

The aim of the study was to compare the efficacy of intubation using direct and optic laryngoscopy in a simulated CPR settings.

The study involved 32 medical students (last year of education). All participants declared ability to perform endotracheal intubation using direct laryngoscopy. Prior to the study all participants participated in training on airway management, which also included endotracheal intubation using a Macintosh laryngoscope. Prior to the study, the instructor demonstrated the correct intubation using a Macintosh laryngoscope (MAC; Mercury Medical, Clearwater, FL, USA) and TrueView EVO2 (EVO2; Truphatek Holdings, Ltd., Netanya, Israel). Then the study participants had the opportunity to practice with every devices (10 min each) in normal airways settings.

During the study, the participants were asked to perform endotracheal intubation using MAC and EVO2 in the uninterrupted chest compressions settings. Due to the differences in the quality of chest compressions performed by the medical personnel [7,8], in order to unify the difficulties arising from the chest compressions we used Life-Line ARM (Defibtech, USA) mechanical chest compression system. The order of participants and methods of intubation were random. For this purpose, we used the ResearchRandomizer ([www.randomizer.org](http://www.randomizer.org)) program. Every participant had a maximum of one intubation attempt with every device. The parameters measured were the time of the procedure, efficiency, and ease of intubation procedure assessed by study participants in a 10-point scale (1-easy procedure; 10 procedure extremely difficult).

The median duration of intubation using MAC was 32.5 [interquartile range, IQR; 27–39] seconds and was lower than the EVO2 (36.5 [IQR; 31–42] s) but the difference was not statistically significant ( $p = 0.063$ ). The effectiveness of the first intubation attempt using MAC and EVO2 varied and amounted to 46.9% and 34.4% ( $p = 0.023$ ) respectively. Participants assessed the ease of intubation using MAC as 4.5 [IQR; 3–6], and using EVO2 as 5.5 [IQR; 4–7] ( $p = 0.011$ ).

In summary, in this simulation study last year medical students were able to perform intubation using MAC and EVO2 in the same time, however intubation using MAC was with higher efficiency and assessed as easier to perform.

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## The suspicious relation between syncope and echocardiographic abnormalities



In this trial the authors found that 97 patients underwent TTE, and abnormal TTE results were observed in 27.8% and thought that the use of echocardiogram for syncope evaluation in patients older than 59 years or with elevated BNP levels or an abnormal ECG is reasonable [1]. But they did not mention which echocardiographic abnormalities that they found. We think that about 25% of general patients admitted to the emergency service have some kind of abnormalities on transthoracic echocardiography regardless of their complaint. The mechanism of syncope may be multifactorial. Structural cardiovascular diseases can cause syncope when circulatory demands outweigh the impaired ability of the heart to increase cardiac output. In several cases such as aortic stenosis, syncope is not solely the result of restricted CO, but sometimes due to an inappropriate reflex or primary cardiac arrhythmia. Many of the people have some echocardiographic abnormalities but most of these abnormalities do not clarify the reason of syncope.

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