

AutoPulse® Plus

ZOLL®



Maximises the likelihood of
Shock Success

Shock Sync

For decades, the standard treatment for a fibrillating heart has been to deliver a shock. To do this, we stop chest compressions, analyse the heart rhythm, defibrillate when necessary, and continue CPR. These pauses in CPR can significantly decrease the likelihood of successfully terminating ventricular fibrillation (VF).¹

There's a technology that limits these pauses in CPR and automatically times the shock to maximise the likelihood of shock success—Shock Sync™.



The X Series® is charged while the AutoPulse® Plus continues compressions, ensuring rapid delivery of defibrillation if a shock is needed.





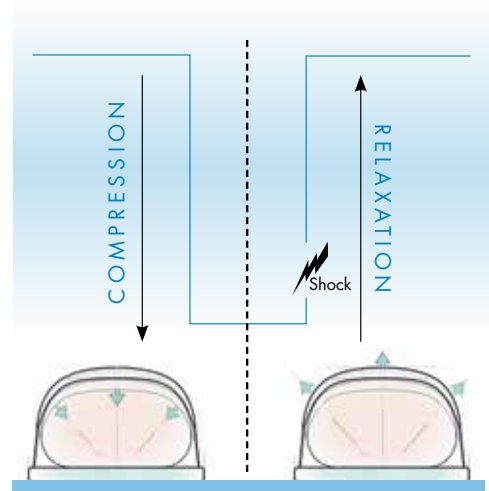


Automatically times shock delivery

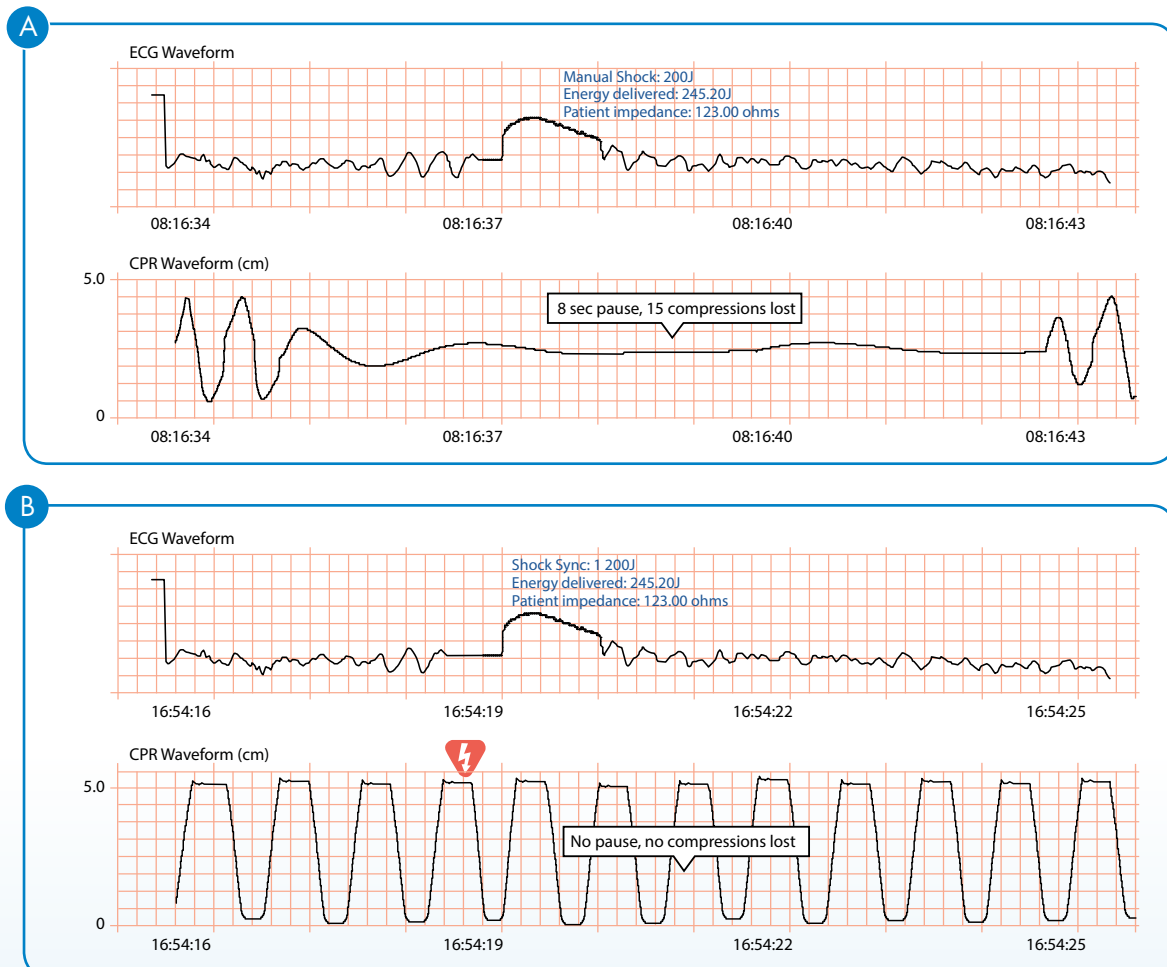
The optimal moment to administer a shock is at the beginning of the relaxation phase, when transthoracic impedance is at its lowest point.¹ This is now achievable with Shock Sync, a feature available when combining the AutoPulse® with the X Series® monitor/defibrillator.

The AutoPulse Plus has an interface connector that allows ZOLL defibrillator pads to connect directly with the AutoPulse.

Then software in the X Series, also connected with the AutoPulse Plus, analyses the compression cycle and automatically times shock delivery to the beginning of the relaxation phase. Clinical studies have proven this to be the ideal point to maximise the likelihood of shock success.²



REDUCE INTERRUPTIONS IN CPR WITH SHOCK SYNC



A: Manual CPR followed by an 8-second pre- and post-shock chest compression pause (missing almost 15 compressions). Manual CPR resumes after the pause.

B: Shock during ongoing AutoPulse compressions and 0-second pre-shock chest compression pause. CPR guidelines recommend minimizing pre- and post-shock pauses. With the AutoPulse Plus, it's possible to minimize pauses by delivering a shock during compressions.³

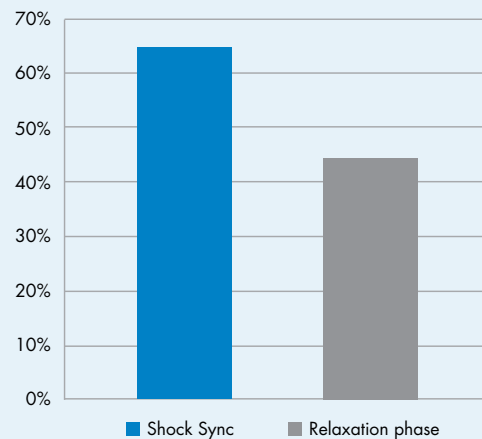
Shock Success with Shock Sync

Easy to use—just plug it in

Getting these devices to work together is as simple as plugging the X Series into the AutoPulse Plus. The X Series recognises the AutoPulse Plus, making this a true plug-and-go technology.

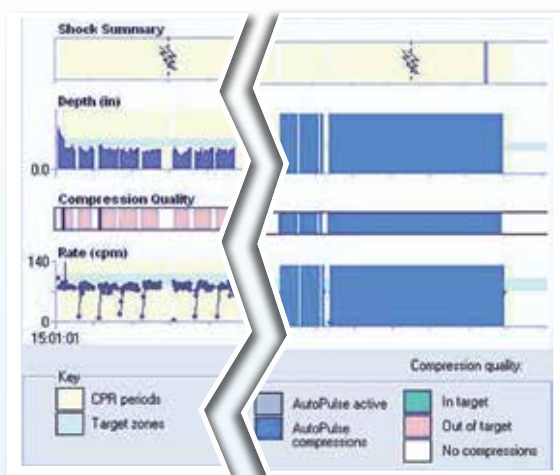


Defibrillation success rate with and without Shock Sync³



INTEGRATED RESUSCITATION RECORD

Manual CPR



RescueNet®



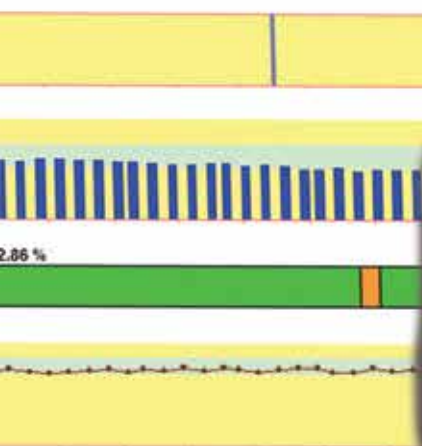
With RescueNet® Code Review from ZOLL, you can collect and analyse your resuscitation performance, including how well the shock syncs with the relaxation phase. RescueNet Code Review allows you to analyse the complete resuscitation event from start to finish, capturing ECG, shocks, vital sign waveforms, and quality of both manual and AutoPulse Plus compressions.



PLANAR

PLANAR

second segment



AutoPulse active
AutoPulse compressions

Rate:
from: 98

3.0 in

3555

20



Dutch ambulance service RAV Gooi en Vechtstreek has successfully been using Shock Sync technology with the AutoPulse Plus and the X Series to improve outcomes.

Photo Credit: Ger Adrichem

THE VALUE OF SHOCK SYNC DESCRIBED BY AN EMS SERVICE

Dr. Gerard Innemee, medical director for RAV Gooi en Vechtstreek in The Netherlands, had this to say about Shock Sync: "Real-time integration of the AutoPulse with the X Series means higher CPR fractions, increased blood flow, and gives the ability to shock during the relaxation phase of the compression. This technological solution could be significant for improving outcomes from sudden cardiac arrest."

With Shock Sync technology, the likelihood of terminating VF can increase by 45%, and the effort required to get there is minimal.² Termination of VF is associated with short pre-shock pauses and exact timing of the shock. AutoPulse Plus Shock Sync is designed to do both.

References

¹ Edelson DP, et al. *Resuscitation*. 2006;71:137-145.

² Li Y, et al. *Resuscitation*. 2010;81:724-729.

³ Olsen JA, et al. *Resuscitation*. 2015 Aug;93:158-163.

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