ZOLL M-Series
Electrode Connection
Electrode Placement

Preferred Placement

Alternate Placement
Internal Spoons

Used by MD for Internal Defibrillation for Open Heart Surgery Patients ONLY
External Paddles

1. Turn Unit to Defib
2. Press Charge
3. Press Shock Buttons Simultaneously

Energy Select if needed
### Recommended ACLS Defibrillation Protocols *With the ZOLL Rectilinear Biphasic Waveform*

<table>
<thead>
<tr>
<th>ZOLL Biphasic</th>
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<tbody>
<tr>
<td><strong>1st Shock</strong></td>
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<tr>
<td><strong>2nd Shock</strong></td>
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<td><strong>3rd and Subsequent</strong></td>
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<table>
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<th>Pedi Defib</th>
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<td><strong>5th Shock</strong></td>
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The settings are the “appropriate biphasic equivalent” of monophasic equipment and are to be used as a guide for direct physician orders deviating from hospital protocol.
All ZOLL User Interfaces are the Same!

Red Area = Stop Defibrillation Cardioversion

Green Area = Go Pacing
Red Area = Stop

When you defibrillate or cardiovert a patient, you are attempting to “stop” and “restart” the electrical conductivity of the heart.

(similar to a hard boot of a computer)

The desired end result is a perfusing rhythm.
Defibrillation

Advanced and Basic Providers

Place the pads on the patient.
Preferred placement is anterior/posterior.

(Heart Sandwich)

**Basic Providers**
1. Turn the Unit On (1)
2. Press Analyze (2)
3. Follow verbal and visible prompts (3)

**Advanced Providers**
1. Turn the Unit On (1)
2. If Shockable rhythm, press charge (2)
3. Press Shock Button when lit (3)
AED for BLS Users

When you press “Analyze” unit will tell you to “Stand Clear” and interpret the ECG Rhythm

If unit interprets a “Shockable” Rhythm, the unit will charge itself and tell you to “Press Shock”

If unit interprets a “Non-Shockable” Rhythm, the unit will tell you “No Shock Advised” and remind you to “Perform CPR”
Energy Settings

After each administered defibrillation, the ZOLL M Series will automatically increase the energy setting according to your hospital protocol.

**PEDIATRIC PATIENTS:** You may manually adjust energy settings requested by the MD by pushing Energy Select up or down.
Defibrillation Step by Step

1. Turn Unit to Defib

2. Press Analyze or Charge
   (if advised or shockable rhythm)

3. Press Shock

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Cardioversion

Advanced Providers
Place the pads on the patient.
Preferred placement is anterior/posterior. (Heart Sandwich)

1. Turn Unit to Defib (1)
2. Press “Sync”
   (Unit will read “SYNC” next to Joules and markers will appear above QRS Complexes.)
3. Select Desired Joules
4. Press Charge (2)
5. Press lit “Shock” button (3)

IMPORTANT:
The M Series will default back to “Defib” (Rescue Mode) after the Synchronized shock. If you desire a 2nd synchronized shock, be sure to push “Sync” again and look for markers.
Important

The M Series will default back to “Defib” mode after sync shock administered.

If you choose to administer subsequent cardioversion shocks, be sure to remember to push the “Sync” button each and every time.
1. Turn to Pacing (Green Area) A downward deflection will appear with pt rhythm.

2. Increase mA until you receive capture of the heart. (One downward deflection for every QRS complex)

3. Increase mA approximately 10% after capture.

4. Adjust rate as requested by MD.

5. Pacer automatically defaults to a demand pacer.

6. To view intrinsic rhythm during pacing, press and hold 4:1 button.

7. Should you want to change to Async Pacing, press Async on/off along bottom prompt.
Monitor Mode

“Lead” Changes lead selection

“Size” changes display size of ECG

“Alarm Suspend” suspends alarms (deactivated on crash cart equipment)

“Recorder” turns print on/off
Testing

UNPLUG UNIT FROM THE ELECTRICAL OUTLET PRIOR TO TESTING

1. Unplug MFC from pads and plug into test port. (Black port attached to Cable)
2. Turn unit on. (1)
3. Energy select 30 joules.
4. Press Charge. (2)
5. Press Shock. (3)
6. Printer will print result.
7. Plug MFC back into pads to be “Code Ready”.
The most common cause of defibrillation failures are battery related.

A new, fully charged battery pack has enough energy to do 1 of the following:

a.) 35 Defibrillator shocks at maximum energy
b.) 1.5 hours of continuous ECG monitoring
c.) 1.0 hour of continuous ECG monitoring and pacing

Recharge (plug in unit to wall) or replace battery when LOW BATTERY or REPLACE BATTERY are displayed on the screen.
If *Check recorder* is displayed, evaluate the paper tray at the bottom of the M-series

- Locate the **RELEASE** label and press the ridge down located below the label
- Slide tray out
- Replace paper with one square dangling outside of tray.
- Red grid up, black arrows out

Press **RECORDER** button to confirm proper placement
Summary button
printing a partial summary

Press **Summary** button

**Summary Menu**

- Press the **Print Chart** softkey
- Press the **Print Range** softkey
- Press **Prev Event** or **Next Event** softkey to select the first event for Printing
- Press the **Print** softkey
**Summary Button:**

*Printing a Full Summary*

- Press the Summary button
- Summary Menu
- Press the Print Chart softkey
- Press the Print All softkey
- Press the Recorder button to stop printing the report
Printing an Incident Log

An abbreviated list of all events recorded in the summary report which includes the time of occurrence.

Events such as the following:

- M-Series turned on
- Defibrillation advisory messages
- Defibrillation shocks (including energy levels)
- Pacer mode activated
- Alarms triggered / Code markers

Press and release the Summary button
Press the Print Log softkey