

R Series®

Quick Reference Guide



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This Quick Reference Guide is intended to provide easy access to most common uses of the ZOLL® R Series®. The user must read and completely understand the intended-use warnings, cautions, and instructions in the R Series Operator's Guide before using the R Series.

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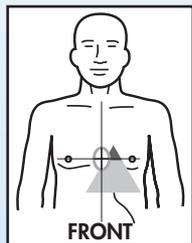
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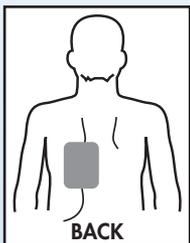
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Proper Electrode or Paddle Placement

OneStep Complete Resuscitation Electrode Anterior/Posterior Placement

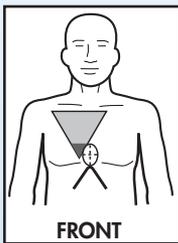


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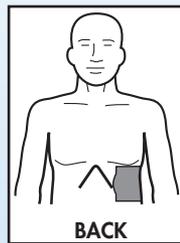


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OneStep CPR Anterior/Anterior Electrode Placement

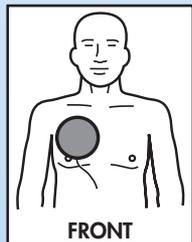


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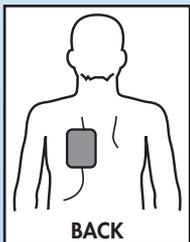


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Atrial Arrhythmias Cardioversion Electrode Anterior/Posterior Placement

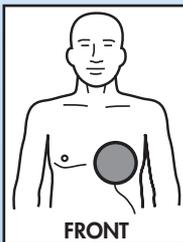


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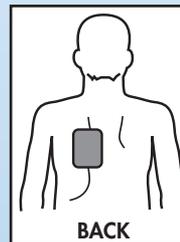


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Ventricular Arrhythmias Cardioversion Electrode Anterior/Posterior Placement

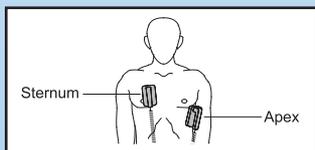


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Paddle Placement



1. Grasp paddles on each side of device.
2. Press down on RELEASE latches with thumbs and remove the paddles from their holders.
3. Apply gel to electrode surfaces or gel patches to patient. If using gel, rub electrodes together to spread gel (unless otherwise stated by your institution).
4. Place sternum paddle to the right of sternum, just below clavicle.
5. Place apex paddle left of nipple on anterior-axillary line.
6. Press paddles firmly against patient's skin.

R Series BLS/Plus Model

Defibrillation (AED)

1. Apply electrodes.
2. Turn selector switch to ON.
3. System will begin to analyze or instruct *PERFORM CPR*, depending upon configuration chosen.
4. Shout "Clear, Analyzing"; stop CPR and ensure patient is motionless.
5. If rhythm is shockable, defibrillator will charge and red SHOCK button will illuminate. 
6. If shock button illuminates, shout "Clear" – once all are clear, press SHOCK. 
7. If no shock advised, start CPR immediately.

Defibrillation (Manual)

1. Apply electrodes.
2. Turn selector switch to ON.
3. Press **Manual**, then **Confirm** softkeys. System will switch to ALS mode (depending upon configuration, your defibrillator may not require a second key press to activate ALS mode).
4. Energy select will automatically display the correct adult energy per configuration.
5. You may change settings if desired by using the ENERGY SELECT ▲ (UP) and ▼ (DOWN) arrow keys.
6. If rhythm appears shockable, press CHARGE button.
7. When red SHOCK button illuminates, shout "Clear" and verify others are clear. 
8. Press SHOCK button. 
9. If no shock advised, check for a pulse, and if no pulse, start CPR immediately.

Defibrillation (Advisory)

1. Apply electrodes.
2. Turn selector switch to ON.
3. Press **Manual** then **Confirm** softkeys.
4. Shout "Clear, Analyzing"; stop CPR and ensure patient is motionless.
5. Press ANALYZE button
6. Read display message. If SHOCK ADVISED is displayed, shout "clear" and verify others are clear. 
7. Press shock button. 
8. If no shock advised, check for a pulse, and if no pulse, start CPR immediately.

Adult Defibrillation – Pediatric Defibrillation

R Series ALS Model

Defibrillation (Advisory)

1. Apply electrodes.
2. Turn selector switch to DEFIB.
3. The energy will be displayed as configured by your institution.
4. Shout “Clear, Analyzing”; stop CPR and ensure patient is motionless.
5. Press ANALYZE button.
6. Read display message. If SHOCK ADVISED is displayed, shout “Clear” and verify others are clear.
7. Press SHOCK button. 
8. If no shock advised, check for a pulse and if no pulse, resume CPR immediately.

Defibrillation (Manual)

1. Apply electrodes.
2. Turn selector switch to red area labeled DEFIB.
3. Energy selected will be as configured by institution protocol. You may change settings if desired by using the ENERGY SELECT ▲ (UP) and ▼ (DOWN) arrow keys.
4. If the rhythm appears to be shockable, press the CHARGE button.
5. When the red shock button illuminates, shout “Clear” and verify others are clear.
6. Press SHOCK button. 
7. If no shock advised, check for a pulse and if no pulse, resume CPR immediately.

Pediatric Defibrillation

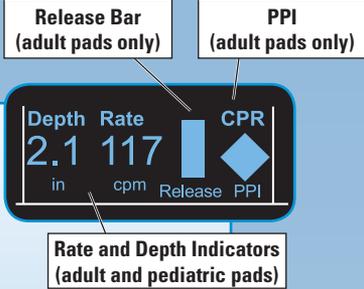
Follow the instructions as outlined above for your defibrillator with the following exceptions:

- OneStep Pediatric or OneStep Pediatric CPR electrodes should be used on children up to 8 years of age (55lbs/25kg). For children over 8 years of age, use adult electrodes.
- When the OneStep Pediatric electrode is connected, the R Series will automatically set the energy delivered to 50-, 70-, and 85-joule increments. These levels are appropriate for children from 55lbs/25 kg or less.
- When not using OneStep Pediatric electrodes or OneStep Pediatric CPR on children under 55lbs/ 25 kg, an energy of 2 J per kg is recommended and will need to be set manually using the ENERGY SELECT ▲ (UP) and ▼ (DOWN) arrow keys.
- Do not use AED or Advisory mode in children under 8 years of age unless OneStep Pediatric electrodes are attached or energy has been manually selected in Advisory mode.

CPR

CPR Dashboard with Real CPR Help

1. Place ZOLL electrodes with CPR Sensor (OneStep™ Complete, OneStep CPR, OneStep Pediatric CPR, or CPR Stat-padz®) on patient.
2. The CPR sensor should be placed on the sternum where your hands would normally be placed for CPR.
3. Place the heel of your hand on the sensor and begin compressions normally.
4. If your compression rate and depth are appropriate to AHA/ERC Guidelines, the diamond (PPI) on the screen of the R Series will begin to fill with color and remain filled. If enough time is allowed for chest recoil, the depth bar will also be filled with color (adult pads only).
5. Adult electrodes only: If the depth of compression is insufficient, the message *PUSH HARDER* will be heard and the indicator word "Depth" will be displayed next to the PPI. When compressions are correct, the message *GOOD COMPRESSIONS* will be heard and the indicator word "Depth" will disappear from the display (adult pads only).
6. If compression rate is too slow, the indicator word "Rate" will be displayed next to the index and a 100 bpm metronome will be heard until rate is correct. The indicator word "Rate" will then disappear from the screen.
7. If your R Series does not display a PPI, your defibrillator has only basic CPR feedback and only voice prompts, as outlined above, will be available.



See-Thru CPR

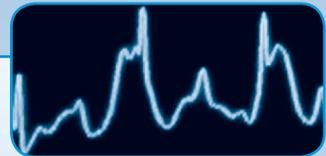
See-Thru CPR is a proprietary algorithm that filters the CPR artifact from the ECG to allow users to see a close approximation of a patient's organized underlying rhythm during CPR compressions, reducing interruptions in CPR.

Activating See-Thru CPR:

1. Press **Options** softkey.
2. Press **Traces** softkey.
3. Press **Trace 2** softkey.
4. Press **Filt ECG** softkey.

Using See-Thru CPR:

1. During CPR, view the filtered ECG (second trace) on display to determine if an organized rhythm appears to be developing.
2. If rhythm appears to be organized and shockable, press CHARGE while continuing compressions.
3. Pause compressions and visually confirm a shockable rhythm.
4. Shout "Clear" and verify others are clear.
5. Press SHOCK button.
6. Resume CPR immediately for 2 minutes before stopping CPR to check rhythm. If non-shockable, resume compressions.



Unfiltered ECG signal during CPR



Signal filtered by See-Thru CPR

Pacing/Cardioversion



Examples of paced rhythms

Pacing

1. Place OneStep Pacing or OneStep Complete Electrodes on patient. To pace with other defibrillation electrodes, they must be placed on the patient and the three- or five-lead cable attached to the defibrillator.
2. Turn Selector Switch to green area labeled PACER.
3. Turn the pacer RATE knob to desired rate.
4. Turn the pacer OUTPUT knob clockwise slowly until capture.
5. Slowly decrease output by turning OUTPUT knob counter-clockwise until capture disappears, then increase by 10%.
6. Check pulse to verify mechanical capture.
7. To check patient's underlying rhythm; press and hold 4:1 button.



Dial settings for R Series Pacing

Note: When using BLS or Plus models, manual mode must be activated to pace.

Synchronized Cardioversion

1. Apply electrodes or paddles to patient.
2. Turn selector switch to DEFIB. If using BLS or Plus device, press **Manual** then **Confirm** softkeys instead.
3. Press **Sync On/Off** softkey.
4. Verify that arrows (↓) display over R-waves and display reads SYNC.
Do not cardiovert if SYNC is OFF.
5. Follow Manual Defibrillation instructions as described on page 4 and institution protocol for energy settings.

Monitoring

ECG Monitoring

Using OneStep ECG Cable

1. Disconnect OneStep electrode from the OneStep therapy cable.
2. Plug the OneStep ECG cable into the OneStep therapy cable.
3. Remove all clothing covering the patient's chest. Dry chest if necessary. Clip or shave excessive chest hair to ensure proper adhesion of the electrodes.
4. Snap leads onto each electrode.
5. Peel off protective backing from electrode.
6. Apply electrodes to patient's skin.

Using Standard ECG cable

1. Unplug OneStep ECG cable from back of unit.
2. Plug ECG cable connector into back of unit.
3. Remove all clothing covering the patient's chest. Dry chest if necessary. Clip or shave excessive chest hair to ensure proper adhesion of the electrodes.
4. Snap leads onto each electrode.
5. Peel off protective backing from electrode.
6. Apply electrodes to patient's skin.

ECG Display

1. Turn selector switch to MONITOR on the R Series ALS unit. If using BLS or Plus device, turn ON, then press **Manual** then **Confirm** softkeys to activate ALS mode.
2. Press LEAD button to change leads.
3. Press SIZE button to change size of display.



Dial settings for
R Series Monitoring

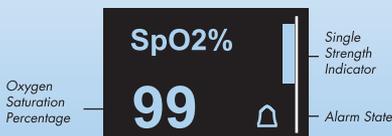
End Tidal CO₂ (EtCO₂)

1. Plug EtCO₂ cable into the back of the unit in the yellow port marked **CO₂**.
2. Attach sensor to patient.
3. Turn selector switch to grey area labeled MONITOR. If using BLS or Plus device, turn ON, then press **Manual** then **Confirm** softkeys to use in ALS mode.
4. Press the **Param** softkey.
5. Press the CO₂ softkey.
6. Press the **Enable EtCO₂** softkey.
7. If properly attached, the EtCO₂ values will display on the screen.
8. To display waveform: Press **Options** softkey. Press **Traces** softkey. Press **Trace 2** or **Trace 3** softkey. Select CO₂ softkey.

Monitoring (Cont.)

SpO₂

1. Connect the SpO₂ cable to the patient sensor and to the blue SpO₂ port on the rear of the unit labeled **SpO₂**.
2. Attach sensor to patient's finger.
3. Turn selector switch to grey area labeled MONITOR on the R Series ALS. If using BLS or Plus device, turn ON, then press **Manual** then **Confirm** softkeys to use in ALS mode.
4. If properly attached, the SpO₂ values will display on the screen.
5. To display waveform: Press **Options** softkey. Press **Traces** softkey. Press **Trace 2** or **Trace 3** softkey. Select SpO₂ softkey.



NIBP

1. Plug NIBP cable into the back of the unit in silver port marked NIBP.
2. Attach appropriate BP cuff to patient's arm or thigh.
3. Turn selector switch to grey area labeled MONITOR. If using BLS or Plus device, press **Manual** then **Confirm** softkeys to use in ALS mode.
4. For ALS: Press the **Param** softkey, then press the NIBP soft key.
5. On BLS or Plus device, press illuminated blood pressure icon on bottom left to take measurement.



Alarms

1. Press the **Alarms** softkey to select alarms.
2. Press **Return** softkey to activate alarms.
3. To mute for 90 seconds: Press ALARM SUSPEND button.
4. To reactivate muted alarm: Press ALARM SUSPEND button.
5. To disable: Press and hold ALARM SUSPEND for 3 seconds.
Note: Alarms are still active, but silent.



Managing Data and Cable Connections

For the R Series ALS, BLS, and Plus

Printing a Summary Report:

1. Press the **Report Data** softkey.
2. Press the **Print Chart** softkey.

Press the **Print All** or the **Print Range** softkey for specific events.

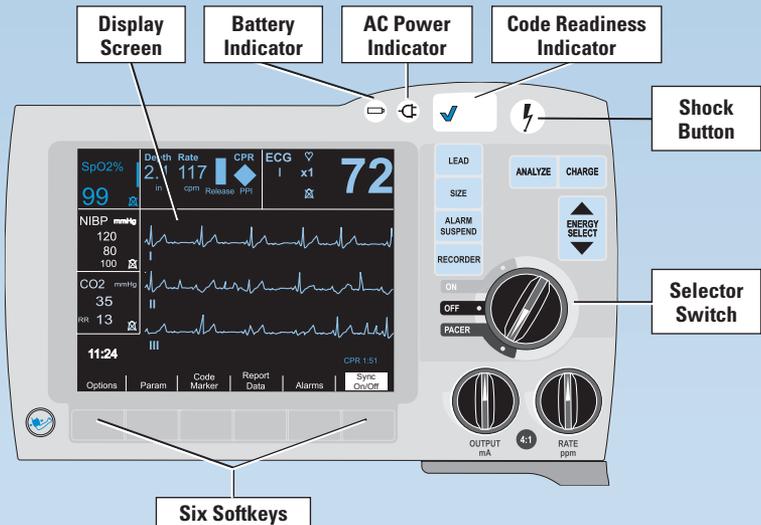
3. Press the **Print Log** softkey

Transferring Full Disclosure Files to a Compact Flash Card or by WiFi:

1. If using an R Series ALS, turn to MONITOR mode
2. Press the **Report Data** softkey.
3. Press the **Transfer Mode** softkey.
4. Press the **Report To Card** softkey to transfer to a Compact Flash Card or press the **Report To WiFi** softkey to transfer by WiFi.

Erasing Summary Report and Full Disclosure:

- Press the **Report Data** softkey.
- Press the **Erase**, then **Erase All** softkeys.



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