Medical Xpress

More rib fractures, but better survival rates

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Journal study tests trained and untrained adults in cardiopulmonary resuscitation

New findings show that the majority of people untrained in how to perform cardiopulmonary resuscitation, and even many trained emergency personnel, do not push with enough force to properly administer CPR.

The research tested 104 adults untrained in CPR and 83 firefighters, trained in the procedure. The findings, to be published in the June issue of the journal Cardiovascular Engineering[1], showed that most of the untrained people simply do not apply enough force, said Leslie Geddes of Purdue University, one of the authors of the study.

The success rate for CPR ranges from 5 percent to 10 percent, depending on how quickly it is administered after a person's heart stops. "This is important because every minute lost in applying CPR results in a 10 percent decrease in successful resuscitation," Geddes said. "Time is the enemy. After 10 minutes, very few are resuscitated. The American Heart Association recommends pushing with enough force to compress the chest 1.5 to 2 inches, which requires 100 to 125 pounds of force."

The research represents the first time such measurements have been recorded to quantify just how hard people push in a simulated CPR test. The findings showed that 60 percent of the CPR-trained rescue personnel pushed with more than 125 pounds, whereas more than 60 percent of those not trained in CPR failed to push with more than 125 pounds of force.

The people in the study were asked to push on a bathroom scale as though they were performing CPR, and their force was recorded by the scale. "All we are trying to establish is how hard people are able to push in a simulated CPR situation," Geddes said. "You can't tell from the data how successful they would have been at resuscitation in a real-life situation."

Pushing with more than 125 pounds increases the potential for rib fractures. Nevertheless, the chances of survival increase enormously. New guidelines from the American Hearth Association recommend that rescuers performing CPR should "push harder and faster," Geddes said. "As a result of this recommendation, it's likely that the resuscitation rate will increase, but it's equally likely that the fracture rate will increase."

Source: Springer