

CADTH RAPID RESPONSE REPORT: SUMMARY OF ABSTRACTS

Low Dose Naltrexone for the Treatment of Any Cancer Type: Clinical Effectiveness and Guidelines

Service Line: Rapid Response Service
Version: 1.0
Publication Date: January 08, 2019
Report Length: 6 Pages

Authors: Ke Xin Li, Danielle MacDougall

Cite As: *Low dose naltrexone for the treatment of any cancer type: clinical effectiveness and guidelines*. Ottawa: CADTH; 2019 Jan. (CADTH rapid response report: summary of abstracts).

Acknowledgments:

Disclaimer: The information in this document is intended to help Canadian health care decision-makers, health care professionals, health systems leaders, and policy-makers make well-informed decisions and thereby improve the quality of health care services. While patients and others may access this document, the document is made available for informational purposes only and no representations or warranties are made with respect to its fitness for any particular purpose. The information in this document should not be used as a substitute for professional medical advice or as a substitute for the application of clinical judgment in respect of the care of a particular patient or other professional judgment in any decision-making process. The Canadian Agency for Drugs and Technologies in Health (CADTH) does not endorse any information, drugs, therapies, treatments, products, processes, or services.

While care has been taken to ensure that the information prepared by CADTH in this document is accurate, complete, and up-to-date as at the applicable date the material was first published by CADTH, CADTH does not make any guarantees to that effect. CADTH does not guarantee and is not responsible for the quality, currency, propriety, accuracy, or reasonableness of any statements, information, or conclusions contained in any third-party materials used in preparing this document. The views and opinions of third parties published in this document do not necessarily state or reflect those of CADTH.

CADTH is not responsible for any errors, omissions, injury, loss, or damage arising from or relating to the use (or misuse) of any information, statements, or conclusions contained in or implied by the contents of this document or any of the source materials.

This document may contain links to third-party websites. CADTH does not have control over the content of such sites. Use of third-party sites is governed by the third-party website owners' own terms and conditions set out for such sites. CADTH does not make any guarantee with respect to any information contained on such third-party sites and CADTH is not responsible for any injury, loss, or damage suffered as a result of using such third-party sites. CADTH has no responsibility for the collection, use, and disclosure of personal information by third-party sites.

Subject to the aforementioned limitations, the views expressed herein are those of CADTH and do not necessarily represent the views of Canada's federal, provincial, or territorial governments or any third party supplier of information.

This document is prepared and intended for use in the context of the Canadian health care system. The use of this document outside of Canada is done so at the user's own risk.

This disclaimer and any questions or matters of any nature arising from or relating to the content or use (or misuse) of this document will be governed by and interpreted in accordance with the laws of the Province of Ontario and the laws of Canada applicable therein, and all proceedings shall be subject to the exclusive jurisdiction of the courts of the Province of Ontario, Canada.

The copyright and other intellectual property rights in this document are owned by CADTH and its licensors. These rights are protected by the Canadian *Copyright Act* and other national and international laws and agreements. Users are permitted to make copies of this document for non-commercial purposes only, provided it is not modified when reproduced and appropriate credit is given to CADTH and its licensors.

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.

Research Questions

1. What is the clinical effectiveness of low dose naltrexone for the treatment of any cancer type?
2. What are the evidence-based guidelines associated with the use of low dose naltrexone for the treatment of any cancer type?

Key Findings

No relevant literature was found regarding low dose naltrexone for the treatment of any cancer type.

Methods

A limited literature search was conducted on key resources including PubMed, 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 filters were applied to limit the 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, 2008 and December 17, 2018. 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

Population	Patients (adults and children) with any type of cancer
Intervention	Low dose naltrexone alone or in combination with other treatment modalities (e.g., chemotherapy, surgery, radiation, stem cell transplant)
Comparator	Q1: Standard of care treatment for the given cancer: chemotherapy, surgery, radiation, stem cell transplant; Placebo + standard of care versus low dose naltrexone + standard of care; Best supportive care; No comparator Q2: No comparator
Outcomes	Q1: Clinical Effectiveness (e.g., response rate, survival, progression-free survival, quality of life) and safety (toxicity, adverse events, discontinuation) Q2: Guidelines
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 found regarding low dose naltrexone for the treatment of any cancer type.

References of potential interest are provided in the appendix.

Overall Summary of Findings

No relevant literature was found regarding low dose naltrexone for the treatment of any cancer type; 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

Appendix — Further Information

Previous CADTH Reports

1. Low-dose naltrexone for chronic non-cancer pain: clinical effectiveness. (*CADTH Rapid response report: summary of abstracts*). Ottawa (ON): CADTH; 2017: <https://www.cadth.ca/low-dose-naltrexone-chronic-non-cancer-pain-clinical-effectiveness-0>. Accessed 2019 Jan 04.

Review Articles

2. Li Z, You Y, Griffin N, Feng J, Shan F. Low-dose naltrexone (LDN): a promising treatment in immune-related diseases and cancer therapy. *Int Immunopharmacol*. 2018 Aug;61:178-184.
[PubMed: PM29885638](https://pubmed.ncbi.nlm.nih.gov/29885638/)
3. Toljan K, Vrooman B. Low-dose naltrexone (LDN)-review of therapeutic utilization. *Med Sci (Basel)*. 2018 Sep 21;6(4).
[PubMed: PM30248938](https://pubmed.ncbi.nlm.nih.gov/30248938/)
4. Ringerike T, Pike E, Nevjar J, Klemp M. The use of naltrexone in low doses beyond the approved indication. *Report from Norwegian Knowledge Centre for the Health Services (NOKC) No. 8-2015*. Oslo (NO): Knowledge Centre for the Health Services at The Norwegian Institute of Public Health (NIPH); 2015:
<https://www.ncbi.nlm.nih.gov/pubmed/28510411>. Accessed 2019 Jan 04.
[PubMed: PM28510411](https://pubmed.ncbi.nlm.nih.gov/28510411/)

Clinical Trial Registration

5. Constantinou M. NCT01650350: Low dose naltrexone for metastatic melanoma, castrate resistant prostate cancer and renal cancer. *ClinicalTrials.gov*. Bethesda (MD): U.S. National Library of Medicine; 2017:
<https://clinicaltrials.gov/ct2/show/NCT01650350>. Accessed 2019 Jan 04.
6. Masonic Cancer Center University of Minnesota. NCT00379197: Phase II of naltrexone in hormone-refractory metastatic breast cancer. *ClinicalTrials.gov*. Bethesda (MD): U.S. National Library of Medicine; 2017: <https://clinicaltrials.gov/ct2/show/NCT00379197>. Accessed 2019 Jan 04.
7. Peters K. NCT01303835: Low dose naltrexone for glioma patients. *ClinicalTrials.gov*. Bethesda (MD): U.S. National Library of Medicine; 2015:
<https://clinicaltrials.gov/ct2/show/NCT01303835>. Accessed 2019 Jan 04.

Additional References

8. Easton J. Drug for digestive problem can extend survival for many advanced cancer patients. *Science Life UChicago Medicine* 2015;
<https://sciencelife.uchospitals.edu/2015/10/28/drug-for-digestive-problem-can-extend-survival-for-many-advanced-cancer-patients/>. Accessed 2019 Jan 04.

9. National Cancer Institute. Alpha-lipoic acid plus low-dose naltrexone reviewed for cancer treatment. *Division of Cancer Treatment & Diagnosis: Office of Cancer Complementary and Alternative Medicine* 2012; https://cam.cancer.gov/news_and_events/newsletter/2012-spring/feature.htm. Accessed 2019 Jan 04.