

Police face higher risk of sudden cardiac death during stressful duties

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Police officers in the United States face roughly 30 to 70 times higher risk of sudden cardiac death (SCD) when they're involved in stressful situations—suspect restraints, altercations, or chases—than when they're involved in routine or non-emergency activities, according to a new study from Harvard School of Public Health (HSPH) and Cambridge Health Alliance (CHA). It is the first study to provide data that demonstrates the impact of stressful duties on on-duty SCD.

The researchers also found that physical training activities—which [police](#) don't consider to be particularly stressful—were associated with

roughly 20- to 25-fold higher SCD risk than routine [law enforcement](#) work.

The study will appear online November 18, 2014 in *BMJ (British Medical Journal)*.

"Although we suspected that strenuous police duties could trigger sudden cardiac deaths in vulnerable officers, we were struck by the magnitudes of the risks and their consistency across different statistical models," said Stefanos Kales, associate professor in the Department of Environmental Health at HSPH, chief of occupational and environmental medicine at CHA, and senior author of the study.

Previous epidemiologic studies of firefighters by Kales and his colleagues have shown, like the current study, that SCD risk is elevated during stressful duties as compared with nonemergency duties. In addition, studies of the general population have found that strenuous activity such as vigorous exercise or snow shoveling—especially among those who are physically inactive—can precipitate heart attacks and sudden cardiac deaths.

Researchers examined 441 sudden cardiac deaths among [police officers](#) that occurred between 1984 and 2010, and they were able to identify the duty associated with death in 431 of the cases. Data came from the National Law Enforcement Officers Memorial Fund and the Officer Down Memorial Page. The researchers combined the information on sudden [cardiac deaths](#) among police with estimates of the proportion of time that police officers spend on various duties, based on surveys from front-line officers and police chiefs.

They found that police officers' risk of [sudden cardiac death](#) was 34 to 69 times higher during restraints or altercations; 32 to 51 times higher during pursuits; 20 to 23 times higher during physical training; and 6 to 9

times higher during medical or rescue operations, as compared with routine or non-emergency activities. The researchers also found that SCD accounts for up to 10% of all U.S. on-duty police deaths.

The study's findings suggest the need for cardiovascular disease prevention efforts among law enforcement officers. "Our findings have important public health implications for health promotion among law enforcement officers and call for the implementation of primary and secondary cardiovascular disease prevention efforts such as lifestyle and medical interventions to reduce officer's risk of sudden cardiac death," said Kales.

More information: "Law enforcement duties and sudden cardiac death among police officers in United States: case distribution study," Vasileia Varvarigou, Andrea Farioli, Maria Korre, Sho Sato, Issa J. Dahabreh, Stefanos N. Kales, *BMJ*, online Nov. 18, 2014, [DOI: 10.1136/bmj.g6534](https://doi.org/10.1136/bmj.g6534)

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