

Lifeline **ARM**

Automated Chest Compressor Product Orientation Presentation

Agenda

- Lifeline ARM Overview & Indications for Use
- Lifeline ARM Components and Accessories
- Review of the Control Panel
- Unpacking and Assembly
- Operation
- Power / Battery Pack
- Removal from Patient & Storing
- Maintenance, Tips and Troubleshooting
- Summary



Introduction

The Lifeline ARM is an automated, portable, battery-powered device that provides chest compressions on adult patients who have cardiac arrest, and is intended for use by qualified medical personnel certified to administer CPR. The Lifeline ARM:

- Provides consistent depth and rate chest compressions
- Allows for automated chest compressions in both the in-hospital and out-of-hospital settings including patient transport
- Designed for minimal interruption of CPR



USA: The Lifeline ARM is intended for use as an adjunct to manual cardiopulmonary resuscitation (CPR) when effective manual CPR is not possible (e.g., during patient transport, or extended CPR when fatigue may prohibit the delivery of effective/consistent compressions to the victim, or when insufficient personnel are available to provide effective CPR).

Operator Training Requirements

The Lifeline ARM is intended for use by qualified medical personnel certified to administer CPR. In order to safely and effectively operate the Lifeline ARM, it is the responsibility of the operator to obtain the following training:

- CPR training in accordance with resuscitation guidelines
- User Manual knowledge and understanding
- Training in accordance with the User Manual including handling of the actual device

Note: Federal law (USA) law restricts this device by or on the order of a physician.

Key Components for Operation

Charged Battery Pack



Compression Module



Patient Interface Pad (PIP)



Frame



Stabilization Strap



Backboard





Accessories

- AC Adapter



- USB Cable*



- Carrying Case



- Patient Interface Pad (pkg. 3)



- Quick Reference Guide



- User Manual



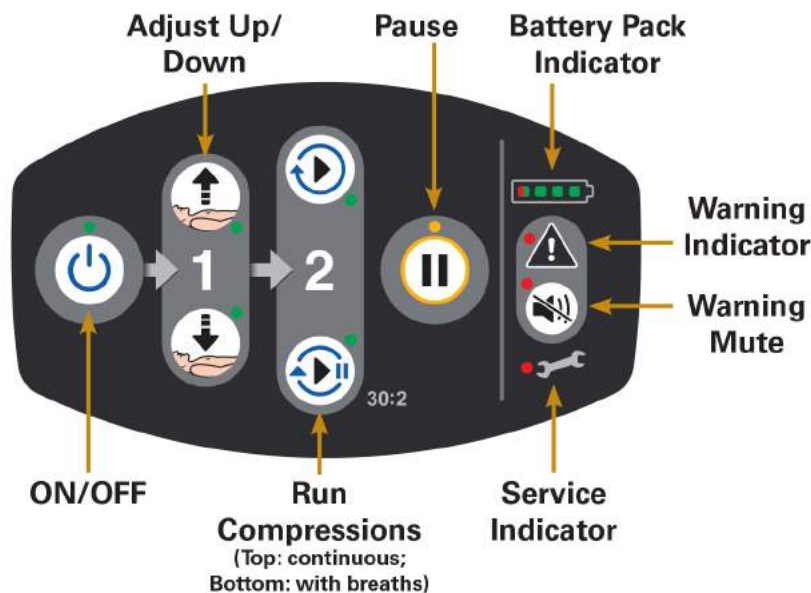
- Charging Station*



*Optional



User Control Panel



1. **ON/OFF Button** – Press for more than one second to turn the Lifeline ARM on or off
2. **Up/Down Buttons** – Used to position the Piston relative to the patient's chest
3. **Run Compressions** – The top button performs continuous compressions; the bottom button performs compressions with pauses for rescue breaths
4. **Pause Button** – Stops compressions when running or resumes compressions when stopped
5. **Battery Pack Indicator** – Indicates the approximate remaining Battery Pack capacity
6. **Warning Indicator** – Flashes to notify the user that there is a problem
7. **Warning Mute Button** – Silences the audible sound associated with a warning for 30 seconds
8. **Service Indicator** – Flashes when the Lifeline ARM needs periodic servicing

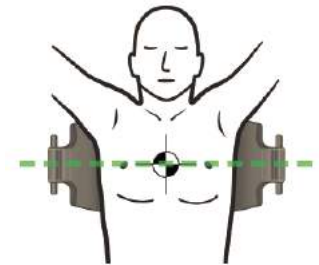
Unpacking and Assembly



1. Open the Carrying Case and remove the Backboard



2. Place the Backboard under the patient



3. Attach the Frame to the Backboard



4. Insert the Compression Module into the Frame



Operation

NOTE: Before and during deployment of the RMU-1000:

- ✓ Confirm patient is unresponsive and not breathing.
- ✓ Start manual compressions.
- ✓ **Minimize compression interruptions.**
- ✓ **Perform manual compressions whenever possible.**



1. Turn the unit ON



2. Adjust the Piston relative to the patient's chest



3. Start chest compressions

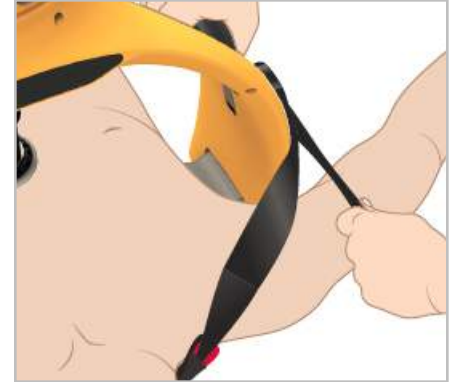
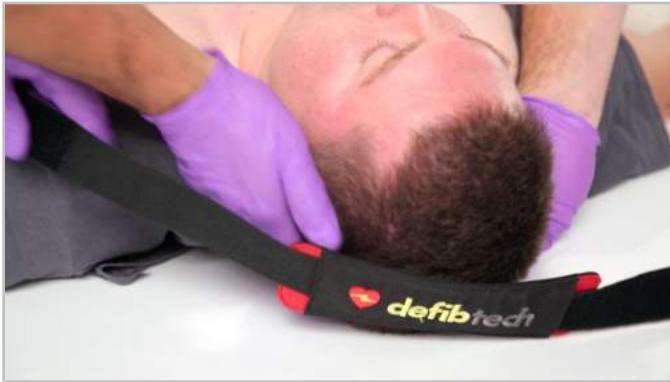
Operation

From the User Manual:

- Mechanical chest compressions may cause artifact and interfere with ECG analysis, therefore, always pause compressions before performing ECG analysis or before defibrillating with other equipment
- Never leave the Lifeline ARM running while unattended as patient injury may result

Note: Refer to the User Manual for complete directions, indications, contraindications, side effects, training requirements, dangers, warnings, cautions, troubleshooting, maintenance and technical specifications.

Apply the stabilization strap



- Place strap behind patient's neck
- Connect the Stabilization Strap to the Frame and adjust

Transport

To move the patient to a stretcher or other transport equipment:

1. Prepare the stretcher/transport equipment near the patient
2. Position two people on either side of the patient; other personnel may be needed to stabilize the patient's head and limbs, as necessary
3. When ready to move the patient, push Pause to temporarily stop compressions
4. Lift the patient by grabbing the black handle of the unit with one hand using the other hand to support the lower torso
5. After the patient is safely on the stretcher/transport equipment, check that the unit and the Piston have not changed their position; readjust if necessary; compressions may then be continued
6. Push Pause again, or the appropriate Run Compressions button, to resume compressions

Note: Carefully monitor proper positioning of the Piston, and if needed, pause compressions and readjust.



Power / Battery Pack

If the Battery Pack charge becomes low during use 

OPTION 1)

Connect to an external power source



TIP: Press and hold the membrane switch panel on the Battery Pack to see the Battery Pack's LED status indicator.



To remove the plug, grasp the top-most portion of the plug barrel and pull, as shown in the right-most illustration above.

Note: Battery Packs are shipped in a low-power state known as “ship mode” and cannot power the Lifeline ARM until it is taken out of ship mode by charging it.

Battery Pack Charging Cradle

If the Battery Pack charge becomes low during use 

OPTION 2)

Swap with optional spare Battery Pack
charged in optional Charging Station



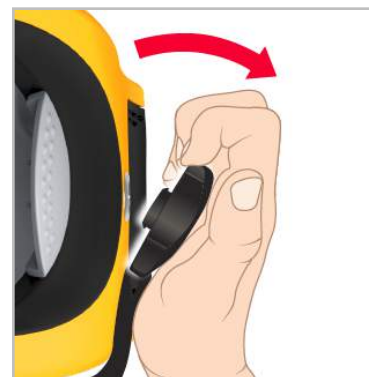
Charging Station & AC Adapter



Removal from Patient



1. Turn the unit OFF



2. Remove the Straps



3. Remove Compression Module from the Frame



4. Use the Latch Release Levers to release the Frame from the Backboard

Disassembly & Storage

- Remove the Compression Module from the Frame by pushing down and rotating the Compression Module approximately 90 degrees in either direction
- Release the Frame from the Backboard using the Release Levers
- Clean as recommended in the User Manual before next use
- Perform needed maintenance tasks
- Ensure availability of accessories for next use, e.g.,
 - Fully charged Battery Pack
 - At least one new Patient Interface Pad (PIP)
- Place all components, accessories and written materials in the Carrying Case



Routine Unit Maintenance

The Lifeline ARM is designed to be very low maintenance

- Simple maintenance tasks are recommended to ensure its dependability
- Different maintenance intervals may be appropriate depending on the environment
- The User Manual lists “Weekly” and “After Each Use” tasks in a sample maintenance table to be used at the discretion of the emergency response program's medical director

Routine Unit Maintenance

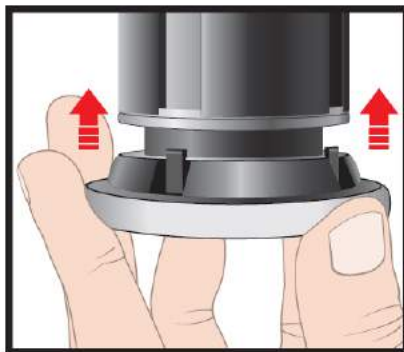
Key tasks for a maintenance program include:

- Checking the Battery Pack expiration date
- Availability of accessories (i.e., AC adapter, PIPs, Straps)
- Turning the Lifeline ARM ON to perform a self-test
 - Make sure the Piston is retracted and the PAUSE indicator comes on with no warning indicators
- If the unit has been dropped, mishandled, or abused, a thorough evaluation of operation should be performed

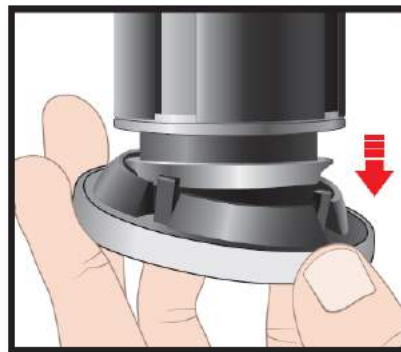
Maintenance of the PIP

Changing the PIP

- To use, press the pad onto the Piston until it snaps into place
- To remove, grasp the pad by the edges and gently pull down one edge
- PIP is one-time use, non-sterile, no latex



Installing



Removing



Maintenance - Cleaning

Clean after each use on a patient

Important Guidelines

Use a soft cloth dampened with a recommended cleaning agent:

- Soapy water
- Ammonia-based cleaners
- Hydrogen peroxide
- Isopropyl alcohol (70 % solution)
- Chlorine bleach (30 ml/liter water)

- ✓ Do not spray or immerse the unit and its accessories with cleaning agents
- ✓ After removing the Strap Clips from the Stabilization Strap, the Strap may be machine washed and air dried when necessary
- ✓ After everything has been cleaned and air dried, turn the unit on for a few seconds so the unit can perform a self-test



Maintenance - Power

Installing and removing the Battery Pack:

1. Push the Battery Pack all the way in until the latch clicks
2. To remove the Battery Pack, squeeze the Battery Pack eject release latches on either side of opening to partially eject the Battery Pack, then pull the Battery Pack out



Charging the Battery Pack with the AC Adapter:

1. Install the Battery Pack into the Compression Module
2. Connect the keyed AC Adapter Plug to the external power input jack on the Compression Module being sure to align with the notch on the jack so that it will lock into place
3. To remove the plug, grasp the top-most portion of the plug barrel and pull





Tips for Use & Storage

Operation of the Lifeline ARM

Important Guidelines

During use

- Always pause the unit before changing the Battery Pack
- Always pause compressions before performing ECG analysis with other equipment
- The Battery Pack must always be installed in the unit in order to operate the device, even when powered by the AC adapter
- Avoid gel on chest (e.g., from defibrillation pads) in area of the PIP target area

During storage

- ✓ Always store the unit so it is ready to go
- ✓ Always have the external AC adapter power supply available with the unit at all times
- ✓ Store the Compression Module with a fully charged Battery Pack installed
- ✓ Store the Compression Module with a new PIP installed
- ✓ Ensure availability of accessories like the Stabilization Strap and extra PIP(s)
- ✓ Consider maintaining a spare fully charged Battery Pack

Tips Regarding Patient Size

Operation of the Lifeline ARM

Important Guidelines

Patient Size -- There is no limitation regarding patient weight; patient size is the determining factor

- If the Piston cannot be adjusted to reach the patient's chest, the patient is too small
 - Remove Frame and continue with manual CPR
- If the Frame cannot be latched, the patient is too big
 - Remove Frame and continue with manual CPR



Troubleshooting

Tips During Operation of the Lifeline ARM

Battery Pack Indicator

- At any time, the Lifeline ARM can be connected to an external power source to power the device during its operation, or to charge the battery
- If the Battery Pack indicator on the Control Panel shows red (low battery), replace the Battery Pack as soon as possible with a sufficiently charged Battery Pack or apply external power
- To check the charge of a Battery Pack while it is not installed in the Lifeline ARM, press the button on the bottom of the Battery Pack for about a second





Troubleshooting

Tips During Operation of the Lifeline ARM

The Warning Indicator

- The Warning Indicator, located below the Battery Pack Indicator on the Control Panel, will flash red and be accompanied by an audible alert to notify the operator of a detected problem, such as possible misuse or malfunction
- Corrective actions for a Warning Indicator include: Check for installed Battery Pack; check for proper Piston position and height; press Pause button to clear the condition and try again





Troubleshooting

Tips During Operation of the Lifeline ARM

If the device fails to perform compressions:

- Push the ON/OFF Button for one second to power off, then push the ON/OFF Button again for one second to turn it back on

Reminder: Minimize compression interruptions;
perform manual compressions whenever possible.

If the Service Indicator is lit: (wrench symbol with red LED)

- The device may still be used, but the device should be serviced as soon as practical



Summary

Provide High Quality CPR with the Lifeline ARM

In an emergency situation, the Lifeline ARM provides portability, speedy deployment, innovative features, and ensures high quality CPR for unmatched operational times



Questions & Discussion



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