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Australian Army recruit training: course length and recruit injury rates

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Australian Army recruit training course length and recruit injury rates



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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%)

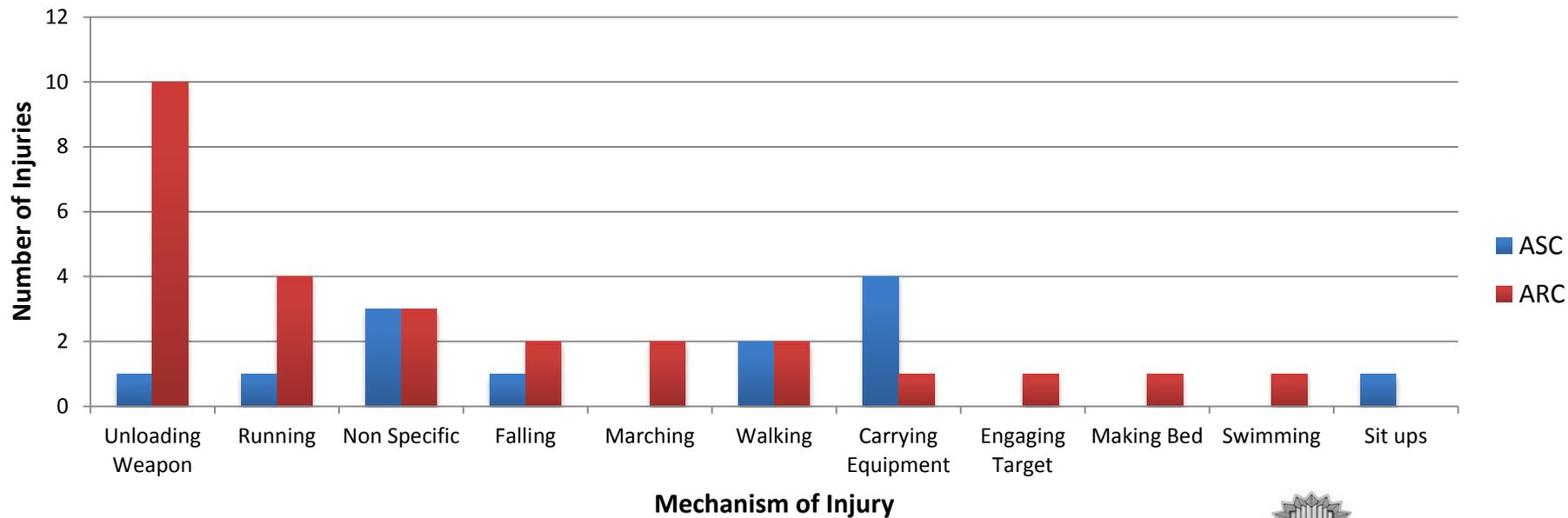


Results

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

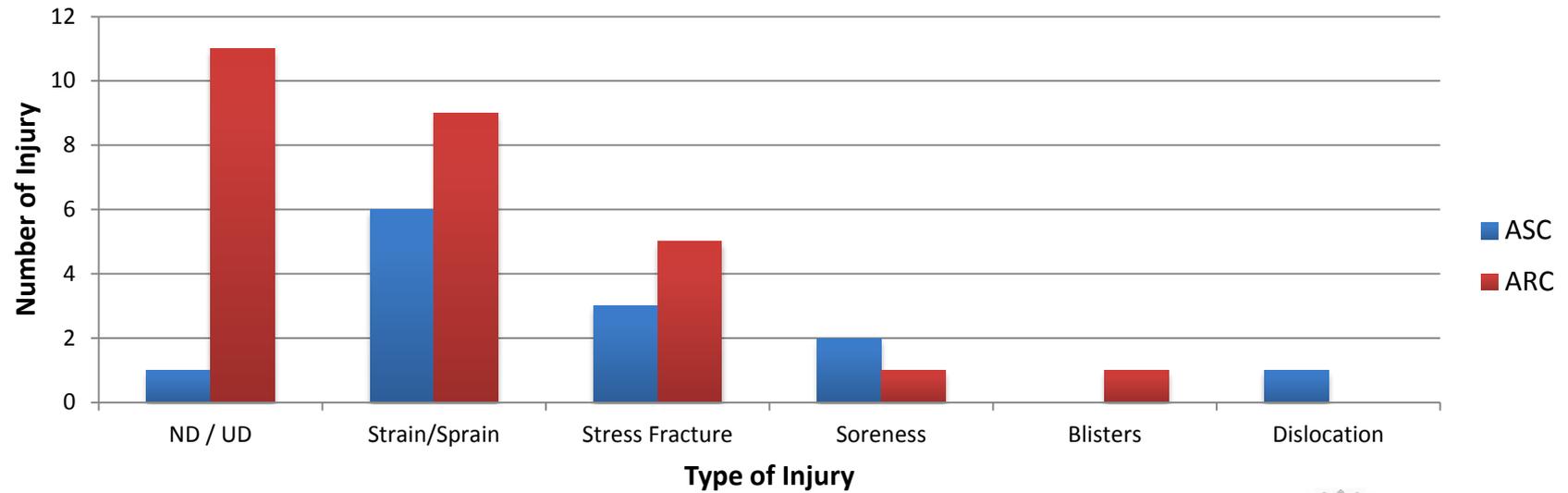


Results





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

- Booth CK, Probert B, Forbes-Ewan C, Coad RA. Australian army recruits in training display symptoms of overtraining. *Military medicine*. 2006;171(11):1059-1064.
- 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.
- Havenetidis K, Kardaris D, Paxinos T. Profiles of musculoskeletal injuries among Greek Army officer cadets during basic combat training. *Military medicine*. 2011;176(3):297-303.





References

- Kaufman KR, Brodine S, Shaffer R. Military training-related injuries: surveillance, research, and prevention. *American journal of preventive medicine*. 2000;18(3):54-63.
- Knapik JJ, Sharp MA, Canham-Chervak M et al. Risk factors for training-related injuries among men and women in basic combat training. *Journal of the American College of Sports Medicine*. 2001; 33(6): 946-954.
- O'Connor F. Injuries during Marine Corps officer basic training. *Mil Med*. 2000;165(7):515-520.



References

- Orr RM, Pope R. Optimizing the Physical Training of Military Trainees. *Strength & Conditioning Journal*. 2015;37(4):53-59.
- Ross RA, Allsopp A. Stress fractures in Royal Marines Recruits. *Journal of Military Medicine*. 2002;167(7):560-565.