Decreased Functional Mobility Following Multiple Spinal Fusion Surgeries

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INTRODUCTION
- After spinal fusion surgeries patients have decreased functional mobility and core strength.
- Vertebra are fused together in order to decrease movement preventing stretching of spinal structures.
- Adjacent segments undergo abnormal biomechanical stress potentially disrupting their anatomy.
- Strengthening of core musculature is important to support the spine and increase stability in order to decrease pain and prevent further injury to spine.
- Research suggests that there is a strong need for a spinal conditioning program after spinal surgery due to decrease in core muscular function.

PATIENT DESCRIPTION:
- 46 y.o. female
- Multiple spinal surgeries over several years resulting in fusion from T4-Sacrum.
- Co-morbidities: Morbidly obese, OA, Diabetes, Chronic Fatigue Syndrome.
- Decreased abdominal and LE strength, altered sensation from T12 and below, drop foot, sacral pressure ulcer.
- Uses WC, sleeps in recliner, uses bed side commode, can ambulate <25 ft with rolling walker and mod A.

RESEARCH QUESTION:
Is core strengthening an effective intervention in order to improve functional mobility after multiple spinal fusion surgeries?

METHODOLOGY:
- Create an exercise program focusing on core strengthening in order to increase functional mobility.
- Treatment: 60 minutes, 2 times a week for 6 weeks.
- Outcomes Measures: Revised Oswestry Disability Index, Lower Extremity Functional Scale (LEFS), MMT, and bed mobility assessment

RESULTS
- Upon final evaluation the patient demonstrated an overall increase in core and lower extremity strength.
- The patient reported an increase in overall functional independence after participation in therapeutic exercise program.

DISCUSSION/CONCLUSION
- The patient made improvements although treatment consisted of a variety of different exercises not just core strengthening.
- Patients goal: to become more independent with bed mobility.
- Further research must be done to identify if solely core strengthening is truly a beneficial treatment for improving functional mobility.

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<thead>
<tr>
<th></th>
<th>Initial Eval (Week One)</th>
<th>Final Eval (Week Six)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sit to Stand</td>
<td>Mod I (rolling walker)</td>
<td>I w/ use of hands</td>
</tr>
<tr>
<td>Sit to Supine</td>
<td>Mod A for leg assistance</td>
<td>Independent</td>
</tr>
<tr>
<td>Rolling Left</td>
<td>Mod A for leg placement</td>
<td>Independent</td>
</tr>
<tr>
<td>Rolling Right</td>
<td>Mod A for leg placement</td>
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</tbody>
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<tr>
<th></th>
<th>Initial Eval (Week One)</th>
<th>Final Eval (Week Six)</th>
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<tbody>
<tr>
<td>LEFS</td>
<td>18/80 (77.5% impaired)</td>
<td>60/80 (25% impaired)</td>
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<tr>
<td>Revised Oswestry</td>
<td>23/50 (46% impaired)</td>
<td>20/50 (40% impaired)</td>
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