Top Ten Things To Know
Delayed Time to Defibrillation After
Intraoperative and Periprocedural Cardiac Arrest

1. Delay in time to defibrillation has been shown to negatively impact survival after pulseless ventricular tachycardia or ventricular fibrillation (PVT/VF).

2. There is little data on cardiac arrest in the perioperative and operative hospital units.

3. This study sought to examine the association between time to defibrillation and survival for intraoperative or periprocedural patients with cardiac arrest (CA) with first pulseless rhythm of PVT/VF.

4. The primary outcome was survival to hospital discharge (SDC).

5. Of the 865 patients included in the GWTG-R* study cohort, 373 (43.1%) arrested in an operating room, 145 (16.7%) in the peri-anesthesia care unit (PACU), 264 (30.5%) in a cardiac catheterization laboratory, and 83 (9.6%) in a diagnostic suite.

6. The time to defibrillation had
   - overall median time of less than one minute (interquartile range, <1 to 1 minute),
   - 119 patients (13.8%) noted to have delayed defibrillation (>2 minutes from CA to defibrillation).

7. There was a significant interaction between location of arrest predicting event survival. Significant interactions were found between delayed defibrillation and arrest in the operating room as opposed to other locations (adjusted p=0.022).

8. Patients arresting outside of the operating room (in the cardiac catheterization laboratory, the diagnostic suites, or the PACU), delayed defibrillation was independently associated with lower event survival (52.6% vs. 78.1%, p =0.006) and lower survival to discharge (31.6% vs. 62.1%, p= 0.018).

9. Patients who arrested in the operating room, showed no difference between delayed defibrillation and event survival (66.1% vs. 64.1%, p = 0.88) or survival to discharge (46.8% vs. 39.6%, p= 0.47).
   There were independent predictors of SDC for the patients in this study (patient age, a cardiac admission diagnosis, and time of arrest, but not delayed defibrillation).

10. Further study is needed to define and explain the association of time to defibrillation and survival of shockable initial rhythms for the intraoperative population.

*GWTG-R, formerly NRCPR, is a performance improvement tool that can be used to identify and monitor key process variables and patient outcomes for in-hospital cardiac arrest.