# Effect of Live-Fire Training Drills on Firefighters' Platelet Number and Function

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Abstract

**Background.** The leading cause of line-of-duty death among firefighters is sudden cardiac events. Platelets play a critical role in the formation of an occlusive thrombus during an [illegible]. The purpose of this study was to [illegible] the effect of firefighting on platelet number [illegible] **Objectives.** [illegible] examine the acute [illegible] and aggregability [illegible] **Methods.** Apparently healthy male firefighters (N = 114; age = 29.4 ± 7.8 years) participated in 18 [illegible] simulated firefighting activity in a training structure. Minutes [illegible] samples were obtained [illegible] structure that contained live fires. Blood [illegible] activity and analyzed [illegible] before and after simulated firefighting [illegible] chemistry, and platelet [illegible] for complete blood count (CBC) [illegible] tion was measured using [illegible] number and function. Platelet function [illegible] platelet aggregability [illegible] using a PFA-100 analyzer to assess [illegible] **Results.** As expected, [illegible] ses of heart rate (72 ± [illegible]) and [illegible] resulted in significant increa[illegible] significant changes in blood [illegible] pressure [illegible] variables. The most [illegible] minutes of simulated firefighting [illegible] caused a 24% [illegible] platelet number and a significant increase in [illegible] ability. **Conclusions.** Firefighting resulted in a significant [illegible] aggregability [illegible] an increase in platelet number and aggregability indicating that even short bouts of firefighting can increase [illegible] potential in apparently healthy firefighters. **Key words:** [illegible] thrombosis; platelet count; platelet mono[illegible]; platelet aggregation test; platelet [illegible] function; firefighter [illegible] greg[illegible]