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Grip strength is associated with marksmanship and defensive tactics, but not injuries, in police recruits

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ABSTRACT

Questions: How important is grip strength in police recruits? Design: A longitudinal cohort study. Participants: New South Wales police recruits. Outcome measures: Dominant hand grip strength measured with a grip dynamometer, marksmanship performance with a 9mm Glock pistol measured by target scores, defensive tactics performance as determined by training instructors and injury results as recorded on the police injury database. Results: Data from two recruit cohorts (Session 1 n=50: Session 2 n=169) were captured. Mean grip strengths were 43.6 kg (±10 kg) and 42.2 kg (±8 kg) for Session 1 and Session 2 respectively with no significance between groups (p=0.287). Of the combined cohorts 26% (n=56) sustained an injury/illness. During Session 2, 12% (n=27) failed defensive tactics and 32% (n=70) failed their initial marksmanship shoot. There was no significant correlation between grip strength measures and injuries/illness (rs[219]=-.126, p=0.63). A moderate, significant correlation was found between grip strength and marksmanship (rs[169]=- .419, p<0.001) with a weak but significant correlation found between grip strength and defensive tactics performance (rs[169]=- .227, p=0.03). Conclusion: Grip strength may not predict injury risk in police officers undergoing recruit training. Grip strength may play a role in the marksmanship and defensive tactics performance of police recruits, however its relationship with these tasks is not strong enough to provide a predictive value.

Key Practice Points:

- Grip strength may influence a police recruit’s marksmanship and defensive tactics performance.
- Optimising grip strength following injuries that affect a police recruit’s grip strength is important.
- Grip strength may be a useful outcome measure in return-to-training planning for police officer recruits undergoing treatment for upper limb injuries.