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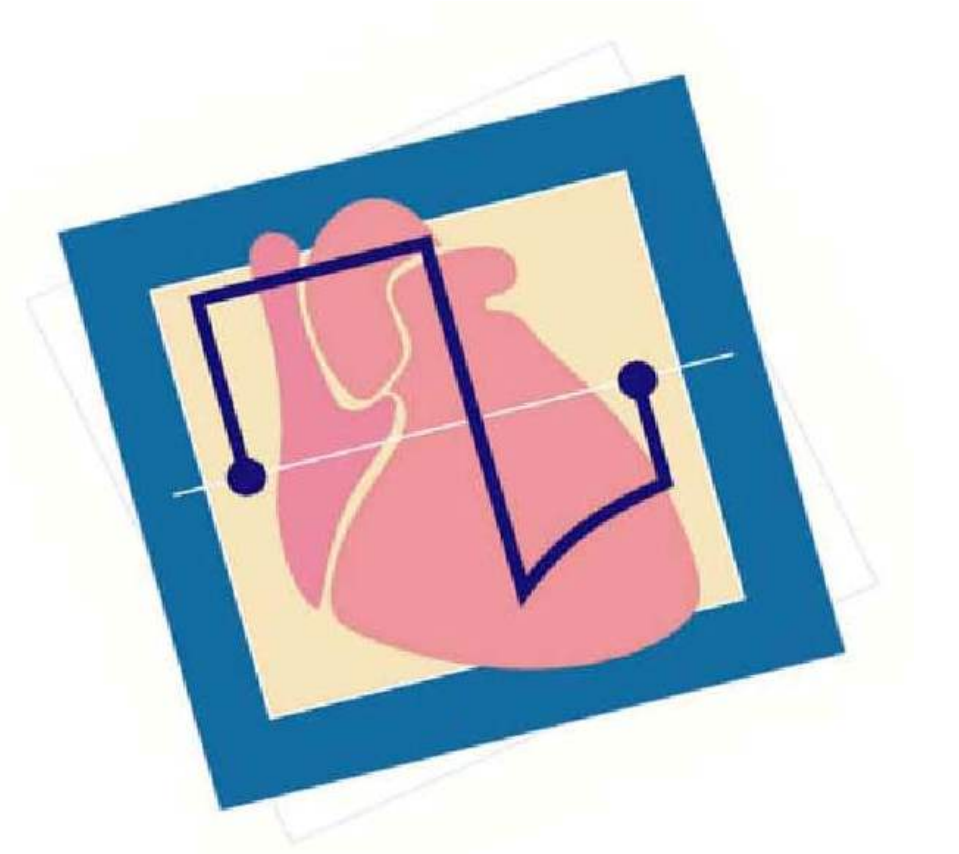
Important facts about defibrillation:

Current Defibrillates



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Important facts about defibrillation:
Current Defibrillates

Everyone wants the best outcomes for their patients, but giving more Joules doesn't necessarily mean giving the best care…

Joules are actually a composite value made up from Voltage (or electrical potential), Current (or electrical flow) and Shock Duration. So increasing any of the Current, the Voltage or the Shock Duration will increase the joules.

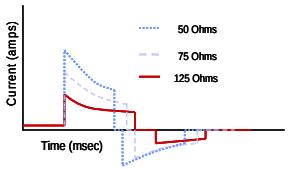
But is that enough?

Believe it or not, a AA pencil battery can deliver 200J if discharged over a long enough duration… the Voltage is set, so the Current has to compensate.

Clearly the Current is important to defibrillation! If you are relying on extending the duration of your shock to produce High Energy Joules, you may be surprised by what Current your patient is actually receiving.

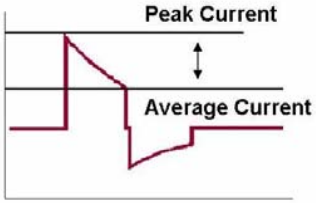
Current Matters

In fact, current is responsible for defibrillating[1-4], more specifically Average Current. 9-11Amps of current are required to stop a heart from fibrillating[5].



BTE waveform adapting to give more Joules for high impedance patients

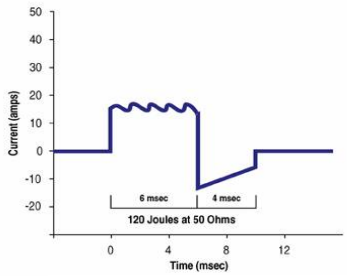
Whilst high Average Current can be therapeutic[6,7], high Peak Current is associated with decreased ejection fractions and other myocardial dysfunction[8,9].



A waveform that minimises Peak Current and maximises Average Current reduces the risk of post resuscitation myocardial dysfunction. That's why ZOLL developed the Rectilinear Biphasic Waveform, for Low Energy, High Efficacy

Timing is everything

The length of shock is important to only provide the minimum amount of voltage needed to terminate fibrillation.



ZOLL's 10ms Rectilinear Biphasic Waveform gives minimal damaging Peak Current & high Average Current

Every waveform has its own optimal shock duration that gives the lowest defibrillation threshold[10]. That why ZOLL fixes our waveform duration at our optimal shock duration,10ms [11,12].

Great potential and variable impedance

Now that we have an optimal Low Energy waveform, we need to think about patient Impedance.

We know that high Impedance patients are hard to defibrillate. That's because Average Current delivered to your patient depends on the Voltage stored in the defibrillator and the patient's Impedance to the Current flow.

The higher the Impedance for a given Voltage, the lower the Average Current. That's why ZOLL stores the highest Voltage at any Impedance.

When treating lower Impendance patients, ZOLL's impedance matching prevents overdosing.

When treating high Impedance patients, ZOLL stores more Voltage in the defibrillator and delivers more Average Current, giving your patient the safest most efficacious defibrillation possible… with low energy.