

CADTH RAPID RESPONSE REPORT: REFERENCE LIST

Body Weight Modification Interventions for Chronic, Non-Cancer Pain: Clinical Effectiveness and Guidelines

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Research Questions

1. What is the clinical effectiveness of body weight modification interventions for chronic, non-cancer pain?
2. What are the evidence-based guidelines regarding body weight modification for chronic, non-cancer pain?

Key Findings

Three systematic reviews were identified regarding the clinical effectiveness of body weight modification interventions for chronic, non-cancer pain. In addition, three evidence-based guidelines were identified regarding body weight modification for chronic, non-cancer pain.

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 weight change and chronic pain. No filters were applied to limit the retrieval by study type. The search was also limited to English language documents published between January 1, 2015 and February 3, 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

Population	Adults living with chronic non-cancer pain who are classified as either over- or under-weight (BMI ≥ 25 or BMI < 18.5), excluding pregnant patients
Intervention	Weight modification interventions (i.e., dietary and/or exercise)
Comparators	Q1: Pharmacological interventions No treatment (no weight loss) Usual care Q2: Not applicable
Outcomes	Q1: Clinical effectiveness: pain, functional performance, quality of life, disability level, safety, global impression of recovery, adverse events Q2: Recommendations
Study Designs	Health technology assessments, systematic reviews, 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 and systematic reviews are presented first. These are followed by randomized controlled trials, non-randomized studies, and evidence-based guidelines.

Three systematic reviews¹⁻³ were identified regarding the clinical effectiveness of body weight modification interventions for chronic, non-cancer pain. In addition, three evidence-based guidelines⁴⁻⁶ were identified regarding body weight modification for chronic, non-cancer pain.

Additional references of potential interest are provided in the appendix.

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses

1. Charlesworth J, Fitzpatrick J, Perera NKP, Orchard J. Osteoarthritis- a systematic review of long-term safety implications for osteoarthritis of the knee. *BMC Musculoskelet Disord*. 2019 Apr 9;20(1):151.
[PubMed: PM30961569](#)
2. Hall M, Castelein B, Wittoek R, Calders P, Van Ginckel A. Diet-induced weight loss alone or combined with exercise in overweight or obese people with knee osteoarthritis: a systematic review and meta-analysis. *Semin Arthritis Rheum*. 2019 Apr;48(5):765-777.
[PubMed: PM30072112](#)
3. Newberry SJ, FitzGerald J, SooHoo NF, et al. Treatment of osteoarthritis of the knee: an update review (*AHRQ Comparative effectiveness review no. 190*). Rockville (MD): Agency for Healthcare Research and Quality; 2017 May:
<https://effectivehealthcare.ahrq.gov/products/osteoarthritis-knee-update/research-2017>
Accessed 2020 Feb 06.

Randomized Controlled Trials

No literature identified.

Non-Randomized Studies

No literature identified.

Guidelines and Recommendations

4. Kolasinski SL, Neogi T, Hochberg MC, et al. 2019 American College of Rheumatology/Arthritis Foundation Guideline for the management of osteoarthritis of the hand, hip, and knee. *Arthritis Care Res*. 2020 Feb;72(2):149-162.
[PubMed: PM31908149](#)
5. Geenen R, Overman CL, Christensen R, et al. EULAR recommendations for the health professional's approach to pain management in inflammatory arthritis and

osteoarthritis. *Ann Rheum Dis*. 2018 Jun;77(6):797-807.

[PubMed: PM29724726](#)

6. American College of Occupational and Environmental Medicine (ACOEM). Chronic pain guideline. Hegmann KT, Ed. Elk Grove Village (IL): ACOEM; 2017 May: <https://www.dir.ca.gov/dwc/MTUS/ACOEM-Guidelines/Chronic-Pain-Guideline.pdf> Accessed 2020 Feb 06.

Appendix — Further Information

Systematic Reviews and Meta-analyses

Unclear Intervention

7. Narouze S, SouzdaInitski D. Obesity and chronic pain: systematic review of prevalence and implications for pain practice. *Reg Anesth Pain Med*. 2015 Mar-Apr;40(2):91-111. [PubMed: PM25650632](#)

Randomized Controlled Trials

Alternative Population

8. White DK, Neogi T, Rejeski WJ, et al. Can an intensive diet and exercise program prevent knee pain among overweight adults at high risk? *Arthritis Care Res (Hoboken)*. 2015 Jul;67(7):965-971. [PubMed: PM25692781](#)

Non-Randomized Studies

Before and After Study

9. Dunlevy C, MacLellan GA, O'Malley E, et al. Does changing weight change pain? Retrospective data analysis from a national multidisciplinary weight management service. *Eur J Pain*. 2019 Sep;23(8):1403-1415. [PubMed: PM30963658](#)
10. Hamdi A, Albaghdadi AT, Ghalimah B, Alnowiser A, Ahmad A, Altaf A. Bariatric surgery improves knee function and not knee pain in the early postoperative period. *J Orthop Surg Res*. 2018 Apr 11;13(1):82. [PubMed: PM29642931](#)
11. Schrepf A, Harte SE, Miller N, et al. Improvement in the spatial distribution of pain, somatic symptoms, and depression after a weight loss intervention. *J Pain*. 2017 Dec;18(12):1542-1550. [PubMed: PM28847734](#)

Clinical Practice Guidelines

12. Toward Optimized Practice Guideline Committee. Evidence-informed primary care management of low back pain: clinical practice guideline. Edmonton (AB): Toward Optimized Practice; 2015 Dec (rev 2017): <https://actt.albertadoctors.org/CPGs/Lists/CPGDocumentList/LBP-guideline.pdf> Accessed 2020 Feb 06.
13. Jones BQ, Covey CJ, Sineath MH, Jr. Nonsurgical management of knee pain in adults. *Am Fam Physician*. 2015 Nov 15;92(10):875-883. [PubMed: PM26554281](#)