2015

Australian Army recruit training: course length and recruit injury rates

Georgina Dawson  
*Bond University*

Ryan Broad  
*Kapooka Military Area*

Rob Orr  
*Bond University, rorr@bond.edu.au*

Follow this and additional works at: [http://epublications.bond.edu.au/tru_conf](http://epublications.bond.edu.au/tru_conf)

Part of the Exercise Science Commons, Military Studies Commons, Occupational Health and Industrial Hygiene Commons, and the Sports Sciences Commons

This work is licensed under a Creative Commons Attribution-No Derivative Works 4.0 License.

Recommended Citation

Background

• Military recruits are at a greater risk of injury when compared to qualified soldiers
  (Orr & Pope, 2015; Booth et al., 2006; Kaufman et al., 2000)

• The sudden increase in load may lead to over training and eventual injury
  (Prigg et al. 2000)

• Would decreasing load but retaining training requirements decrease risk of injury?
Aims and Hypothesis

• Aims:
  – Investigate the influence of lengthening a recruit training course from 80 days to 100 days
  – Profile injuries that occur

• Hypothesis:
  – The longer the training period, the greater the risk of injury.
Participants

- Australian Regular Army recruits attending Basic Recruit training at Kapooka
- Recruits were randomly selected for each course

<table>
<thead>
<tr>
<th>Course</th>
<th>Number of Platoons</th>
<th>Number of Recruits</th>
<th>Male Recruits</th>
<th>Female Recruits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASC</td>
<td>2</td>
<td>73</td>
<td>56</td>
<td>17</td>
</tr>
<tr>
<td>ARC</td>
<td>4</td>
<td>194</td>
<td>152</td>
<td>42</td>
</tr>
<tr>
<td>Total</td>
<td>6</td>
<td>267</td>
<td>208</td>
<td>59</td>
</tr>
</tbody>
</table>
Methods

• Data recorded during two different Army recruit training courses over 1 year period (2013)
  – ASC (100 d) / ARC (80 d)

• The ASC contained all aspects of the ARC with a more gradual increase in load over the first four weeks
  ....also contained additional military field training and an extended field phase
Methods

• Injury Prevalence
  – \( \frac{\text{Number of reported injuries}}{\text{number of recruits completing the respective course}} \times 100 \)

• Injury Incidence
  – \( \frac{\left( \frac{\text{Number of reported injuries}}{\text{number of recruits completing the respective course}} \times 100 \right)}{\text{course length in days}} \times 100 \)
Methods

- Ethics approval from BUHREC & ADHREC
Results

• ASC (100 days):
  – 73 recruits, nil excluded
  – 13 recruits injured (17.8%)

• ARC (80 days):
  – 194 recruits (23 excluded from original data set)
  – 27 recruits injured (13.9%)
Results

- Injury prevalence:
  - ASC: 17.8%
  - ARC: 13.9%

- Injury incidence:
  - ASC: 17.8 / 100 soldiers / 100 days
  - ARC: 17.4 / 100 soldiers / 100 days
Results

The bar chart shows the number of injuries resulting from various mechanisms of injury for ASC and ARC. Unloading Weapon had the highest number of injuries for both groups. Other mechanisms such as Running, Non Specific, Falling, Marching, Walking, Carrying Equipment, Engaging Target, Making Bed, Swimming, and Sit ups had lower numbers of injuries.
Results

![Graph showing the number of injuries for different types: ND/UD, Strain/Sprain, Stress Fracture, Soreness, Blisters, Dislocation. The graph compares ASC and ARC in blue and red bars, respectively.](image-url)
Results

• Collectively the highest anatomical injury sites:
  – Ankle/foot: 20%
  – Back/torso: 12.5%
  – Lower leg: 12.5%

• ASC (100 day):
  – Back/torso: 30.7 %
  – Ankle/foot 15.4 %
  – Shoulder 15.4 %

• ARC (80 day):
  – Ankle/foot 22.2 %
  – Lower leg 14.8 %
Discussion

• ASC had a notably higher prevalence of injuries compared to ARC

• However when looking at cohort size and exposure to training, both courses had similar incidence rates

• In contrast to previous studies, the current study revealed much lower prevalence and incidence rates
Discussion

• Prevalence
  – Current study: ASC: 17.8 % & ARC: 13.9% prevalence
  – Havenetidis et al. (2011): 233 male Greek army recruits, 7 week course - 28.3% prevalence

• Incidence
  – Current study: ASC: 17.8 % & ARC: 17.4% incidence
  – O’Connor et al. (2000): 480 Marine Corp officers, 6 week course - 60.7% incidence
Discussion

• Most common anatomical sites of injuries:
  – Current study: Ankle and foot = 20%
  – Similar to Havenetidis et al. (2011), O’Connor et al. (2000) and the Australian Department of Defence (2000) the most common injury sites were to the ankle and foot.
  – These sites of injury were also in the top three injury sites in studies by Ross & Allsopp (2002) and Knapik et al. (2001)
Most common type of injuries:

- Current study:
  - Sprains and strains
  - Stress fractures
- These injury types were also found to be the most common type in studies conducted by Havenetidis et al. (2011) and O’Connor et al. (2000)
Conclusion / Take Home Message

• While the ASC had a higher prevalence of injury when injuries took into account exposure, incidence rates were virtually identical.

• Lengthening a recruit training program (or period of training) with the aim of making it less intensive may not reduce the proportion of recruits injured - in fact, a higher proportion may be injured due to the longer period of exposure to training.
References


References

References
