



## LETTERS TO THE EDITOR

### The thumbs angle used in the novel infant chest compression technique (new two-thumb technique, nTTT) can influence the quality parameters of resuscitation



### El ángulo de pulgares que usa una nueva técnica de masaje cardíaco en lactantes (nTTT) puede influir en los parámetros de calidad de la reanimación

Dear Editor:

we read with great interest the article published by Dr. Rodríguez-Ruiz et al. *Nueva técnica de masaje cardíaco en lactantes (A new chest compression technique in infants)*, published in *Medicina Intensiva*.<sup>1</sup> The data presented in the paper suggest that the novel infant and newborn chest compression technique (nTTT) is not inferior (but not better) compared with standard methods. Previous studies<sup>2–5</sup> have suggested that nTTT is better in crossover manikin studies than the standard two-finger technique (TFT) and even the recommended two-thumb encircling hands technique (TTHT).

The main advantage of nTTT is to increase the force exerted on the chest during chest compressions; observing the data and Figure 3 (*Nueva técnica de los 2 pulgares*) in the study published by Dr. Rodríguez-Ruiz et al., we decided to conduct a survey to assess whether the angle of thumbs during chest compressions with nTTT could influence the basic quality parameters of resuscitation. It should be noted that “the novel method of chest compressions in an infant (nTTT) consists in using two thumbs directed at the angle of 90° to the chest while closing the fingers of both hands in a fist”.<sup>2</sup>

In a randomized manikin crossover study published in the *American Journal of Emergency Medicine*, all study participants (36 paramedics) performed 2-minute cardiopulmonary resuscitation on an ALS Baby Trainer (Laerdal Medical, Stavanger, Norway) simulating a 3-month-old infant in 2 scenarios.<sup>6</sup> In scenario A, the correct nTTT chest compression technique was applied with two thumbs directed at the 90° angle to the chest, and scenario B involved a modified nTTT technique with two thumbs directed at the angle of 45° instead of 90°. The mean depth of chest compressions and the percentage of compressions with correct depth, as well as the percentage of total chest relaxation were found to be superior in scenario A.

It should be emphasized that in the correct, originally described nTTT chest compression technique, two thumbs are directed at the 90° angle to the chest while the fingers of both hands are clenched into fists; other studies should follow the same methods in order to compare the results.

We are very grateful to Dr. Emilio Rodríguez-Ruiz and his colleagues for their study and hope that the new method of infant and newborn chest compressions will be tested in further research.

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