

# Saving the day

November 4 2011

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The kiss of life can literally be the difference between life or death for someone who has stopped breathing. If the patient's heart has stopped as well, circulation of oxygenated blood can be maintained by external chest compressions (ECC). It is recommended that compression to ventilation ratio should be 30:2 for adults and 15:2 for children.

However performing [chest compressions](#) is tiring and new research published in Bio Med Central's [open access](#) journal *BMC Emergency Medicine* shows that a person's [physical fitness](#) restricts the amount of time they can correctly perform ECC and adds weight to the 2010 European Resuscitation Council Advanced Life Support Guidelines which recommend that that people performing ECC should change every two minutes.

Using [healthcare professionals](#), researchers from the University of Göttingen compared levels of fitness to the ability to perform chest compressions correctly. The results showed that people with higher body mass index (BMI) and higher levels of fitness were more able to perform ECC correctly and tired less quickly. The researchers also found that fitness tests which focused on the upper body were more accurate in predicting the quality of ECC compared to standard fitness tests, such as cycling. Compression depth began to decrease by three minutes for participants with lower BMI and lower fitness. The women amongst the group (who on average had lower BMI than the men) tended to compress too shallowly and tire more quickly.

Dr Russo said, "Correctly performed ECC declined over time for all

participants. In a medical situation it is important to bear this in mind and swap providers at regular intervals. Our results suggest that changing every two minutes would prevent tiredness from impeding proper compression. This is especially true for lighter people performing ECC as well as the less fit. Anyone can be trained to perform ECC, and this simple procedure saves many lives."

Provided by BioMed Central

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