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Sex-specific differences in fit between two different types of body armour: a pilot study

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Aim: to assess sex-specific differences in wearability and comfort when wearing body armour.

Design: A randomized counter-balanced study.

Method: Ten participants (females n = 6, mean height = 167.97 ± 3.67 cm, mean mass = 65.30 ± 10.57 kg; males n = 4, mean height = 182.15 ± 6.98 cm, mean weight = 85.55 ± 9.96 kg) were included following eligibility criteria and assessed against occupational tasks for which they gave subjective feedback when wearing a law enforcement (2.1 kg) and military (6.4 kg) body armour system. Subjective feedback was provided on mannequin sketches and compared between sexes and body armour types. Bond University Human Research Ethics Committee provided ethics approval (RO15803).

Results: Greater negative feedback was received, subjectively, from both sexes regarding the military body armour. Female participants recorded areas of most discomfort to include the neck, shoulder, chest, and hip, whilst males recorded areas to be the neck, shoulder, and abdomen. Females reported greater subjective concerns than males regarding body armour fit.

Conclusion: With levels of discomfort associated with injury in police officers wearing body armour, the comfort and fit of body armour and differences between sexes must be considered. These differences require consideration when returning injured officers back to work, especially following brachial plexus palsy and meralgia paresthetica injuries.

Key Practice Points:

- Understanding sites of, and gaining injured officer insights using, subjective ratings of discomfort when wearing body armour can inform return-to-work practices for police officers following injury.