

# Two novel studies explore why women receive less CPR from bystanders

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Concerns about inappropriate contact or causing injury may help explain why bystanders are less likely to perform CPR on women—even "virtual" women—than on men who collapse with cardiac arrest, according to two studies presented at the American Heart Association's Resuscitation Science Symposium 2018h.

Cardiac arrest occurs when the heart's electrical system malfunctions, often in the absence of any previous symptoms. In the United States, more than 350,000 cardiac arrests occur outside hospitals each year. While the survival rate is less than 12 percent, CPR can double or triple a victim's odds of surviving.

Previous research has shown [women](#) who suffer out-of-hospital [cardiac arrest](#) receive CPR less frequently than men, said Sarah M. Perman, M.D., M.S.C.E., assistant professor of Emergency Medicine at the University of Colorado School of Medicine in Denver and lead author on the survey study.

In a new survey (Poster Presentation 198) Colorado researchers asked 54 people online to explain, with no word limit, why women might be less likely to get CPR when they collapse in public. In the replies, the team identified four themes:

- Potentially inappropriate touching or exposure;
- Fear of being accused of sexual assault;
- Fear of causing physical injury;

- Poor recognition of women in cardiac arrest—specifically a perception that women are less likely to have heart problems, or may be overdramatizing or "faking" an incident; or
- The misconception that breasts make CPR more challenging.

"The consequences of all of these major themes is that women will potentially receive no CPR or delays in initiation of CPR," Perman said. "While these are actual fears the public holds, it is important to realize that CPR is lifesaving and should be rendered to collapsed individuals regardless of gender, race or ethnicity."

Worries about accusations of sexual assault or inappropriate touching were cited twice as many times by men as by women, while more women mentioned fear of causing injury. Although the study was too small to discern definite trends, these concerns may represent an important challenge in public health messaging, Perman said.

"Bystander CPR has been linked to better survival and neurologic recovery after out-of-hospital cardiac arrest. Quality chest compressions require that rescuers put their hands on the chest and push hard—regardless of (recipient's) gender, the act of CPR is no different," she said.

The pool of responders was about 60 percent male and 85 percent Caucasian. Almost three in 10 reported having received CPR training.

The researchers have expanded this pilot survey and have a manuscript under review that details the outcomes of a large national sample of public perceptions. The research team plans to work with CPR training sites to counteract bystander fears about providing CPR to women, Perman said.

Separate research (Poster Presentation 196) in Philadelphia tested a

novel approach to exploring bystander response to cardiac arrest based on the victim's sex—using virtual reality.

Because it happens suddenly, real-world cardiac arrest is hard to study, said Marion Leary, M.S.N., M.P.H., lead study author and director of innovation research at the University of Pennsylvania's Center for Resuscitation Science. But using virtual reality, scientists can learn more about bystander response and how to improve CPR training courses.

This study's 75 participants—adult volunteers from the community—were not told specifically what would happen in the virtual environment and were asked to respond as if they were experiencing a real-life emergency. The setting was a busy city where a pedestrian collapses while someone cries for help.

A CPR manikin was kept out of sight until participants were in the virtual environment. Then the manikin was placed in real life at the location where the victim would collapse in the virtual world, allowing participants to perform CPR (and attach an automated external defibrillator, or AED) in the [virtual environment](#) while receiving "hands-on" feedback in the real environment, Leary said.

The team's findings showed that in their descriptive study, participants in their cohort performed CPR or used an AED on virtual-reality female victims less than on virtual male victims. But a study with more participants is needed to statistically identify any significant gender gaps and to confirm the trend found, Leary said.

Regardless of the victim's sex, "if you see someone collapse, call 911, begin CPR, and if there is an AED around, use it," Leary said. "Doing something is better than doing nothing. You have the power to help save someone's life."

Provided by American Heart Association

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