TACSM Abstract

Shooting Accuracy and Precision after Consecutive Tactical Exercises among Special Weapons and Tactic (SWAT) Team Members

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ABSTRACT

Law enforcement is one of the most stressful occupations and investigations have demonstrated law enforcement officers (LEOs) have greater CVD-related morbidity and mortality than the general population. LEOs are chronically exposed to events including physical dangers and psychological stress. Every day, LEOs utilize their training to save lives and keep themselves and their communities safe, however, Special Weapons and Tactics (SWAT) teams have duties that are beyond the scope of normal law enforcement personnel. Part of this training includes the use of firearms to prepare officers to protect themselves and others in highly dangerous situations. Engaging in these dangerous situations can often cause high levels of stress and decrease shooting accuracy and precision. **PURPOSE:** To evaluate the effects of consecutive tactical task exercises on accuracy and precision of pistol shooting in SWAT team members. **METHODS**: Thirty-two active SWAT team members (age = 38.04 ± 1.29 yrs.; experience on SWAT = 7.33 ± 1.04 yrs.), were recruited from a local police department. SWAT members performed 3 tactical exercises using their service weapon. Participants completed a 73.31 m sprint entry into the range, performed a 13.71 m dummy drag (79.73 kg), and a 13.71 m battering-ram carry (17.5 kg). After each tactical exercise, participants discharged 5-rounds of ammunition into separate paper targets located 13.71 m from the firing line while wearing full tactical vest and situated behind a tactical barrier. Participants completed psychometric questions and provided saliva samples prior to and after completing the testing protocol. **RESULTS:** SWAT team members completed the tactical exercise protocol in 77.31 ± 3.22 seconds. RMANOVAs demonstrated significant differences between shooting conditions for: distance from the target center-of-mass (DCM; $F = 4.78$, $p < .01$), radius of the shot grouping (RM; $F = 7.53$, $p < .001$), area of the dispersion of shots (AD; $F = 3.42$, $p < .05$), and the diagonal of dispersion (DD; $F = 3.24$, $p < .05$). **CONCLUSIONS:** Accuracy and precision decreased from static baseline shooting as a result of physical exertion. However, differences in accuracy and precision were not seen between the three tactical exercises. Fatigue and stress may contribute to the differences seen between static baseline marksmanship and post-tactical exercise marksmanship, but fatigue does not seem to impact accuracy or precision during tactical shooting drills.