

EXERCISE AND SPORT SCIENCES REVIEWS



ESSR Journal Club

Covered Article: “Cardiovascular Strain of Firefighting and the Risk of Sudden Cardiac Events” by Denise L. Smith, Jacob P. DeBlois, Stefanos N. Kales, and Gavin P. Horn. *Exercise and Sport Sciences Reviews*. 44(3), July 2016.

1. Describe the occupational factors, both on and off the fireground, that contribute to an increased risk of cardiovascular events.
2. What changes in cardiac function have been documented following fire-training drills? How might these changes influence the likelihood of a sudden cardiac event?
3. What changes in vascular function have been documented following fire-training drills? How might these changes influence the likelihood of a sudden cardiac event?
4. What changes in coagulatory potential have been documented following fire-training drills? How might these changes influence the likelihood of a sudden cardiac event?
5. Describe what is meant by the “vulnerable period.” How does this period contribute to the increased risk of cardiac events?
6. How can the Fire Service work to mitigate the risk of cardiac events? Consider operational procedures, medical screening, on-scene preparedness, or other factors.
7. Evaluate the proposed theoretical model explaining the physiological responses to firefighting/heat stress that may result in sudden cardiac events in susceptible individuals (Figure 3). What are the strengths and weaknesses of the proposed model?