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Physically active middle-aged adults have low risk of sudden cardiac arrest

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Sudden cardiac arrest during sports activities is relatively low among physically active middle-aged adults, according to research in the American Heart Association journal *Circulation*.

Sudden cardiac arrest is the abrupt loss of heart function and usually results from an electrical disturbance in the heart that stops blood flow to other vital organs. Administering CPR immediately after the event, before emergency services arrives, can increase the chance of survival.

A review of 1,247 sudden cardiac arrest cases involving men and women ages 35-65 revealed that 63 cases (5 percent) were associated mainly with sports activities such as jogging (27 percent), basketball (17 percent) and cycling (14 percent).

In two-thirds of the cases, patients had a previously documented cardiovascular disease or symptoms before the sudden cardiac arrest.

Researchers also found:

- Compared with overall sudden cardiac arrests, sports-associated cases were more likely to be witnessed (87 percent versus 53 percent) and involved CPR (44 percent versus 25 percent) and ventricular fibrillation, a cardiac rhythm disturbance (84 percent versus 51 percent).
- The rate of survival to hospital discharge was higher for sports-associated sudden cardiac arrests at 23.2 percent, compared to

13.6 percent of broader non-sports cases. People in the sports-associated group were more likely to be in public and receive bystander CPR.

- More than half of the cases (58 percent) occurred in sports facilities such as a gym or a stadium and 42 percent occurred outside of sports facilities.
- Men had a higher incidence of sports-associated sudden cardiac arrest than women, compared with the broader non-sports cases—possibly because more men participate in sports.

When researchers applied their findings to the overall population of the United States, they estimated 2,269 sports-associated sudden cardiac arrest events would occur among men and 136 among women per year in the 35-65-year-old group.

"Our study findings reinforce the idea of the high-benefit, low-risk nature of exercise in middle age and emphasize the importance of education to maximize safety, particularly as the population ages and more baby boomers increasingly take part in sports activities to prolong their lives," said Sumeet Chugh, M.D., the study's senior author and associate director for genomic cardiology at the Cedars-Sinai Heart Institute in Los Angeles, California.

Researchers suggest promoting education for basic life support skills also can be beneficial. Of the sudden cardiac arrest cases evaluated in this study, a larger percentage of survivors were in the sports-associated group and more likely to be in a public place where they were more likely to receive bystander CPR, Chugh said. "For any kind of preventive intervention, education is very important and can be more efficient when provided in a targeted manner."

The authors conclude that targeted education can maximize both safety and acceptance of sports activity in the middle-aged group.

The research is based on the Oregon Sudden Unexpected Death Study, an ongoing community-based study of out-of-hospital sudden cardiac arrests.

Provided by American Heart Association