



Add Jaw-Thrust To Evolve 2-Rescuers Hands-Only CPR

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My opinion

Cardiocerebral resuscitation (CCR) as an evolved form of cardiopulmonary resuscitation (CPR) has been termed as Hands-Only CPR (HOCPR) for the lay rescuers.^[1] iStan Adult Patient Simulator (CAE Healthcare, Saint-Laurent, Quebec, Canada) provides definitive evidence of pulmonary resuscitation happening during CCR. During a simulated clinical experience (SCE), end-tidal carbon dioxide (ETCO₂) obtained at baseline was 25 mmHg (Figure 1A) when providing 788 ml tidal volume (TV) breaths during manual ventilation of intubated iStan. Subsequently obtained ETCO₂ was 2 mmHg (Figure 1B) when HOCPR generated 102 ml TV breaths in non-ventilated iStan with endotracheal tube open-to-room-air. Although delivery of prematurely early breaths during manual ventilation miscalculated respiratory rate (Figure 1A), minute ventilation (MV) equated to ~10 breaths/min during 7.3 l/min manual ventilation paradoxically increased to 9.9 l/min when ~100 compressions/min HOCPR generated 102 ml TV breaths (HOCPR-induced-high-frequency-ventilation). Essentially, the SCE with intubated iStan is making the case for keeping airway-and-mouth open during HOCPR. Therefore, HOCPR training should devise SCE for 2-rescuers HOCPR wherein second lay rescuers are providing jaw thrust with their elbows resting on the floor (Figure 1C-1D) to comfortably sustain jaw thrust and keeping airway-and-mouth open for prolonged periods during HOCPR. Moreover, future investigators should document if they observe that, after the end of each exhalation, there is evidence of measurable ETCO₂ as cardiogenic oscillations during each inspiratory downstroke in intubated and manually or mechanically ventilated patients during the times when they are receiving continuous chest compressions. Thereafter, they should explore whether controlling wind-speed around the open mouth can improve the inhalability of breathing zone room air in apneic mannequins.^[2-3] Summarily, even though the above-mentioned observed evidence of pulmonary resuscitation during CCR (HOCPR) may need further exploration and validation studies, adding jaw thrust in the interim to

evolve 2-rescuers HOCPR may only contribute to bettering the process of CPR.Â

References

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Figure Legend

Figure 1: Evidence of Exhaled Carbon Dioxide (ETCO₂) During HOCPR Prompting To Keep Airway And Mouth Open With Jaw Thrust During HOCPR [(1A): Baseline ETCO₂ at ~25 mmHg During Manual Ventilation; (1B): Evident ETCO₂ at ~2 mmHg During HOCPR; (1C): Schematically, Second Lay Rescuer Providing Jaw Thrust With Elbows Resting On Floor; (1D): Schematic Close Up View Demonstrating Jaw Thrust Providing Fingers™ Alignment]

