Physical Therapy Management of Older Adults with Hip Fracture: Clinical Practice Guideline

Combined Sections Meeting 2019

Contributors to the Hip Fracture CPG

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Training for CPG development provided by:
Funding for CPG provided by:

Course Description

The Academy of Orthopaedic Physical Therapy (AOPT) and Academy of Geriatric Physical Therapy (AGPT) collaborated on the development of a Clinical Practice Guideline (CPG) for management of older adults with hip fracture. The methods for development were consistent with national, international, AOPT and AGPT standards. The structure and content of the CPG follows AOPT format using the WHO International Classification of Functioning Health and Disability, providing background on the condition and specific recommendations for examination, including clinical measures of impairment of body function and structures, and self-report and performance measures of activity limitation and participation restriction, and for physical therapy intervention. This course will present the process, findings and recommendations of CPG for management of older adults with hip fracture and relationship to other relevant CPGs, and discuss implementation using cases.
Learning Objectives

1. Describe components of examination based on PT practice standards
2. List the recommendations for measures of impairment, activity limitation and participation restriction for older adults recovering from hip fracture
3. List the recommendations for intervention in this clinical population
4. Describe the implementation of evidence-based management strategies based on this CPG

Course Outline

<table>
<thead>
<tr>
<th>Topic</th>
<th>Time (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction and Methods Overview</td>
<td>5</td>
</tr>
<tr>
<td>Development of Recommendations: Interventions</td>
<td>10</td>
</tr>
<tr>
<td>Recommendations: Examination: Interventions</td>
<td>25</td>
</tr>
<tr>
<td>Recommendations: Assessment of Risk for Adverse Outcomes</td>
<td>5</td>
</tr>
<tr>
<td>Development of Recommendations: Examination-Outcome Measures</td>
<td>10</td>
</tr>
<tr>
<td>Recommendations: Examination-Outcome Measures</td>
<td>25</td>
</tr>
<tr>
<td>Case Presentation</td>
<td>20</td>
</tr>
<tr>
<td>Next Steps</td>
<td>10</td>
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<tr>
<td>Discussion</td>
<td>10</td>
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</table>

Motivation for PT-specific CPGs

1. **Common CPG Perspective**
   - Disease
   - High Stakes Medical/Surgical Decision

2. **Rehabilitation CPG Need**
   - Impairment/Activity Limitation
   - Rehabilitation Decision

3. “Provide exercises or physiotherapy.....”
National and International Standards

IOM Standards for CPG Development
1. Establish Transparency
2. Manage Conflict of Interest
3. Balanced CPG Development Group
4. Systematic Reviews meeting IOM standards
5. Explanation of foundation for strength of recommendations
6. Clear articulation of recommendations
7. External Review including Public Comment
8. Updating

Methods based on Standards
✓ Establish a team with appropriate expertise
✓ Manage conflict of interest
✓ Ensure user and stakeholder input
Interventions

- Worked with librarian to plan search strategy
- Searched range of sources: (PubMed, CINAHL, Cochrane, PEDro)
- Screened and selected studies:
  - Two or more independent reviewers
  - Using pre-specified criteria

Hip Fracture CPG Methods

Literature Search

- Worked with librarian to plan search strategy
- Searched range of sources: (PubMed, CINAHL, Cochrane, PEDro)
- Screened and selected studies:
  - Two or more independent reviewers
  - Using pre-specified criteria

Pre-specified Inclusion and Exclusion Criteria

- Article Characteristics
- Patient/Subject Characteristics
- Exposure/PT Interventions
- Outcomes
Procedures for Assigning Levels of Evidence

Assign Based on Study Design ➔ Critical Appraisal ➔ ? Adjust Level

Hip Fracture CPG Methods
Critical Appraisal

- 2-member independent team
  - Discrepancies resolved through discussion and team lead as needed

- Critical appraisal tools to assess quality:
  - CAT-EI – RCTs
    - APTA Critical Appraisal Tool for Experimental Intervention Studies
  - SIGN – Systematic Reviews
  - AMSTAR, Case Control and Cohort forms

Evidence Levels

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>I</td>
<td>Evidence obtained from high quality systematic reviews, diagnostic studies, prospective studies, or randomized controlled trials</td>
</tr>
<tr>
<td>II</td>
<td>Evidence obtained from lesser-quality systematic reviews diagnostic studies, prospective studies, or randomized controlled trials (e.g., weaker diagnostic criteria and reference standards, improper randomization, no blinding, less than 80% follow-up)</td>
</tr>
<tr>
<td>III</td>
<td>Case control studies or retrospective studies</td>
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<tr>
<td>IV</td>
<td>Case series</td>
</tr>
<tr>
<td>V</td>
<td>Expert opinion</td>
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</table>
### Grade of Recommendation

<table>
<thead>
<tr>
<th>GRADE</th>
<th>STRENGTH OF EVIDENCE</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>Strong evidence - A preponderance of level I and/or level II studies support the recommendation. This must include at least 1 level I study</td>
</tr>
<tr>
<td>B</td>
<td>Moderate evidence - A single high-quality randomized controlled trial or a preponderance of level II studies support the recommendation</td>
</tr>
<tr>
<td>C</td>
<td>Weak evidence - A single level II study or a preponderance of level III and IV studies, including statements of consensus by content experts, support the recommendation</td>
</tr>
<tr>
<td>D</td>
<td>Conflicting evidence - Higher-quality studies conducted on this topic disagree with respect to their conclusions. The recommendation is based on these conflicting studies</td>
</tr>
<tr>
<td>E</td>
<td>Theoretical/foundational evidence - A preponderance of evidence from animal or cadaver studies, from conceptual models/principles, or from basic sciences/bench research support this conclusion</td>
</tr>
<tr>
<td>F</td>
<td>Expert opinion - Best practice based on the clinical experience of the guidelines development team</td>
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### Intervention Recommendations

- Early postoperative period...
- Across the entire episode of care ...
- Multidisciplinary...
- Frequency & timing...
- Extended care

### Examination - Outcome Measures
Outcome Measures


- Literature Search & Rehab Measures Database Search: n=63
- Task Force Nomination of Additional Measures: n=12
- Completed EDGE Rating forms
- Review by Task Force; >=4/6 Included: n= 44

Timeline

- Sept. 2016 Literature update
- May 2017 Completion of BOT + EDGE form appraisal
- June 2017 Voting on measures + assigning primary writers
- FFN – Congress, Malmö 2017
- FFN – Congress, Dublin 2018
- Aug. 2015 BOT scale appraisal
- Table of Tools finished
- First literature search
- July 2015 BOT - scale practice
- Feb. 2015 Consensus – focus of review
- Jan. 2015 Forming measurement subgroup:
  - Mangione
  - Dörgard
  - Kristensen
  - McDonough
- Feb. 2012:
  - 2013 EDGE task force group, by Kathleen Kline Mangione

Selection Criteria

- Measurement used in Hip Fracture population
  - Larger samples
  - Reliability (ICC, SEM, MDC)
  - Validity aspects + MCID
  - Used across rehabilitation continuum
  - Burden

Selection Criteria: Strongest evidence
Level of Evidence – based on specific studies of patients with hip fracture

<table>
<thead>
<tr>
<th>Level of Evidence</th>
<th>At least 1 reliability or 1 validity study</th>
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<tbody>
<tr>
<td>I</td>
<td>At least 2 reliability and 2 validity studies</td>
</tr>
<tr>
<td>II</td>
<td>At least 1 reliability and 1 validity study</td>
</tr>
</tbody>
</table>

Grade of Recommendation

<table>
<thead>
<tr>
<th>Grade of Recommendation</th>
<th>Level of Obligation</th>
</tr>
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<tbody>
<tr>
<td>A - strong</td>
<td>Must or should use</td>
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<tr>
<td>B - moderate</td>
<td>Should use</td>
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<tr>
<td>C - weak</td>
<td>May use</td>
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</tbody>
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The grade might not be the same as the evidence level as it also is based on the feasibility of administering the measure including:

- Training required and resources available,
- Time to complete and score,
- Specific steps for scoring,
- Equipment needed,
- How the test addresses assistive device use
- License and cost requirements for use

Focus:

Physical Domain – included self-report and clinical/performance-based tests

Recovery Phase/Setting

- Acute/Inpatient
- Sub-acute/Inpatient
- Rehabilitation/Skilled Nursing
- Community-based: Home Care and Outpatient

ICF Level

- Body Functions & Structures
- Activity Participation
- Changing Position
- Walking
- Dressing
- Meal Prep
- Eating
- Working
- Caregiving
- Traveling
Selected outcome measures included

• Description & Discussion
• Scoring
• Time to Administer
• Equipment Required
• Training Required & Resources Available
• Assistive Devices

Outcome Measure Recommendations

<table>
<thead>
<tr>
<th>DOMAIN</th>
<th>MUST</th>
<th>SHOULD</th>
<th>MAY</th>
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<tbody>
<tr>
<td>Impairment</td>
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<td>Pain</td>
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<td>Strength</td>
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<td>ROM</td>
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<td>Activity Limitations</td>
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<td>Basic Mobility: Balance, Transfers and Ambulation</td>
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<tr>
<td>Gait Speed/Endurance</td>
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<tr>
<td>Physical Function</td>
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CASE STUDY
IMPLEMENTING EVIDENCE

HIP, HOP & HAPPENING!
EARLY HIP FRACTURE REHABILITATION

Michelle Fitzgerald BSc, MSc, MISCP
Senior Physiotherapist, Tallaght Hospital, Dublin
Selected References - Interventions


Selected References - Measures