Cryotherapy for Prostate Cancer: Clinical Effectiveness and Guidelines
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About CADTH: CADTH is an independent, not-for-profit organization responsible for providing Canada’s health care decision-makers with objective evidence to help make informed decisions about the optimal use of drugs, medical devices, diagnostics, and procedures in our health care system.

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Questions or requests for information about this report can be directed to requests@cadth.ca
Research Questions

1. What is the clinical effectiveness of cryotherapy for early-stage or screen-detected prostate cancer?

2. What are the evidence-based guidelines on the use of cryotherapy for prostate cancer?

Key Findings

Four systematic reviews (including one systematic review with meta-analysis) were identified regarding the clinical effectiveness of cryotherapy for early-stage or screen-detected prostate cancer. In addition, five evidence-based guidelines were identified regarding the use of cryotherapy for prostate cancer.

Methods

A limited literature search was conducted by an information specialist on key resources including PubMed, 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 cryotherapy and prostate cancer. For question #1, search filters were applied to limit retrieval to health technology assessments, systematic reviews, meta-analyses, or network meta-analyses, and randomized controlled trials. For question #2, search filters were applied to limit the 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, 2018 to September 12, 2019 for question #1, and English language documents published between January 1, 2014 and September 12, 2019 for question #2. Internet links were provided, where available.

Selection Criteria

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

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<th>Table 1: Selection Criteria</th>
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<td><strong>Population</strong></td>
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<td><strong>Intervention</strong></td>
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| **Comparator** | Q1: Watchful waiting; active surveillance; hormonal therapy (e.g., androgen suppression therapy, orchietomy surgery); high-intensity focused ultrasonography; radiation therapy via any technique (e.g., brachytherapy, intensity modulated, stereotactic); radical prostatectomy via any technique (e.g., open surgery, laparoscopy, robot assisted)  
Q2: None required |
| **Outcomes** | Q1: Clinical effectiveness and safety (e.g., quality of life, urinary continence, bowel function, erectile function, psychological wellbeing, prostate-specific antigen levels, adverse events, death, surgical complications)  
Q2: 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 and evidence-based guidelines.

Four systematic reviews\(^1\)–\(^4\) (including one systematic review with meta-analysis\(^1\)) were identified regarding the clinical effectiveness of cryotherapy for early-stage or screen-detected prostate cancer. In addition, five evidence-based guidelines\(^5\)–\(^9\) were identified regarding the use of cryotherapy for prostate cancer. No relevant health technology assessments or randomized controlled trials were identified.

Additional references of potential interest are provided in the appendix.

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses


Randomized Controlled Trials

No literature identified.

Guidelines and Recommendations

Accessed 2019 Sep 17.
See: Section 6 – Treatment

7. Alberta Provincial GU Tumour Team. Local prostate cancer. Edmonton (AB): Alberta Health Services; 2018 Jan:
Accessed 2019 Sep 17.
See: Sections 5, 6, 7, 9


Accessed 2019 Sep 17.
See: Section IV D – Cryotherapy
Appendix — Further Information

Previous CADTH Reports

Accessed 2019 Sep 17.

Systematic Reviews and Meta-analyses

No Comparator

PubMed: PM30649710

Alternate Population

PubMed: PM31411996

Clinical Practice Guidelines

Alternate Population

PubMed: PM27591931

Clinical Guide

Accessed 2019 Sep 17.

Review Articles

Accessed 2019 Sep 17.

PubMed: PM29943219
Additional References

Position Statement


Guideline Endorsement