The Effects of a 30 Day Limited Duty Policy Change on Time to Completion of a Return to Work Program for Fire and Emergency Medical Service Members

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Background

• Firefighting and emergency response is high risk work
• Cardiovascular disease events account for almost half (45%) of on duty fatalities among firefighters most of which are due to coronary heart disease\textsuperscript{1}
• In addition, there 50-60 % more non fatal, line of duty cardiovascular events in the American fire service\textsuperscript{2}

Introduction

• Fire and EMS members (FEMS) undergo exercise stress testing (ETT) periodically to demonstrate cardiovascular fitness

• If unable to demonstrate ≥ 12 metabolic equivalents (METS) on a normal ETT, they are placed on limited duty and start a return to work program (RTWP)
Introduction

• Wellness programs have demonstrated reduced injury and illness rates in firefighters³

• However, to date, no one has studied the effects of policy changes (i.e. limiting number days of leave) on a RTWP in FEMS

FEMS Return to Work Program

- Team based, peer led wellness program
- 4 hours daily for 5 days/week
- Designed for deconditioned FEMS members to achieve 12 METS with a normal ETT
- In 2010, maximum allowed limited duty days (i.e. paid leave) for the RTWP was reduced to 30 days
Objectives

• To evaluate the effect on ability to achieve 12 METS before and after the 2010 limited duty policy change

• To evaluate how the limited duty policy change would affect the completion time of the RTWP
Methods

• Retrospective chart review
• Two 1 year time periods
  – Before: 2008
  – After: 2011
• Population: Metropolitan FEMS members who had a normal ETT with less than 12 METS who enrolled in the RTWP
Data Collection

- Occupation
- Age
- Gender
- METS - Pre/post-test program METS
- Blood pressure during ETT
- Heart rate during ETT
- Duration of time to completion of the RTWP
Statistical Analysis

• Paired t-test used to compare METS, ETT HR, and ETT systolic blood pressure within year differences on the same subjects

• Student’s t-test used to compare time to completion of the RTWP before/after policy change years
## Demographics of RTWP

<table>
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<tr>
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<tbody>
<tr>
<td>Members undergoing ETT</td>
<td>1057</td>
<td>1040</td>
</tr>
<tr>
<td>Normal ETT but &lt;12 METS</td>
<td>11 (1%)</td>
<td>19 (2%)</td>
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<tr>
<td>Gender Male</td>
<td>10 (91%)</td>
<td>10 (53%)</td>
</tr>
<tr>
<td>Age in years (range)</td>
<td>50 (23-57)</td>
<td>50 (32-63)</td>
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Days to Completion of RTWP

$p < .03$
Results

• After completion of RTWP, all members achieved 12 METS or greater
• No ischemic events or cardiac arrhythmias events in pre or post RTW
• No relationship between METS and time to completion of RTWP
• No relationship between pre and post RTW maximum SBP or maximum HR during ETT
Effects Limited Duty Policy Before 2010

- Overtime costs soaring
- Injury leave policy - disincentive for injured firefighters to return to full duty as soon as possible
  - Forbearance on debts
  - Tax free income
  - Avoiding strenuous nature of firefighting
Effects of Limited Duty Policy after 2010

- 1 month of approved limited duty time for non-work related injuries
- Reduction in the amount of injury leave, compensation, and overtime salaries
- *Incentivized* time to return to full duty
Limitations

- Small sample size of the study
- Average time to RTWP may be affected by confounding factors (i.e. avoidance of work)
Summary

• 2010 Limited duty policy reduced number of days away from work by 50%
• Financial incentives may motivate FEMS members to return to work more quickly
Questions?