compatibility of binary and ternary mixtures of morphine and methadone with other drugs for parenteral administration in palliative care. *Support Care Cancer*. 2012 Oct;20(10):2501-9.
[PubMed: PM22252547](#)
14. When and how to use a syringe driver in palliative care. *Best Pract J* [Internet]. 2012 Nov [cited 2016 Oct 26];(48):28-35. Available from:
<http://www.bpac.org.nz/BPJ/2012/november/syringedrivers.aspx>