

# 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. The purpose of this study was to examine the acute effect of fire training on platelet number and aggregability. **Methods.** Apparently healthy male firefighters (age 29.4 ± 7.8 years) participated in 180 minutes of simulated firefighting activity. Blood samples were obtained before and after simulated firefighting. Hematocrit and platelet count were measured using a hematology analyzer. Platelet function was assessed using a PFA-100 analyzer to assess platelet aggregation. Results showed a significant increase in platelet number and aggregability. **Conclusions.** Firefighting resulted in a significant increase in platelet number and aggregability. This study suggests that firefighters should be monitored for platelet abnormalities. **Key words:** platelet count, platelet function test, platelet aggregation, firefighters.