EFFECT OF LIVE-FIRE TRAINING DRILLS ON FIREFIGHTERS' PLATELET NUMBER AND FUNCTION

Denise L. Smith, PhD, Steven J. Petruzzello, PhD, Eric Goldstein, MPH, Umeed Ahmad, MD, [illegible] Freund, MD, Gavin P. Horn, PhD, [illegible] Krishnarao Tangella, MD, Greg[illegible]

ABSTRACT

Background. The leading cause of line-of-duty death among firefighters is sudden cardiac events. Platelets play a critical [illegible] during an [illegible] role in the formation of an occlusive thrombus [illegible] purpose of this study was to [illegible] chemic event. **Objective.** The [illegible] effect of firefighting on platelet number [illegible] examine the acute [illegible] **Methods.** Apparently healthy male fire[illegible] and aggregability [illegible] age 29.4 [illegible] 7.8 years) participated in 18 [illegible] fighters (N = 114) [illegible] of simulated firefighting activity in a training structure [illegible] minutes [illegible] samples were obtained [illegible] ture that contained live fires. Blood [illegible] activity and analyzed [illegible] before and after simulated firefighting [illegible] chemistry, and platelet [illegible] for complete blood cell count (CBC) [illegible] tion was measured using [illegible] number and function. Platelet func[illegible] platelet aggregability [illegible] ing a PFA-100 analyzer to assess [illegible] firefighting activity [illegible] **Results.** As expected, [illegible] ses in heart rate (73 b/min) [illegible] resulted in significant increa[illegible] and significant changes in blood [illegible] core temperature [illegible] values). The most important finding of this study [illegible] minutes of simulated firefighting caused a 24% [illegible] platelet number and a significant increase in [illegible] bility. **Conclusions.** Firefighting resulted in a signif[illegible] aggregability [illegible] increase in platelet number and aggregability indi[illegible] that even short bouts of firefighting can increase [illegible] potential in apparently healthy firefighters. **Key words:** [illegible] mbosis; platelet count; platelet function test; platelet ag[illegible] ation; firefighter [illegible]

PREHOSPITAL EMERGENCY CARE 2011;15:233–239