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### Does Gender Matter in Resuscitation Teams?

A simulated study of cardiopulmonary resuscitation (CPR) that compared performance by male and female medical students found that the female students performed less efficiently and were less effective resuscitation team leaders. The researchers, from the University of Basel and University Hospital Basel, suggest that gender-specific training may be needed. The results are published in *Critical Care Medicine*.

### Results

In this randomised, prospective observational study 216 fourth-year medical students (108 women and 108 men) were divided into groups of three. They took part in an emergency simulator-training workshop in the Simulation Center of the Medical ICU at University Hospital Basel, Switzerland. The students had previously completed basic life support training, including using defibrillators, during their medical school training. The students were not informed about the workshop's goal or content of the simulated scenarios.

The researchers documented and analysed the performance of the individual groups during a simulated cardiac arrest scenario, focusing on hands-on time, defined as the uninterrupted CPR time within the first three minutes after the onset of the cardiac arrest. They also noted how often the participants made clear leadership statements, i.e. verbal commands to assign tasks or clarify how something should be done.

"In comparison with male-only teams, the female groups showed less hands-on time and took longer overall to start the CPR," said Professor Sabina Hunziker, the study leader. The female-only teams also showed less leadership communication compared with the male-only teams. Leadership communication included assigning and distributing tasks, deciding what to do and how, commands, corrections and planning work ahead. Even in mixed teams, women made significantly fewer clear leadership statements than men. Female-only teams also had fewer unsolicited CPR measures, meaning situations in which a rescuer does something useful without prior order from another rescuer or prior announcement. Individually, in mixed teams, female gender was associated with a lower number of secure leadership statements. The authors write that as far as they know theirs is the first study reporting unsolicited meaningful CPR measures as a predominantly male behaviour and as a main driver of gender differences in CPR.

The authors conclude that improving personal leadership skills is a good starting point in teaching medical emergencies. Female rescuers should be trained to show secure leadership behaviour and perform unsolicited CPR measures. Future research should find out if gender differences are still apparent in more mature and experienced physicians. In an email to *ICU Management & Practice*, Hunziker noted that to improve cardiac arrest survival, on a resuscitation team level most important seems to be active leadership—i.e. one in the team needs to be in charge of the situation and guide the rest of the team. In mixed teams, this person should preferably be the one with the most

experience—independent of gender. “In our studies it was interesting to see that in mixed teams females tended to turn over this active leadership position to their male colleague (although they had similar experience and knowledge).”

Hunziker confirmed that at Basel they will focus more on the importance of leadership and of taking the lead during CPR courses, particularly in medical school students and junior physicians. “It is important that females are aware of such shortcomings so they can improve their skills,” she said.

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