Physical and Psychological Outcome Measures after Multiple Foot Surgeries

Elizabeth Inscore, SPT; Kirsten R. Buchanan, PhD, PT, ATC
University of New England, Portland, Maine

**Unique**
- The psychological effects of an injury have the potential to be more debilitating than the physical ailments themselves.\(^1\)\(^,\)\(^2\)
- Physical therapy (PT) rehabilitation programs that incorporate both physical and psychological interventions have demonstrated successful outcomes but have not been widely studied.

**Purpose**
The purpose of this case report was to investigate both the physical and psychological outcomes after a comprehensive PT rehabilitation program for a patient who sustained multiple foot and ankle injuries.

**Foundation**
- Fear of movement, decreased confidence, and depression can increase the probability of secondary sequelae and future disability in patients with lower extremity (LE) injuries.\(^3\)\(^,\)\(^4\)
- Psychological principles such as positive reinforcement, verbal encouragement, and patient led interventions may help decrease the patient’s fear of movement and assist in the recovery process.\(^5\)\(^,\)\(^6\)

**Orthopedic Injuries**
- Falls, CV
- "F" Fear of Movement
- "M" Immobility
- "I" Falls, CV deconditioning, systemic complications

**Description**
- **Patient:** The patient was a 51 year old female who presented to PT after multiple LE surgeries including: right tarsal tunnel release, osteoarthritis debridement in the right ankle and first metatarsalphalangeal (MTP) joint, and a repair of the right extensor hallucis longus tendon.
- **Past Medical History:** Her PMH included fractures to both fibulae, an open fracture of the right first metatarsal, and multiple steroid injections in the right ankle and first MTP joint.
- **Plan of Care:**
  - The patient participated in 60 minute sessions two days a week, for 10 weeks.
  - Patient and physical therapist collaboration was the cornerstone of the rehabilitation process.
  - Psychological principles were incorporated through the gradual progression of interventions, verbal encouragement, and tactile and visual cuing.

**Observations**
The outcome measures demonstrated clinically significant \(^7\) \(^-\)\(^9\) physical and psychological improvements from initial evaluation (IE) to discharge (DC).

**Goals**
1. Fear of movement of the R ankle and great toe
2. \(\triangle\) ROM in R ankle/great toe
3. \(\triangle\) Strength R ankle/great toe
4. Gait abnormalities
5. Inability to descend an 8-inch step with R LE

**Interventions**
1. Desensitization training
2. Manual therapy
3. AROM
4. Gait training
5. LE strengthening (Figure 2A)
6. Balance training (Figure 2B)
7. Verbal, tactile, and visual cuing

**Conclusion**
This case report demonstrated positive physical and psychological outcomes after a comprehensive PT program for a patient with multiple LE injuries and a chronic fear of movement.

Future research may consider investigating the relationship between psychological interventions and outcome measures for a larger population of people with lower extremity injuries.

**Figure 1:** Healing progression of the surgical incision of the extensor hallucis longus tendon repair on the right foot.

**Figure 2:**
A. Step down exercise using Airex foam pad and wooden dowel.
B. Single leg balance exercise using Airex foam pad.

**Table:**
<table>
<thead>
<tr>
<th>Lower Extremity Functional Scale (recorded as % function)</th>
<th>Tampa Scale of Kinesiophobia (recorded as % disability)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IE</td>
<td>DC</td>
</tr>
<tr>
<td>46%</td>
<td>71%</td>
</tr>
<tr>
<td>76%</td>
<td>43%</td>
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**References**