

CADTH RAPID RESPONSE REPORT: SUMMARY OF ABSTRACTS

# Body Site Choice in Fluid or Medication Administration using Needleless, Indwelling, Subcutaneous Catheters: Clinical Effectiveness and Guidelines

Service Line: Rapid Response Service  
Version: 1.0  
Publication Date: February 25, 2020  
Report Length: 6 Pages

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**Cite As:** Body site choice in fluid or medication administration using needleless, indwelling, subcutaneous catheters: clinical effectiveness and guidelines. Ottawa: CADTH; 2020 Feb. (CADTH rapid response report: summary of abstracts).

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**Funding:** CADTH receives funding from Canada's federal, provincial, and territorial governments, with the exception of Quebec.

## Research Questions

1. What is the comparative clinical effectiveness of lower body administration versus upper body administration of medication using needleless, indwelling, subcutaneous catheters?
2. What is the comparative clinical effectiveness of lower body administration versus upper body administration of hypodermoclysis using needleless, indwelling, subcutaneous catheters?
3. What are the evidence-based guidelines regarding body sites for administration of medication or hypodermoclysis with needleless, indwelling, subcutaneous catheters?

## Key Findings

One evidence-based guideline was identified regarding body sites for administration of medication or hypodermoclysis with needleless, indwelling, subcutaneous catheters. No relevant health technology assessments, systematic reviews, randomized control trials, or non-randomized studies were identified regarding the clinical effectiveness of lower body administration of medication or hypodermoclysis using needleless, indwelling, subcutaneous catheters.

## Methods

A limited literature search was conducted by an information specialist on key resources including MEDLINE All via Ovid, the Cochrane Library, the University of York Centre for Reviews and Dissemination (CRD) databases, the websites of Canadian and major international health technology agencies, as well as a focused Internet search. The search strategy was comprised of both controlled vocabulary, such as the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. The main search concepts were subcutaneous catheters, hypodermoclysis and body sites. For Q1 and Q2 no filters were applied to limit the retrieval by study type, for Q3 search filters were applied to limit retrieval to guidelines. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2015 and February 11, 2020. Internet links were provided, where available.

## Selection Criteria

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

**Table 1: Selection Criteria**

<b>Population</b>	Patients in a palliative care setting (end-of-life care)
<b>Intervention</b>	Q1-2: Needleless, indwelling, subcutaneous catheters designed for adults (i.e., Saf-T needleless catheters) placed on the lower body Q3: Needleless, indwelling, subcutaneous catheters designed for adults (i.e., Saf-T needleless catheters)
<b>Comparator</b>	Q1-2: Needleless, indwelling, subcutaneous catheters designed for adults (i.e., Saf-T needleless catheters) placed on the upper body Q3: No comparator needed
<b>Outcomes</b>	Q1-2: Clinical effectiveness (e.g., adverse events [site specific events, fluid overload, catheter shifting or falling out], effectiveness of medication, absorption of fluids) Q3: Recommendations regarding the site on the body to place the catheter.
<b>Study Designs</b>	Health technology assessments, systematic reviews, randomized control 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.

One evidence-based guideline<sup>1</sup> was identified regarding body sites for administration of medication or hypodermoclysis with needleless, indwelling, subcutaneous catheters. No relevant health technology assessments, systematic reviews, randomized control trials, or non-randomized studies were identified regarding the clinical effectiveness of lower body administration of medication or hypodermoclysis using needleless, indwelling, subcutaneous catheters.

Additional references of potential interest are provided in the appendix.

## Overall Summary of Findings

One evidence-based guideline<sup>1</sup> from the Centre for Palliative Care Research and Education at Queensland Health was identified which outlines subcutaneous infusion device management in palliative care. The authors of this guideline outline general principles for appropriate body site selection and recommend using an area with a good depth of subcutaneous fat, using a site that is not near a joint, and selecting a site that is easily accessible.<sup>1</sup> Furthermore, the authors recommend the chest and abdomen as preferred body sites for administration, and to use body sites on a rotating basis.<sup>1</sup>

## 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

1. Haberecht J, Kain VJ, Yates P. Management of subcutaneous infusions in palliative care. 2<sup>nd</sup> Ed. Brisbane, Australia: Centre for Palliative Care Research and Education, Queensland Health; 2010:  
[https://www.health.qld.gov.au/\\_data/assets/pdf\\_file/0029/155495/guidelines.pdf](https://www.health.qld.gov.au/_data/assets/pdf_file/0029/155495/guidelines.pdf)  
*See: Section 3 – The selection, preparation, and maintenance of the site (page 20) and Table 2: Site preparation and insertion (page 25).*  
**Note:** Management of subcutaneous infusions in palliative care: guidelines; 2018 Jan (updated); <https://www.health.qld.gov.au/cpcrc/subcutaneous/guidelines>  
Accessed 2020 Feb 24.

## Appendix — Further Information

### Clinical Practice Guideline

2. Guidelines and Protocols Advisory Committee. Appendix A: hypodermoclysis protocol. In: Palliative care for the patient with incurable cancer or advanced disease. Part 2: pain and symptom management. Victoria (BC): BC Guidelines; 2017 Feb: [https://www2.gov.bc.ca/assets/gov/health/practitioner-pro/bc-guidelines/palliative2\\_nausea\\_hypodermoclysis.pdf](https://www2.gov.bc.ca/assets/gov/health/practitioner-pro/bc-guidelines/palliative2_nausea_hypodermoclysis.pdf)  
Accessed 2020 Feb 24.

### Additional Information

3. Healy S, Israel F, Reymond E, Lyons-Micic M. Subcutaneous medications and palliative care: a guide for caregivers. 3<sup>rd</sup> Ed. Brisbane, Australia: Brisbane South Palliative Care Collaborative, Queensland Health; 2016 Apr: <https://www.caresearch.com.au/caresearch/Portals/0/Documents/WhatisPalliativeCare/NationalProgram/PCForPeopleAtHome/CSAH-Medication-Booklet-2016.pdf>  
*See: p10 Subcutaneous Cannula – c. Where is a subcutaneous cannula inserted?*