

# Quick Shock

## The HeartStart Advantage

### Quick Shock

With the Quick Shock feature, Philips HeartStart automated external defibrillators (AED) can deliver a shock typically in less than eight seconds after the end of a CPR pause.

### CPR helps

Recent studies have revealed that CPR is even more beneficial than previously realized, particularly for longer downtime cardiac arrest patients.<sup>1,2</sup>

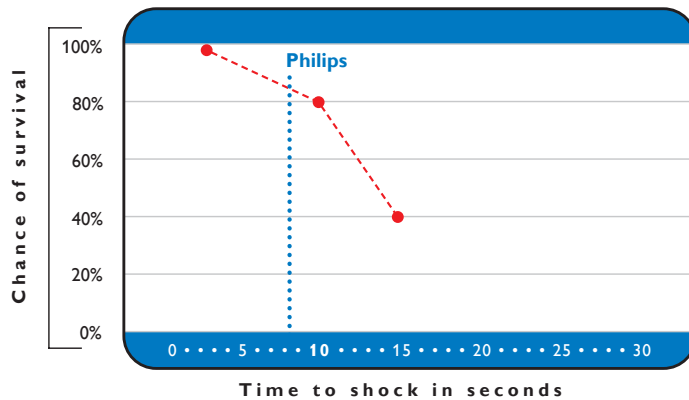
### Quick Shock increases the benefits of CPR

The beneficial effect of CPR disappears rapidly once it is stopped, so time to shock after CPR is very important.<sup>3,4</sup> Quick Shock helps by limiting the interruption of CPR chest compressions, thereby increasing the chance that a shock will result in a successful return to spontaneous circulation.

### Peer-reviewed research supports fast shock

Two independent articles published in circulation support the design intent of Quick Shock. In one article, Dr. Yu et al. concluded, "Interruptions of precordial compression for rhythm analysis that exceed 15 seconds before each shock compromise the outcome of CPR and increase the severity of post-resuscitation myocardial dysfunction."<sup>3</sup> A second study by Dr. Edelson et al. similarly concluded, "The interval between discontinuation of chest compressions and delivery of a shock should be kept as short as possible."<sup>4</sup> As American Heart Association Guidelines 2010 notes, "Shortening the interval between the last compression and the shock by even a few seconds can improve shock success."<sup>5</sup> Simply put, getting a shock to the heart quickly after CPR can aid in the return of spontaneous circulation, potentially saving more lives.<sup>3</sup>

Survival is closely linked to the speed of shock delivery after CPR



Survival data: 7 minute ventricular fibrillation model from Yu et al.<sup>3</sup>

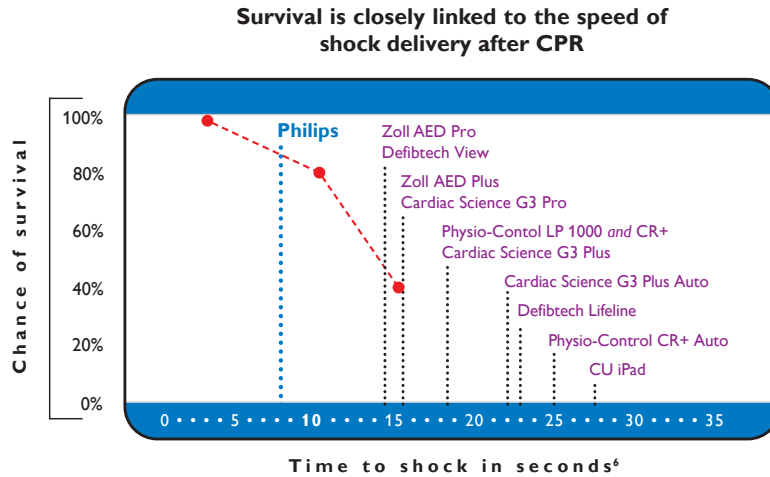
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## How does HeartStart's Quick Shock compare to other devices?

The Quick Shock feature – less than eight seconds (typical) to deliver a shock following a CPR pause – makes HeartStart AEDs among the fastest with respect to this critical measure,<sup>6</sup> as shown in the graph below. Other technologies fall farther out on this curve, wasting the benefits of CPR.

## Philips HeartStart defibrillators – an excellent choice

Quick Shock is one of the innovative capabilities that set Philips HeartStart defibrillators apart. HeartStart defibrillators are backed by more than 40 published studies<sup>7</sup> and have provided more than 45 billion hours of operational service to customers. Philips Healthcare is an \$8 billion organization with over one million automated external defibrillators shipped.



*Interruptions of precordial compression for rhythm analysis that exceed 15 seconds before each shock compromise the outcome of CPR and increase the severity of post-resuscitation myocardial dysfunction.<sup>3</sup>*

### References

- 1 Cobb LA, Fahrenbruch CE, Walsh TR, et al. Influence of Cardiopulmonary Resuscitation Prior to Defibrillation in Patients with Out-of-Hospital Ventricular Fibrillation. JAMA. 1999 Apr 7; 281(13):1182-8.
- 2 Wik L, Hansen TB, Fylling F, et al. Delaying Defibrillation to Give Basic Cardiopulmonary Resuscitation to Patients With Out-of-Hospital Ventricular Fibrillation: A Randomized Trial. JAMA. 2003 Mar 19; 289(11):1389-95.
- 3 Yu T, Weil MH, Tang W. Adverse Outcomes of Interrupted Precordial Compression During Automated Defibrillation. Circulation. 2002; 106:368-372.
- 4 Edelson D, et al. Resuscitation (2006), 71:137-145.
- 5 2010 American Heart Association Guidelines for CPR and ECC. Circulation. 2010; 122 [Supplement 3].
- 6 Data on file at Philips.
- 7 Forty-two peer-reviewed manuscripts have been published on the core technology of Philips HeartStart defibrillators.



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