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## Australian Army recruit training: course length and recruit injury rates

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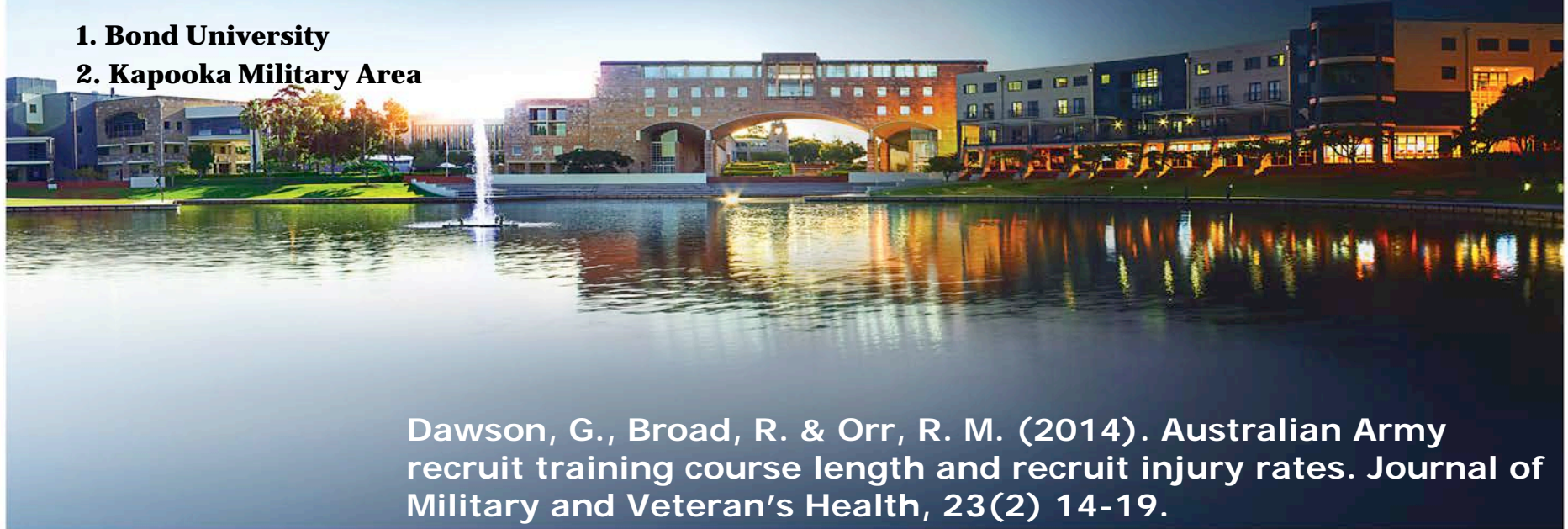
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# Australian Army recruit training course length and recruit injury rates



**Dawson, G.<sup>1</sup>, Broad, R.<sup>2</sup> & Orr, R.<sup>1</sup>**

- 1. Bond University**
- 2. Kapooka Military Area**



Dawson, G., Broad, R. & Orr, R. M. (2014). Australian Army recruit training course length and recruit injury rates. *Journal of Military and Veteran's Health*, 23(2) 14-19.



# Background

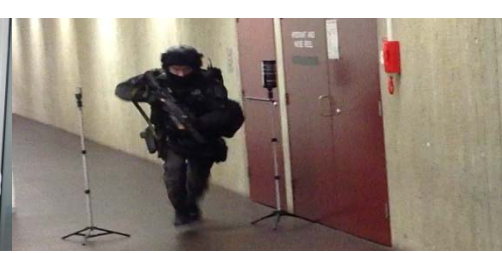
- Military recruits are at a greater risk of injury when compared to qualified soldiers

(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)

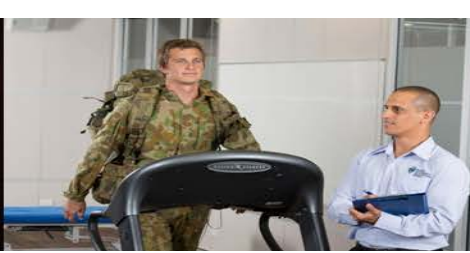
- Would decreasing load but retaining training requirements decrease risk of injury?



# 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

Course	Number of Platoons	Number of Recruits	Male Recruits	Female Recruits
ASC	2	73	56	17
ARC	4	194	152	42
Total	6	267	208	59





# 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



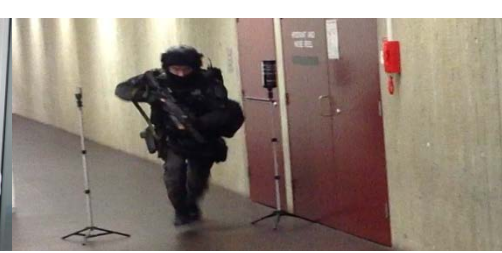
# Methods

- Injury Prevalence

- *Number of reported injuries / number of recruits completing the respective course x 100*

- Injury Incidence

- *(Number of reported injuries / number of recruits completing the respective course x 100 (soldiers)) / (course length in days / 100 days)*



# 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%)

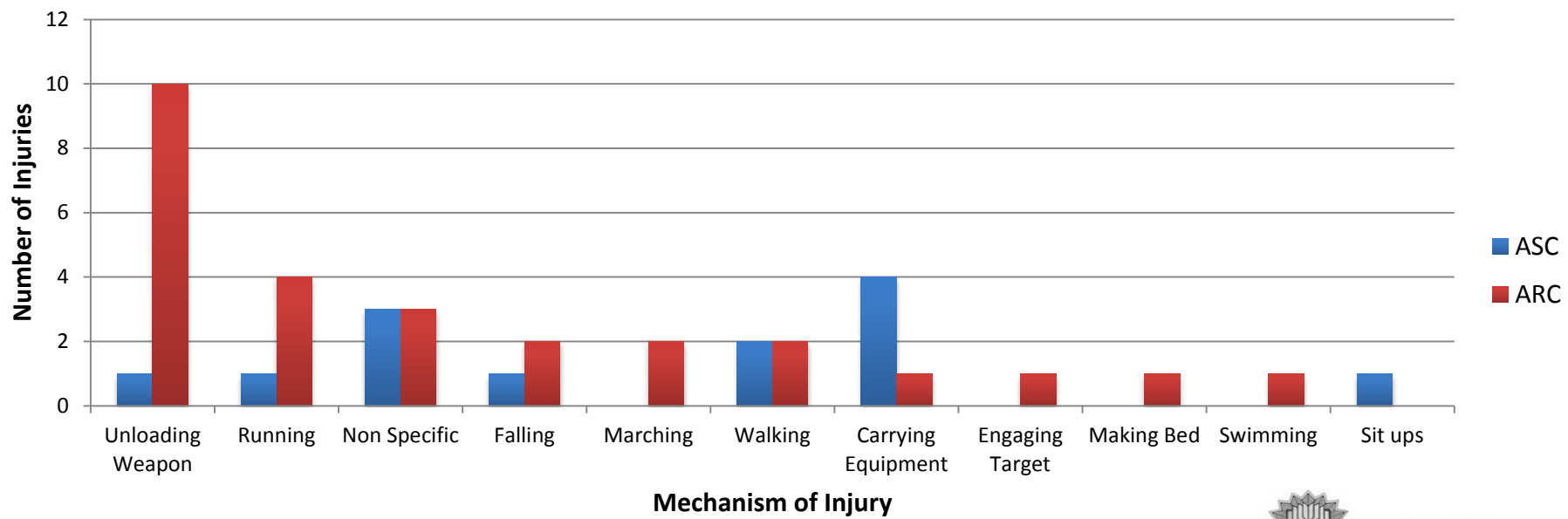


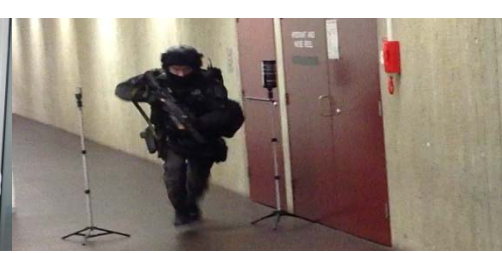
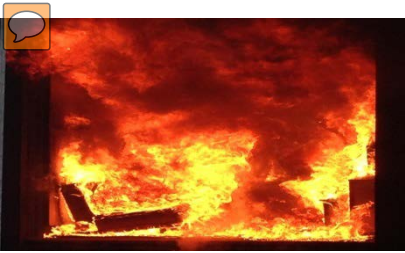
# Results

- Injury prevalence:
  - ASC: 17.8%
  - ARC: 13.9%
- Injury incidence:
  - ASC: 17.8 / 100 soldiers / 100 days
  - ARC: 17.4 / 100 soldiers / 100 days

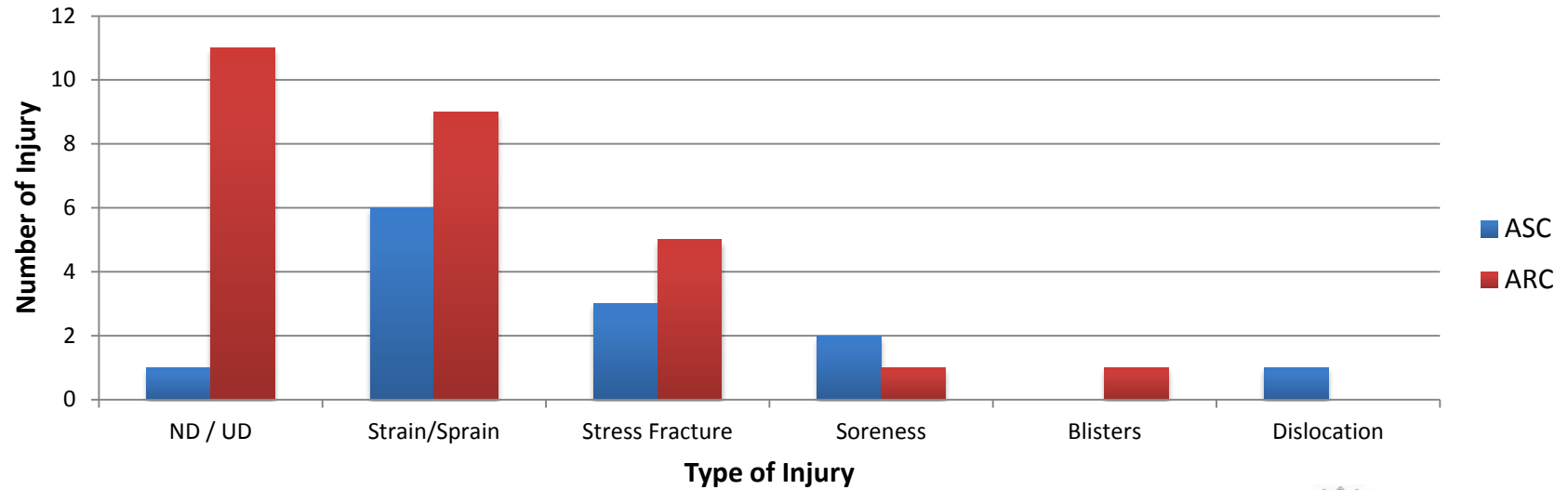


# Results





# Results





# 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)





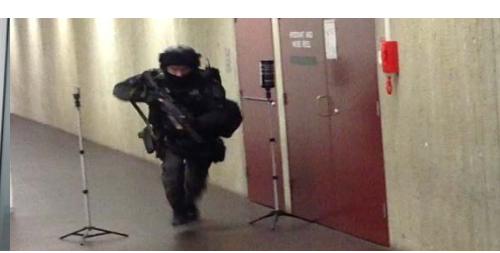
# Discussion

- 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

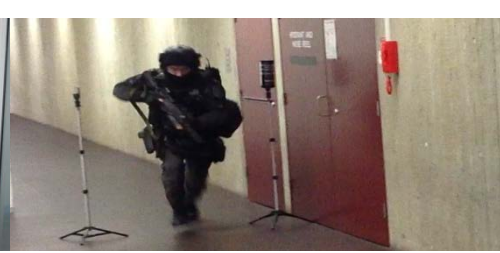
- While the ASC had a higher prevalence of injury when injuries took into account exposure, incidence rates were virtually identical
- Lengthening a recruit training program (or period of training) with the aim of making it less intensive may not reduce the proportion of recruits injured - in fact, a higher proportion may be injured due to the longer period of exposure to training.



# References

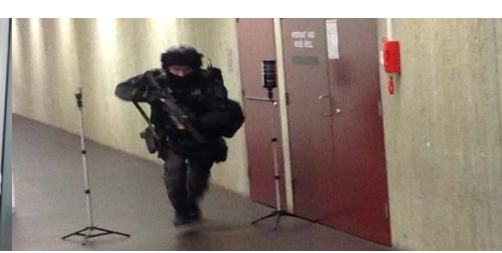
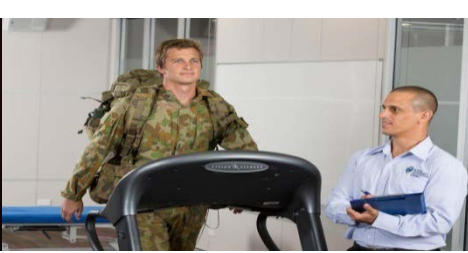
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