

# Extreme exertion does not impair the quality of CPR given by lifeguards

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Swim centre personnel and lifeguards have higher stamina and carry out cardiopulmonary resuscitation more effectively than personnel in the emergency healthcare services, even though they have undergone extreme exertion. Their life-saving efforts may be crucial while waiting for an ambulance. This is the conclusion of research carried out at the University of Gothenburg, Sweden.

Swim centre personnel and lifeguards are trained in, and regularly practice, rescue from water and cardiopulmonary [resuscitation](#), CPR. A study has been carried out with the aid of the Swedish Life Saving Association and Livräddarna Tylösand in order to describe the rescue process and how effectively lifeguards carry out CPR during a rescue from the sea. The study was recently presented by scientist and ambulance nurse Andreas Claesson of the Sahlgrenska Academy/University of Gothenburg at the "World Congress on Drowning Prevention" in Vietnam, 10-13 May.

The study involved 40 surf lifeguards, 26 men and 14 women, who participated in two tests. These were later compared with each other. On the first day, the participants carried out CPR for 10 minutes alone on a manikin. Various parameters were measured, including the depth and frequency of chest compression and the volume of ventilation. On the second day, the participants carried out a simulated surf rescue of an unconscious person of weight 80 kg, 100 metres from the shore with the aid of a special type of lifebuoy known as a "torpedo" buoy. The complete rescue procedure was recorded, and the lifeguard again carried

out CPR for 10 minutes on a manikin on the beach.

"The most important finding was that the extreme exertion during the surf rescue did not affect the capacity of the lifeguards to carry out CPR. This was high during the complete procedure and was just as effective during the 10 minutes independently of whether the lifeguard had previously carried out exertion. The results are, of course, difficult to transfer to emergency healthcare, but the comparison is very interesting. We exchange the person carrying out chest compression every two minutes in order to ensure that the CPR is carried out in the best possible manner", says Andreas Claesson.

Andreas Claesson's previous studies of CPR have shown that it takes an average of 15 minutes from an alarm about drowning until arrival of an ambulance in Sweden.

"The first 15 minutes after a drowning accident are crucial. It is vital that someone at the scene calls an ambulance and immediately starts [cardiopulmonary resuscitation](#) without interruption, while waiting for the ambulance to arrive. Many precious minutes may be lost if the people at the scene are not trained in CPR, and this is not started until the ambulance arrives", says Andreas Claesson.

He thinks that it should be taken for granted that lifeguards and swim centre personnel are present at beaches and in swimming halls, since studies have shown that the probability of surviving is much higher if these personnel are on site and can react immediately, while waiting for the ambulance.

"However, the situation in reality is different, and that's why I believe that all who want to and are able to should learn CPR and basic lifesaving skills, such that they can provide aid in the event of an emergency", says Andreas Claesson.

## Cardiopulmonary Resuscitation, CPR

Around 10,000 people in Sweden experience unexpected cardiac arrest each year. Approximately 250 people drown each year, and the rescue services, police and [ambulance](#) are always alerted in cases of drowning, no matter what the cause. Alarm without delay, immediate [rescue](#), and immediate CPR in order to restore respiration and blood flow all increase the chances of survival. CPR involves the rescuer providing mouth-to-mouth resuscitation, which supplies oxygen to the blood, and compression of the chest, which pumps the blood out to the tissues of the body and to the blood vessels of the brain and heart.

Provided by University of Gothenburg

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