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The Use of Fitness Testing to Predict Survivability in Selection of Specialist Tactical Personnel

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Purpose: Special Weapons and Tactics (SWAT) personnel are highly-trained individuals who possess skills that exceed capabilities and training level of general law enforcement or military personnel. To be selected into a specialist unit, candidates must typically complete some form of selection testing which assesses the candidate's ability to meet a stringent physical fitness standard and as well as their suitability for specialist service. The aims of this critical review were to identify, critically appraise and to synthesise the findings of current literature on the use of fitness testing to predict specialist personnel selection and to present their findings.

Methods: A systematic review was completed from three (Pubmed CINAHL and Medline) databases known for publishing studies or relevance to this field. Strict inclusion and exclusion criteria were applied. All studies were critically appraised using the CASP cohort study checklist with the interrater agreement calculated via Krippendorff's Alpha coefficient. The final Critical Appraisal Scores (CAS) of the CASP were calculated by the averaging of the three rater scores for each paper (out of twelve).

Results: The mean CASP score of the eight selected studies was 10.8 ± 1.4 points (range 8-12 points). The Krippendorff's alpha indicated a strong agreement between the three raters (k_{alpha} = 0.733). It was found in four out of the eight studies that push-ups, pull-ups and/or sit-ups were statistically significant predictors of successful selection. Additionally, five studies reported that aerobic fitness measures were indicative of success (bleep test, 2-mile run and loaded pack march).

Conclusion: The literature review concluded there were conflicting results as to what fitness measures could predict selection into the specialist team. This may be due to the specifics of the selection process where different requirements may influence the fitness measures of importance (e.g. pack march a greater indicator if the selection processes includes a high volume of loaded walking). However, upper body and trunk strength and endurance were identified as successful predictors of successful selection as was aerobic capacity. Additional research is required to develop a battery of fitness assessments, specific to each unit, to improve the selection process for specialist tactical personnel.