# Timing resuscitation compressions using the song 'La Macarena' to improve compression quality

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New research presented at this year's Euroanaesthesia congress in Copenhagen, Denmark, shows that the quality of chest compressions during cardiopulmonary resuscitation (CPR) can be improved by using either a smartphone app or by using the song "La Macarena" as a mental memory aid.

The study is by Professor Enrique Carrero Cardenal and colleagues at the University of Barcelona, Hospital Clinic Barcelona, and Universitat Autònoma Barcelona, Spain.

Improving the quality of compressions performed during CPR can significantly increase the chance of survival and lead to better health outcomes. The goal of the study was to compare the effectiveness of a smartphone metronome application, and a musical mental metronome in the form of the song "La Macarena" at improving the quality of chest compressions. Both the app and the song provide a regular rhythm to time compressions.

The team selected a group of 164 medical students from the University of Barcelona to perform continuous chest compressions on a mannequin for 2 minutes. Subjects either received no guidance (control), were provided with the smartphone app (App group), or were asked to perform compressions to the mental beat of the song "La Macarena" (Macarena group).

The smartphone app timed each compression at 103 beats per minute (bpm), but in the "Macarena" group, the students first needed to prove that they knew the song in order to do the compressions correctly. The authors also collected demographic data and information about the quality of chest compressions, and conducted a satisfaction survey.

The study found that the average percentage of compressions occurring in the target range of 100-120 bpm was significantly higher in the App and Macarena groups (91 percent and 74 percent respectively) compared to the control group (24 percent). No group achieved the required compression depth of 5 cm, but those using the App had the best overall quality compression scores despite having the longest onset delay before performing the first compression. The students who participated in the experiment also rated the app as being the most useful method.

The authors write, "Both the app and using mental memory aid 'La Macarena' improved the quality of chest compressions by increasing the proportion of adequate rate, but not the depth of compressions. The metronome app was more effective but with a significant onset delay."

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