Rehabilitation and Prevention of Hospital-Associated Deconditioning: Clinical Effectiveness and Guidelines
Authors: Dave K. Marchand, Charlene Argáez


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.

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

1. What is the clinical effectiveness of rehabilitation for patients with hospital-associated deconditioning?

2. What are the evidence-based guidelines regarding the prevention and rehabilitation of hospital-associated deconditioning?

Key Findings

One randomized controlled trial and three non-randomized studies were identified regarding the clinical effectiveness of rehabilitation for patients with hospital-associated deconditioning. No relevant evidence-based guidelines were identified.

Methods

A limited literature search was conducted on key resources including Medline, 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 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, 2013 and November 29, 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

<table>
<thead>
<tr>
<th>Population</th>
<th>Frail adults (including elderly) who are acutely hospitalized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>Rehabilitation (e.g., physical therapy, occupational therapy, nutrition)</td>
</tr>
<tr>
<td>Comparators</td>
<td>Q1: No treatment; Control Q2: No comparator</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Q1: Clinical effectiveness (e.g., discharge [how soon and where to], length of stay, independence, morbidity) Q2: Guidelines</td>
</tr>
<tr>
<td>Study Designs</td>
<td>Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, evidence-based guidelines</td>
</tr>
</tbody>
</table>
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 randomized controlled trial and three non-randomized studies were identified regarding the clinical effectiveness of rehabilitation for patients with hospital-associated deconditioning. No relevant health technology assessments, systematic reviews, meta-analyses, or evidence-based guidelines were identified.

Additional references of potential interest are provided in the appendix.

Overall Summary of Findings

One randomized controlled trial\(^1\) and three non-randomized studies\(^2\)-\(^4\) were identified regarding the clinical effectiveness of rehabilitation for patients with hospital-associated deconditioning.

The authors of the randomized controlled trial assessed an exercise intervention in acutely hospitalised older patients and found that it improved physical performance and independence scores.\(^1\) A reversal of functional decline was thus achieved safely.\(^1\) This was similar to the results of a non-randomized study which reported that intensive short rehabilitation was superior in returning mobility to elderly patients who had undergone hemiarthroplasty, over outpatient rehabilitation and extended slow-stream rehabilitation.\(^4\)

The authors of a second non-randomized study examined the association of physical therapy timing on selected parameters.\(^2\) An association was noted between an early intervention and a shorter length of stay as well as fewer requirements for care on discharge; however, the authors did not speculate on a causal mechanism.\(^2\)

Conversely, the authors of a third non-randomized study did not find any benefit on activities of daily living or instrumental activities of daily living from a specialized geriatric rehabilitation program;\(^3\) however, they did note better cognitive functioning in the intervention group.\(^3\)

No relevant evidence-based guidelines were identified regarding the clinical effectiveness of rehabilitation for patients with hospital-associated deconditioning; therefore, no summary can be provided on that aspect.

References Summarized

Health Technology Assessments
No literature identified.

Systematic Reviews and Meta-analyses
No literature identified.
Randomized Controlled Trials


Non-Randomized Studies


Guidelines and Recommendations

No literature identified
Appendix — Further Information

Systematic Reviews and Meta-Analyses

Alternative Intervention - Prehabilitation


Alternative Intervention - Post-Hospitalisation


Population Insufficiently Defined – Age or Frailty Status Unknown


Randomized Controlled Trials

Alternative Intervention - Post-Hospitalisation


Population Insufficiently Defined – Age or Frailty Status Unknown


Non-Randomized Studies

Alternative Intervention - Post-Hospitalisation


Population Insufficiently Defined – Age or Frailty Status Unknown


Alternative Outcome

Patient Preferences


Consensus Study

Guidelines and Recommendations

Not Specific to Frail or Elderly Adults


Review Articles


Alternative Intervention - Prehabilitation
