

Procedure: Dual Sequential Defibrillation

Background: Dual sequential defibrillation should be performed when the patient is in cardiac arrest and the patient's cardiac rhythm is refractory to standard defibrillation techniques. Recent literature has shown the vector changes and/or dual sequential defibrillation can be successful in terminating ventricular fibrillation or pulseless ventricular tachycardia which were refract to standard defibrillation techniques.

Indications:

- Patient in cardiac arrest with a shockable rhythm – ventricular fibrillation, pulseless ventricular tachycardia, and has failed standard defibrillation attempts.

Contraindications:

- Cardiac arrest without a shockable rhythm.

Dual Sequential Defibrillation with an Automated External Defibrillation (AED):

Procedure:

1. Power on the AED.
2. Follow the prompts.
 - a. Attach the pads to the patient and ensure they are in firm contact with the patient's bare chest.
 - i. The pads should be placed in the anterior/posterior position, if possible.
 - ii. If the anterior/posterior position is not available, the pads should be placed in the position shown on the pads or as recommended by the manufacturer.
 - b. Stop CPR and clear the patient for analysis of the rhythm.[#]

[#]Note, some new AED models allow for analysis *during* compressions so continuing CPR is possible. Follow the commands on the AED as noted above.
 - c. If shock is indicated, charge the AED while continuing CPR.
3. Ensure the manual defibrillation device is also attached and in firm contact with the patient's bare skin.
 - a. The pads should be placed in the alternative positions from the AED.
4. Charge the manual defibrillation device to 360 J or the maximum joules on the machine.
5. Clear all personnel from direct patient contact.
6. The same EMS practitioner should discharge the AED *first* and then *immediately after* discharge the manual defibrillation device
 - a. Note, this is dual *sequential* defibrillation, **not** dual simultaneous defibrillation
7. Immediately resume CPR.
8. Document the procedure, including times, in the ePCR.

Dual Sequential Defibrillation with two manual defibrillation devices:

Procedure:

1. Confirm the rhythm is ventricular fibrillation or pulseless ventricular tachycardia.
2. Ensure both manual defibrillation device have both pads in firm contact with the patient's bare skin.
 - One set of pads should have anterior/lateral placement while the other has anterior/posterior placement
3. Charge both manual defibrillation device to 360J
 1. Clear all personnel from direct patient contact.
2. Push the discharge button on one of the manual defibrillation device and once the energy has been delivered immediately push the discharge button on the other manual defibrillation device. The same person should discharge both units to ensure simultaneous delivery is *not* performed.
3. Immediately resume CPR.
4. Document the procedure, including times, in the ePCR.

Notes:

- The same EMS practitioner should push *both* defibrillation buttons to ensure simultaneous delivery of electrical discharges is *not* performed.
- Do not place pads over medication patches. Patches should be removed and the skin wiped dry. Do not place pads over nitroglycerin paste. Wipe the skin dry.
- Do not place pads over ICD (implantable cardioverter devices) or pacemakers.

***EMR, EMT, and AEMT only permitted to perform automated external defibrillation (AED).**