Physical Therapy Management of a Patient with Chronic Knee Pain: A Case Report

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Background
- Knee pain affects approximately 25% of adults, and as a result limits functional mobility and may induce participation restrictions.1
- Risk factors may contribute to knee pain, with osteoarthritis (OA) being the most prevalent cause in individuals 50 years and older.1
- The rate of knee replacement surgery among individuals 65 and older has increased by approximately eight fold from 1979-2002.
- Physical Therapy (PT) is a non-surgical option that offers individuals relief.

Purpose
- Review the PT treatment and management for a patient with chronic knee pain.
- Use of evidence based interventions, such as therapeutic exercises, joint mobilization, application of Kinesiotape (KT), and a home exercise program (HEP).

Case Description
- 48-year-old Caucasian female with chronic right knee pain.
- Chief Complaints: inability to walk for longer than 20 minutes, inability to bend down, and difficulty with stairs
- Focus: strengthening the right knee, increasing ROM, improving stair climbing, improving gait pattern, application of Kinesiotape (KT), and manual therapy to improve joint mobility

Examination and Outcomes

<table>
<thead>
<tr>
<th>Test and Measures</th>
<th>Initial</th>
<th>Final</th>
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</thead>
<tbody>
<tr>
<td>Right Knee ROM</td>
<td>Flexion: 86° Extension: 9°</td>
<td>Flexion: 115° Extension: 5°</td>
</tr>
<tr>
<td>Right Knee Strength</td>
<td>Flexion: 4/5 Extension: 4/5</td>
<td>Flexion: 5/5 Extension: 5/5</td>
</tr>
<tr>
<td>Hip Extension Strength</td>
<td>Left: 3/5 Right: 3-/+</td>
<td>Left: 4+/- Right: 4+/-</td>
</tr>
<tr>
<td>Numeric Pain Rating Scale</td>
<td>Current: 4/10 Best: 2/10</td>
<td>Current: 2/10 Best: 2/10</td>
</tr>
<tr>
<td>Lower Extremity Functional Scale (LEFS)</td>
<td>42/80</td>
<td>60/80</td>
</tr>
</tbody>
</table>

Interventions

Goals

<table>
<thead>
<tr>
<th>Goal</th>
<th>Status</th>
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<tbody>
<tr>
<td>Right knee active range of motion (AROM) of at least 100 degrees without pain for improved ambulation</td>
<td>✔</td>
</tr>
<tr>
<td>The patient will report a zero- two out of ten on the NPRS for improved functional mobility</td>
<td>✔</td>
</tr>
<tr>
<td>Right knee AROM extension of zero degrees</td>
<td>✗</td>
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</tbody>
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Discussion & Conclusion

- Successful outcome as was measured by the patient’s decrease in pain level, increased strength, and increased participation.
- Combination of therapeutic exercises, manual therapy, KT, and HEP demonstrated improvement for this patient’s impairments and functional capabilities.
- LEFS was a beneficial outcome measure to measure level of improvement and participation levels.
- Limited information in the literature discussing the effects of smoking on articular cartilage among females
- Beneficial to examine the efficacy of KT in conjunction with manual therapy in treating chronic knee pain

Acknowledgements

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References


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