Can a knowledge translation implementation strategy improve the evidence based management of ankle sprains by physiotherapists?

Eric Robitaille,¹,² Marsha MacRae,¹ Peter Rowe,¹ Alice Aiken²

Canadian Armed Forces Health Services Group, Ontario, Canada¹
Dalhousie University, Halifax, Nova Scotia, Canada²

Contact: eric.robitaille@forces.gc.ca
Introduction

Lateral Ankle Sprains (LAS) are the 3rd most common injury among Canadian Armed Forces (CAF) members, resulting in a substantial rehabilitation workload for CAF Physiotherapists. A survey\(^1\) among CAF Physiotherapists reported discrepancies between their clinical practice and the management strategies recommended for LAS:

- Frequent use of electrotherapy modalities,
- Delayed balance & strengthening exercises,

The survey also reported their preferred knowledge translation (KT) interventions:

- Distance learning,
- Summarized research knowledge,
- Opportunities for peer interaction.

In a follow up focus group\(^2\) CAF Physiotherapists discussed perceived barriers to implementing research evidence into their clinical practice:

- Geographical distribution across Canada,
- Resource discrepancies in garrison/on deployment.

Our objective was to determine the effect of a distance learning program including summarized research & peer interaction on CAF Physiotherapists’ self-reported knowledge of & practice using the management strategies recommended for LAS.
Our methodology was guided by the Knowledge-To-Action “Action Cycle”\(^3\)

1. **a) Identify problem**
   - Discrepancies reported between clinical practice & research evidence,
   - Geographical distribution & resource discrepancies.

1. **b) Identify knowledge needed**
   - The National Athletic Training Association (NATA) position statement on LAS management\(^4\) was selected as most appropriate for CAF members.

2. **Adapt knowledge to local content**
   - The NATA content was adapted to reflect the CAF Physiotherapy slogan:
     
     \[
     \text{“Physical & measurable solutions to maintain and enhance operational readiness, anywhere, anytime.”}
     \]

3. **Assess barriers to knowledge use**
   - A focus group denied implementation barriers in garrison/on deployment.

4. **Select, tailor & implement interventions**
   - A distance learning program emphasizing summarized research & peer interaction opportunities was made available for all CAF Physiotherapists.

5. **Monitor knowledge use**
   - A modified self-assessment of knowledge & performance using management strategies recommended in LAS was distributed to all CAF Physiotherapists at baseline & 3 months.

### Methods

**Self-assessment of knowledge & performance\(^5\)**

<table>
<thead>
<tr>
<th>Knowledge (1 – 5)</th>
<th>Practice (1 – 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – I am not familiar with this task</td>
<td>1 – I never perform this task</td>
</tr>
<tr>
<td>2 – I am familiar with this task</td>
<td>2 – I perform this task rarely (≤25%)</td>
</tr>
<tr>
<td>3 – I have a working knowledge of this task</td>
<td>3 – I perform this task somewhat frequently (26-50%)</td>
</tr>
<tr>
<td>4 – I have the knowledge to teach this task in an informal setting</td>
<td>4 – I perform this task frequently (51-75%)</td>
</tr>
<tr>
<td>5 – I have the knowledge to teach this task in a formal setting</td>
<td>5 – I perform this task very frequently (≥76%)</td>
</tr>
</tbody>
</table>
### Results

#### Interventions

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Baseline</th>
<th>3 months</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$K$</td>
<td>$P$</td>
</tr>
<tr>
<td>Avoid electrotherapy</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Prescribe early rehabilitation exercise (Balance, strength)</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

#### Outcome measures

<table>
<thead>
<tr>
<th>Outcome measures</th>
<th>Baseline</th>
<th>3 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Specific Functional Scale</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Foot &amp; Ankle Abilities Measure</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Star Excursion Balance Test</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Hop Testing</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

#### Most influential KT intervention at 3 months

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Summarized research &gt; Peer interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice</td>
<td>Summarized research &gt; Practice tools</td>
</tr>
</tbody>
</table>

- CAF PTs: 92
  - 3 excluded (research team)
  - 89 eligible respondents
- Baseline:
  - 67/89 (75.3%) @ Baseline
- 3 months:
  - 51/67 (76.1%) @ 3 months
- Mil PT 29/32 (90.6%)
- Civ PT 38/57 (66.6%)
- Mil PT 25/32 (78.1%)
- Civ PT 26/57 (45.6%)

Mil PT: Military PT
Civ PT: Civilian PT
Discussion

Respondents reported excellent knowledge of & practice using the recommended interventions. The limited use of electrotherapy modalities & frequent early prescription of balance & strengthening exercises demonstrates improved evidence based management of LAS.

Respondents reported some improvement in their knowledge & good improvement in their practice using most recommended outcome measures. The frequent use of balance & functional performance outcomes demonstrates improved evidence based management of LAS.

Interestingly, respondents reported the KT intervention that most influenced their knowledge & practice was summarized research, suggesting that simple passive dissemination may have been an equally effective implementation strategy for CAF Physiotherapists.

Conclusion

This study reported that a distance learning program emphasizing summarized research & peer interaction opportunities improved CAF Physiotherapists’ self-reported knowledge of & practice using management strategies recommended in LAS. Future studies investigating implementation strategies to improve evidence based management by CAF Physiotherapists should consider these results.

Contact: eric.robitaille@forces.gc.ca