

Supplementary Materials

Table S1. Unmatched univariate analysis for three types of mechanical CPR devices.

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| Devices | AutoPulse™ | | | Thumper™ | | | LUCAS™ | | |
|-----------------------|--------------------------|---------------------------|------------------|--------------------------|---------------------------|-------------------|--------------------------|---------------------------|-------------------|
| | Manual CPR N = 19,045 | Mechanical CPR N = 671 | <i>p</i> -value* | Manual CPR N = 19,045 | Mechanical CPR N = 305 | <i>p</i> -value* | Manual CPR N = 19,045 | Mechanical CPR N = 149 | <i>p</i> -value* |
| Age, years | 67.0 (55.0-77.0) | 69.0 (57.0-78.0) | 0.016 | 67.0 (55.0-77.0) | 71.0 (56.0-78.0) | 0.099 | 67.0 (55.0-77.0) | 70.0 (56.0-78.0) | 0.249 |
| Male | 12,911 (67.8%) | 445 (66.3%) | 0.447 | 12,911 (67.8%) | 205 (67.2%) | 0.878 | 12,911 (67.8%) | 101 (67.8%) | 1.000 |
| Witnessed | 11,725 (61.6%) | 422 (62.9%) | 0.513 | 11,725 (61.6%) | 184 (60.3%) | 0.703 | 11,725 (61.6%) | 95 (63.8%) | 0.643 |
| Place | | | 0.349 | | | 0.403 | | | 0.427 |
| Non-public | 15,260 (80.1%) | 548 (81.7%) | | 15,260 (80.1%) | 238 (78.0%) | | 15,260 (80.1%) | 115 (77.2%) | |
| Public | 3,785 (19.9%) | 123 (18.3%) | | 3,785 (19.9%) | 67 (22.0%) | | 3,785 (19.9%) | 34 (22.8%) | |
| Bystander CPR | 4,814 (25.3%) | 191 (28.5%) | 0.069 | 4,814 (25.3%) | 80 (26.2%) | 0.754 | 4,814 (25.3%) | 53 (35.6%) | 0.005 |
| Arrest cause | | | 0.577 | | | 0.483 | | | 0.141 |
| Cardiac | 17,292 (90.8%) | 614 (91.5%) | | 17,292 (90.8%) | 281 (92.1%) | | 17,292 (90.8%) | 141 (94.6%) | |
| Non-cardiac | 1,753 (9.2%) | 57 (8.5%) | | 1,753 (9.2%) | 24 (7.9%) | | 1,753 (9.2%) | 8 (5.4%) | |
| Arrest rhythm | | | 0.010 | | | 0.330 | | | 0.763 |
| Non-shockable | 15,343 (80.6%) | 568 (84.6%) | | 15,343 (80.6%) | 253 (83.0%) | | 15,343 (80.6%) | 122 (81.9%) | |
| Shockable | 3,702 (19.4%) | 103 (15.4%) | | 3,702 (19.4%) | 52 (17.0%) | | 3,702 (19.4%) | 27 (18.1%) | |
| PCI | 650 (3.4%) | 10 (1.5%) | 0.009 | 650 (3.4%) | 6 (2.0%) | 0.221 | 650 (3.4%) | 8 (5.4%) | 0.280 |
| TTM | 1,173 (6.2%) | 47 (7.0%) | 0.417 | 1,173 (6.2%) | 9 (3.0%) | 0.028 | 1,173 (6.2%) | 14 (9.4%) | 0.143 |
| Pacemaker | 187 (1.0%) | 0 (0.0%) | 0.017 | 187 (1.0%) | 3 (1.0%) | 1.000 | 187 (1.0%) | 1 (0.7%) | 1.000 |
| ECMO | 389 (2.0%) | 19 (2.8%) | 0.203 | 389 (2.0%) | 4 (1.3%) | 0.488 | 389 (2.0%) | 11 (7.4%) | < 0.001 |
| Sustained ROSC | 7,606 (39.9%) | 203 (30.3%) | <0.001 | 7,606 (39.9%) | 62 (20.3%) | < 0.001 | 7,606 (39.9%) | 41 (27.5%) | 0.003 |
| Survival to discharge | 1,376 (7.2%) | 33 (4.9%) | 0.028 | 1,376 (7.2%) | 10 (3.3%) | 0.011 | 1,376 (7.2%) | 4 (2.7%) | 0.048 |

Categorical and continuous variables are represented by a number (%) and median (interquartile range), respectively. Acronyms: CPR, cardiopulmonary resuscitation; PCI, percutaneous coronary intervention; TTM, target temperature management; ECMO, extracorporeal cardiopulmonary support; and ROSC, return of spontaneous circulation.

*Calculated by Mann–Whitney test for continuous variables, and Chi-squared or Fisher’s exact test for categorical variables.