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Sex-specific differences in the impact of heavier body armour worn by law enforcement officers completing occupational tasks: a pilot study

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Aim: to assess sex-specific impacts of heavier body armour in law enforcement officers completing occupational tasks.

Design: A randomized counter-balanced study.

Method: Ten qualified police officers of which six were female (mean height = 167.97 ± 3.67 cm, mean mass = 65.30 ± 10.57 kg) and four were male (mean height = 182.15 ± 6.98 cm, mean weight = 85.55 ± 9.96 kg) completed a functional movement screen for mobility and three occupational tasks wearing a law enforcement (2.1 kg) or military (6.4 kg) body armour system. Following paired samples t-tests, effect sizes (d) were calculated for the between-body armour type comparisons. Bond University Human Research Ethics Committee provided ethics approval (RO15803).

Results: When military body armour was worn, female officers experienced a greater impact on their car exit and victim drag ($d = 0.37, 0.02$ respectively) when compared to males ($d = 0.12, -0.41$ respectively). Alternatively, male officers experienced a greater impact on their mobility and agility ($d = -1.29, 0.57$ respectively) when compared to females ($d = -0.98, 0.31$ respectively).

Conclusion: Wearing heavier body armour had a greater effect on female officers in the car exit and victim drag measures and on male officers in the functional movement screen and agility measures. The impacts of wearing heavier body armour should not be considered the same between the sexes.

Key Practice Points:

- Heavy body armour systems may impede the sexes differently warranting consideration when rehabilitating and reconditioning police officers to return-to-work following injury.