

PR20: Synchronized Cardioversion

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Applicable To

- ACP and higher

Indications

- Termination of tachydysrhythmias in symptomatic patients who have failed less invasive therapies
 - It is often more effective and consistent than pharmacological therapies and is generally safer for unstable patients when the precise nature of the tachydysrhythmia is not known.

Procedure

1. Consider the need for procedural sedation (see [PR17: Procedural Sedation](#)).
2. Attach therapy electrodes. Either anterior-posterior or anterior-lateral positioning may be used. Synchronized cardioversion may be performed with therapy electrodes alone, however limb leads are strongly suggested.
3. Enable synchronized mode: press the **SYNC** button on the monitor. Observe the display screen and confirm the flagging symbol (a downward-pointing triangle) appears above each QRS complex.
 - On LifePak 15s that have been configured for primary care paramedic use, pressing **SYNC** or **LEAD** will not disable the advisory monitoring system, and will not provide access to synchronization functions. To enable synchronization on these devices, press **ENERGY SELECT** to exit the advisory mode and enable full manual operation. **CAUTION:** This is a slight change from previous workflows, and is only required on LifePak 15s that have been configured for primary care paramedic use. A patient safety risk exists where energy levels may be set for cardioversion, but synchronization has not occurred. **Always visually verify the presence of synchronization markers above the QRS complexes before charging the defibrillator for cardioversion or attempting to deliver energy.**
4. Select the appropriate energy level using the **ENERGY SELECT** buttons.
5. Charge the monitor/defibrillator and clear the patient.
6. Push **and hold** the **SHOCK** button until the energy is delivered. There will be a slight delay as the monitor attempts to time the shock with a detected R wave.
7. Reassess the patient and re-evaluate required treatment options, including supportive care or energy escalation.
8. If the patient deteriorates to ventricular fibrillation or unstable polymorphic ventricular tachycardia:
 - Confirm synchronization is off (push **SYNC** button again if necessary) and that flags have disappeared. Verify patient pulses; if no pulse, begin chest compressions.
 - Reset the energy level to 200 J.
 - Charge the monitor.
 - Clear the patient and deliver the shock.

Notes

- Recommended initial energy levels:
 - Unstable atrial fibrillation with rapid ventricular response: 200 J.
 - Unstable monomorphic ventricular tachycardia: 100 J.
 - Unstable supraventricular tachycardia or atrial flutter: 100 J.
- If several synchronized shocks have been delivered and the rhythm fails to convert, consider switching pad placement: if the therapy electrodes were anterior-lateral, place them anteriorly-posteriorly (or vice versa) and attempt to cardiovert again at the last energy level used.

Changelog

- 2023-01-05: added supplemental information on use of PCP-configured monitor/defibrillators

