**Question:** Vector change (AP pad placement) compared to standard defibrillation (AL placement) for VF cardiac arrest in out of hospital setting

**Setting:** OHCA

**Bibliography: Cheskes NEJM 2022**

| **Certainty assessment** | | | | | | | **№ of patients** | | **Effect** | | **Certainty** | **Importance** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **№ of studies** | **Study design** | **Risk of bias** | **Inconsistency** | **Indirectness** | **Imprecision** | **Other considerations** | **Vector change (AP pad placement)** | **standard defibrillation (AL placement)** | **Relative (95% CI)** | **Absolute (95% CI)** |
| **ROSC** | | | | | | | | | | | | |
| 1 | randomised trials | seriousa | not serious | not serious | Very seriousb,d | none | 51/144 (35.4%) | 36/136 (26.5%) | **aRR 1.39c** (0.97 to 1.99)  **RR 1.34** (0.94 to 1.91) | **90 more per 1,000** (from 16 fewer to 241 more) | ⨁◯◯◯ Very low | IMPORTANT |
| **VF termination** | | | | | | | | | | | | |
| 1 | randomised trials | seriousa | not serious | not serious | seriousd | none | 115/144 (79.9%) | 92/136 (67.6%) | **aRR 1.18c** (1.03 to 1.36)  **RR 1.18** (1.02 to 1.36) | **122 more per 1,000** (from 14 more to 244 more) | ⨁⨁◯◯ Low | IMPORTANT |
| **Survival to discharge** | | | | | | | | | | | | |
| 1 | randomised trials | seriousa | not serious | not serious | Seriousd | none | 31/143 (21.7%) | 18/135 (13.3%) | **aRR 1.71c** (1.01 to 2.88)  **RR 1.63** (0.96 to 2.77) | **84 more per 1,000** (from 5 fewer to 236 more) | ⨁⨁◯◯ Low | CRITICAL |
| **Survival to discharge with mRS 0-2** | | | | | | | | | | | | |
| 1 | randomised trials | seriousa | not serious | not serious | Very seriousb,d | none | 23/143 (16.1%) | 15/135 (11.1%) | **aRR 1.48c** (0.81 to 2.71)  **RR 1.45** (0.79 to 2.65) | **50 more per 1,000** (from 24 fewer to 185 more) | ⨁◯◯◯ Very low | CRITICAL |

**CI:** confidence interval

#### Explanations

a. lack of blinding of treating paramedics, and cluster randomization meant paramedics knew what group a patient would be in at the time of enrollment. Paramedics also determined some outcomes (VF termination, ROSC).

b. Confidence interval that includes possible benefit and possible harm, and small sample size suggesting likely underpowered

c. Adjusted relative risk was the only result included in the primary trial, and is likely more accurate due to cluster randomization

d. Optimal information size not met. Using the hypothesized survival rate with standard defibrillation in the original trial (12%) and the hypothesized absolute increase in survival of 8% for both DSED and VC, a sample size of 310 patients per study group was calculated by the authors. The actual sample size of 125 (DSED), 136 (SD) and 144 (VC) was well below this number, introducing the possibility of imprecision in the results