**Question:** Double sequential defibrillation compared to Standard defibrillation 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** | **Double sequential defibrillation** | **Standard defibrillation** | **Relative (95% CI)** | **Absolute (95% CI)** |
| **Return of spontaneous circulation** | | | | | | | | | | | | |
| 1 | randomised trials | seriousa | not serious | not serious | seriousc | none | 58/125 (46.4%) | 36/136 (26.5%) | **aRR 1.72b** (1.22 to 2.42)  **RR 1.75** (1.25 to 2.46) | **199 more per 1,000** (from 66 more to 386 more) | ⨁⨁◯◯ Low | IMPORTANT |
| **Termination of VF** | | | | | | | | | | | | |
| 1 | randomised trials | seriousa | not serious | not serious | seriousc | none | 105/125 (84.0%) | 92/136 (67.6%) | **aRR 1.25b** (1.09 to 1.44)  **RR 1.24** (1.08 to 1.43) | **162 more per 1,000** (from 54 more to 291 more) | ⨁⨁◯◯ Low | IMPORTANT |
| **Survival to discharge** | | | | | | | | | | | | |
| 1 | randomised trials | seriousa | not serious | not serious | seriousc | none | 38/125 (30.4%) | 18/135 (13.3%) | **aRR 2.21b** (1.33 to 3.67)  **RR 2.28** (1.38 to 3.78) | **171 more per 1,000** (from 51 more to 371 more) | ⨁⨁◯◯ Low | CRITICAL |
| **Survival to discharge with favorable neurologic outcome (mRS 0-2)** | | | | | | | | | | | | |
| 1 | randomised trials | seriousa | not serious | not serious | seriousc | none | 34/125 (27.2%) | 15/134 (11.2%) | **aRR 2.21b** (1.26 to 3.88)  **RR 2.43** (1.39 to 4.24) | **160 more per 1,000** (from 44 more to 363 more) | ⨁⨁◯◯ Low | CRITICAL |

**CI:** confidence interval

#### Explanations

1. 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).
2. Adjusted relative risk was the only result included in the primary trial, and is likely more accurate due to cluster randomization
3. 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. .