READY, SET, BREAK: COMBAT TRAINING INJURIES IN AUSTRALIAN ARMY PERSONNEL

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Introduction

- Occupational requirements of military personnel are of vigorous description [1]

<table>
<thead>
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<tbody>
<tr>
<td>Heavy lifting</td>
<td>Running</td>
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<tr>
<td>Loaded marches</td>
<td>Resistance training</td>
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<tr>
<td>Dismounted patrol</td>
<td>Combat training</td>
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<tr>
<td>Lengthy sustained awkward postures</td>
<td>Loaded marches</td>
</tr>
<tr>
<td>Direct contact with enemy</td>
<td>6:00 – 18:45 5000 kcals/day</td>
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</tbody>
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- 6:00 – 18:45
- 5000 kcals/day
Introduction

- The Australian Army is composed of Regular Army (ARA) and Army Reserves (ARES) [7]

- ARA and ARES are exposed to same fitness assessments, field exercises and are deployed on same operations [7, 8]

- Military soldiers must be trained and conditioned if they are to successfully complete their combat tasks in a complex warfighting environment.
Introduction

• Injuries negatively effect ARA and ARES personnel and ultimately the organisation in terms of reduced personnel available for daily operations, financially and in organizational moral [3, 5, 9]

• Previous research suggests that, for ARES soldiers in particular, combat training is a leading source of injuries in Australian Army personnel [10].
Aims

• The aim of this research was to investigate combat training-related injuries in Australian Army personnel
Methods

• Retrospective cohort study: data from Defence Injury and Incident database (01 Jul 2012 – 30 Jun 2014)
  – Incident type, service type (ARA/ARES), incident location, age, incident summary, nature of injury, bodily location, activity description, mechanism description, agency description and further breakdown of agency description

• ARA and RES population sizes obtained via Department of Defence Records

• Approvals: Ethics - ADHREC (LERP14-024) & BUHREC (RO1927): Release - JHC
Methods

• Data were manually cleaned to ensure only records meeting inclusion and exclusion criteria were retained

<table>
<thead>
<tr>
<th>Inclusion</th>
<th>Exclusion</th>
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<tr>
<td>• ARA or ARES personnel</td>
<td>• Non-Human member of the military (e.g., canine)</td>
</tr>
<tr>
<td>• Soldier suffered either a minor personal injury, serious personal injury or mortality;</td>
<td>• Military service other than Army</td>
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<td>• The identified cause of injury met specific inclusion criteria related to combat training (e.g. weapon training, battle PT, obstacle course, etc).</td>
<td>• Missing or incomplete data in database report</td>
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<td>• Military service from a foreign defence service</td>
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</table>
Methods

• **Injuries per 100 person-years of active service** = Raw number of SPIs per service type / Total years (corresponding service type) of active service to the military x 100
  – RES: **232 days equal full time service**
Results

• Combat Training Injuries
  – ARA: 5.6 injuries per person-years of active service
  – ARES: 15.1 injuries per person-years of active service
Results

• The leading combat training-related activities to cause injuries were:
  – ‘Combat Training’ (44.06%),
  – ‘Physical Training’ (17.68%) and
  – ‘Marching’ (15.61%).
Results - Mechanism of Injury

- Contact with moving or stationary object
- Exposure to environmental heat
- Fall
- Muscular stress while lifting, carrying or putting down objects
- Other and multiple mechanisms of incident

Number of Personnel

- Army Permanent
- Army Reserve
- Total
Conclusion

• Combat specific training as well as physical training and marching are leading causes of injuries to soft tissue in Army personnel
  – More so in ARES where combat training can be difficult
ADF apologises after soldier's 'training' causes alarm
Brisbane Times: 03DEC15.
Clinical Implications

• Combat specific training must be an integral part of any soldier’s return-to-work reconditioning program, especially for reserve personnel.
References


References


Questions

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