

TrueCPR™ COACHING DEVICE

INSTRUCTIONS FOR USE



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Introduction

The Physio-Control TrueCPR coaching device provides rescuers with real-time feedback on chest compressions during cardiopulmonary resuscitation (CPR) in accordance with current CPR guidelines.

IMPORTANT! Read these instructions carefully before use, and keep for future reference.

These operating instructions provide procedural steps for proper use of the TrueCPR device, and can be used for training purposes. Operators should read these instructions and be thoroughly familiar with the device before use.

Intended Use

The TrueCPR device is intended to provide feedback to assist rescuers to perform CPR. Rescuers must be trained in CPR and use of the device.

The TrueCPR device is intended for use on patients eight years of age and older.

Indications

The TrueCPR device is indicated for use on patients in cardiac arrest (unconscious, pulseless, not breathing normally).

Operating Principle

The TrueCPR device consists of a chest pad, which is placed on the sternum, and a back pad, which is placed beneath the patient. The device determines the depth of chest compressions during CPR by measuring the distance between the chest pad and back pad. The device measures distance by sending and receiving electromagnetic signals between the chest pad and back pad.

Safety Information

The following terms are used in these operating instructions:

Warning: Hazards or unsafe practices that may result in serious personal injury or death.

Caution: Hazards or unsafe practices that may result in minor personal injury, product damage, or property damage.

WARNINGS

POSSIBLE PATIENT INJURY:

- The TrueCPR device is not intended for use on children or infants. Only use the device on patients who are 8 years of age or older.

POSSIBLE INEFFECTIVE CPR:

- After use, inspect device and cable for wear or damage. Remove from service if damaged.
- Do not use the TrueCPR device over very large metal surfaces. Perform CPR unaided instead.*
- The TrueCPR device may provide incorrect feedback if not positioned properly.
 - Check back pad and chest pad position after patient movement and during transport.
 - If patient is on a mattress, place a backboard beneath the patient according to standard protocols. Then insert the device back pad between the patient and backboard.
 - If the device cannot be positioned correctly on the patient or fails to operate, remove the device and perform CPR unaided.

POSSIBLE DEVICE FAILURE: Do not modify the TrueCPR device.

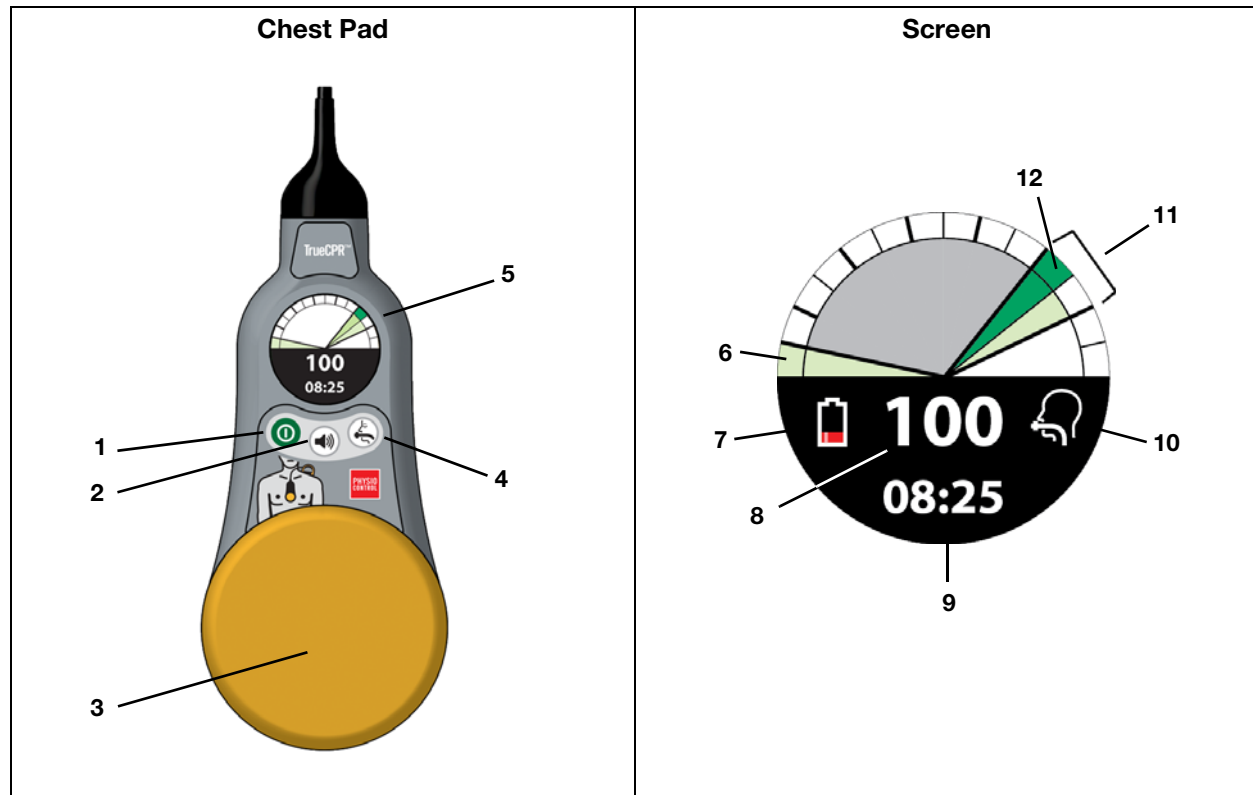
POSSIBLE ELECTRICAL INTERFERENCE WITH DEVICE PERFORMANCE: Equipment operating in close proximity may emit strong electromagnetic or radio frequency interference (RFI), which could affect the performance of this device. Avoid operating the device near cauterizers, diathermy equipment, or other portable and mobile RF communications equipment. See “Separation Distances” on page 21 for recommended distances of equipment. Contact Physio-Control Technical Support if assistance is required.

POSSIBLE EXPLOSION HAZARD: Do not use this device in the presence of flammable gases or anesthetics.

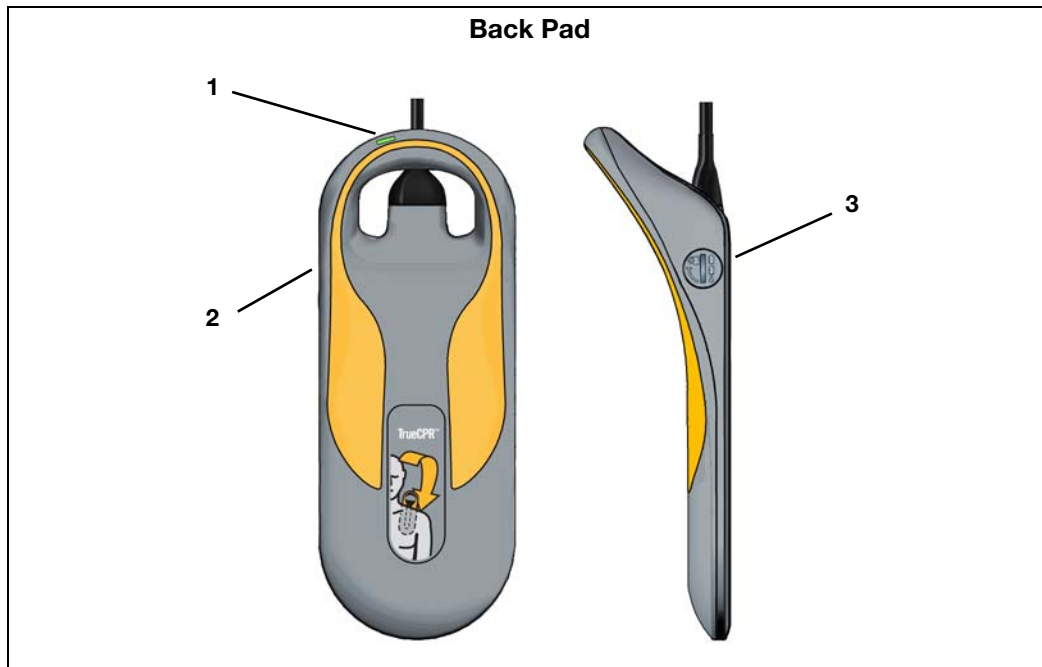
* The TrueCPR device has been designed for use on hospital beds, stretchers, gurneys, and in ambulances. The device is compatible with common patient-worn or implanted metal, such as jewelry, ICDs, or pacemakers.

IMPORTANT! Check the battery readiness indicator regularly. If indicator is not flashing, replace batteries immediately.

Basic Orientation



Item	Description
1	Power Button: Press green button to turn device on. Press and hold for 2 seconds to turn device off.
2	Mute Button: Press to turn metronome on or off. In Event Review mode, press to switch between screens.
3	Palm Pad: Hand placement area.
4	Airway Button: Press to switch metronome between Airway (continuous compressions) mode and No Airway mode.
5	Screen: Displays compression feedback and other indicators.
6	Recoil Target Zone: Changes from light green to dark green when compression is completely released.
7	Low Battery Indicator: Appears when remaining battery capacity is less than 25 minutes of operation.
8	Compression Rate Meter: Displays rate as compressions per minute. Changes to Inactivity Timer when compressions stop.
9	Elapsed Time Meter: Displays elapsed time since beginning of event.
10	Airway Indicator: Appears when device is in Airway mode.
11	Compression Target Zone: Changes from light green to dark green when compression reaches target depth of 5–6 cm (2–2.4 in).
12	Compression Depth History: Dark green or gray segment in outer circle shows depth of previous compression.



Item	Description
1	Battery Readiness Indicator: Flashing LED on back pad handle indicates battery capacity is sufficient for at least 25 minutes of operation. Note: LED flashes approximately once every 4 seconds.
2	USB Port Cover: Provides access to USB port. Use a coin or similar tool to open.
3	Battery Compartment: Holds two nonrechargeable Duracell® DL123 batteries. Use a coin or similar tool to open.

Using the TrueCPR Device

Performing CPR

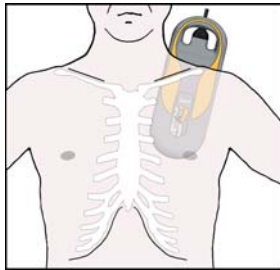
To use the TrueCPR device:

- 1 Confirm patient is in cardiac arrest.
- 2 Remove the device from the carrying bag.
- 3 Separate the chest pad and back pad.
- 4 Press the **ⓘ (POWER)** button to turn the device on. The calibration screen appears.

IMPORTANT! Do not press on the chest pad until calibration is complete and feedback screen appears (approximately 3 seconds).

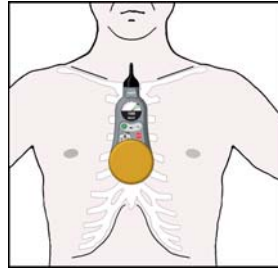
- 5 Position the back pad beneath the patient as shown in Figure 1. This helps the back pad stay in position. The back pad may be placed on either side of the patient.
- 6 Dry chest if necessary to prevent the chest pad from slipping.
- 7 Place the chest pad so that the palm pad is in the middle of the chest, on the lower half of the sternum.

Figure 1 Recommended Device Position



Back Pad in Vertical Position

AND

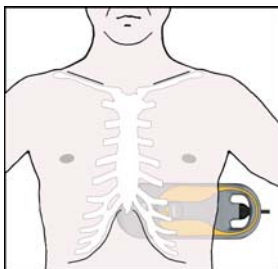


Chest Pad in Vertical Position

Notes:

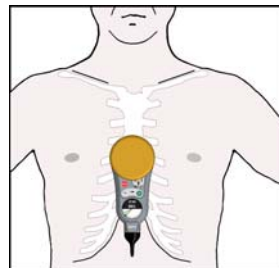
- If the Reposition Back Pad alert indicator appears, adjust the back pad position. See “Alert Indicators” on page 9 for more information. If the Reposition Back Pad alert persists, perform CPR unaided.
- If the device cannot be placed in the recommended position, the alternative position shown in Figure 2 may be used. When the back pad is placed in the side position, the chest pad **must** be rotated 180°. Keep the palm pad in the middle of the chest on the lower half of the sternum. If the device cannot be positioned properly, perform CPR unaided.

Figure 2 Alternative Device Position



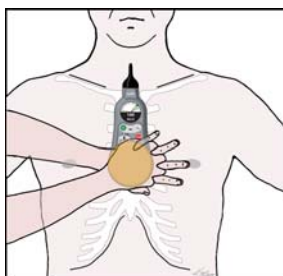
Back Pad in Side Position

AND



Chest Pad in Rotated Position

- 8 Place the heel of your hand on the palm pad and begin compressions in time with the metronome. Be sure to maintain correct CPR hand position and release each compression completely.




Using the TrueCPR Device

WARNING

POSSIBLE INEFFECTIVE CPR: If the screen on the TrueCPR device is unreadable, unresponsive, or otherwise visibly damaged, do not use the device. Perform CPR unaided instead.

9 Follow the device metronome to maintain your compression rhythm.

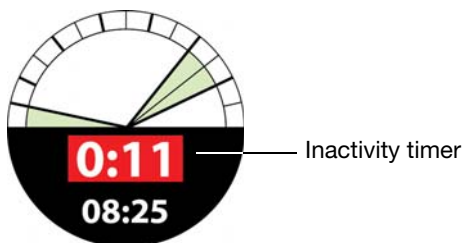
Note: To silence the metronome, press the  (MUTE) button.


10 Observe the screen for depth feedback and any alert indications. Adjust your technique based on the feedback. See the screen illustrations beginning on page 8 for descriptions of the feedback.

11 Provide rescue breaths when prompted by the ventilation screens and tones. Three short tones indicate when you should prepare to ventilate. Two longer tones indicate when ventilations should occur. Resume chest compressions immediately after the two longer tones.

Note: When in No Airway mode, the device provides ventilation prompts at a ratio of 30 compressions to 2 ventilations (30:2). When in Airway mode, ventilation prompts are not provided. See “Using the TrueCPR Device with Secured Airway” on page 6 for more information.

12 Continue CPR as long as indicated by your local protocols. When compressions stop, the inactivity timer appears in place of the compression rate meter. If compressions resume within 10 minutes, compression feedback resumes. The device turns off automatically after 10 minutes with no activity.




13 To turn the device off, press and hold the  (POWER) button for 2 seconds.

Using the TrueCPR Device on a Mattress

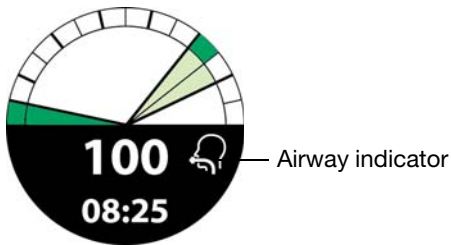
If the patient is on a mattress, place a backboard beneath the patient according to standard protocols. Then insert the TrueCPR device back pad between the patient and backboard.

Using the TrueCPR Device with Secured Airway

When the TrueCPR device turns on, it defaults to No Airway mode. Ventilation prompts are provided at a ratio of 30 compressions to 2 ventilations (30:2). If an artificial airway is in place, press the  (AIRWAY) button to switch the device to Airway (continuous compressions) mode.

The following two changes occur when the device is switched to Airway mode.

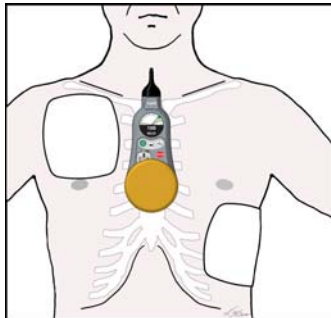
- The airway indicator appears on the screen.
- Ventilation prompts are not provided.



Each time you press the **AIRWAY** button, the device switches between Airway mode and No Airway mode.

Using the TrueCPR Device During Defibrillation

It is acceptable to keep the TrueCPR device on the patient during defibrillation. Observe the following precautions:



- Position the chest pad and defibrillator electrodes as shown.
- Do not touch the TrueCPR device during defibrillation.
- Do not apply defibrillator electrodes on top of the TrueCPR device cable.

Using the TrueCPR Device on Patients with Sternal Incisions

Establish and follow local protocols for use of the TrueCPR device on patients with sternal incisions or injuries.

Using the TrueCPR Device on Patients with Implantable Devices

The magnetic fields used by the TrueCPR device have passed all interaction testing and known safety standards for implanted pacemaker and ICD systems.

Using the TrueCPR Device for Training

The TrueCPR device may be used on a manikin for training purposes. Some manikins may require updates to reach compression depths of 5 to 6 cm (2 to 2.4 in), consistent with AHA and ERC guidelines. You can use a manikin that does not allow these depths, but the TrueCPR device will not reach the compression target zone.

Note: The Reposition Back Pad indicator (see page 9) may appear if the manikin contains large metal plates.

Screen Illustrations

Calibration Screen

When you turn on the TrueCPR device, the calibration screen appears.



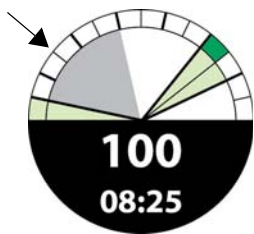
- Calibration in progress.
- Do not apply pressure to chest pad.
 - Ensure chest pad and back pad are separated during calibration.



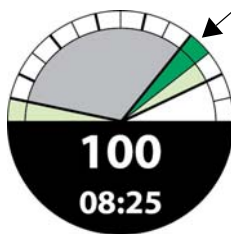
Calibration complete.
Begin chest compressions.

Compression Indicators

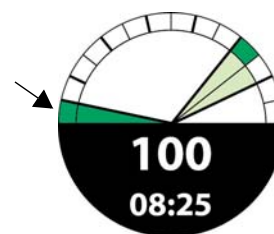
During compressions, the gray fan moves between the recoil zone and compression zone as shown.



Compression in progress:
Gray fan representing compression depth moves across screen.



Sufficient depth: Dark green wedge in compression target zone.

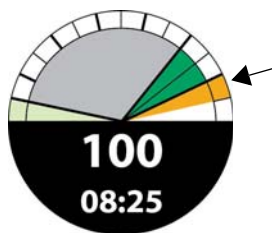


Sufficient recoil: Dark green wedge in recoil target zone.

Incorrect Compression Indicators



Compression too shallow:
Arrow appears.



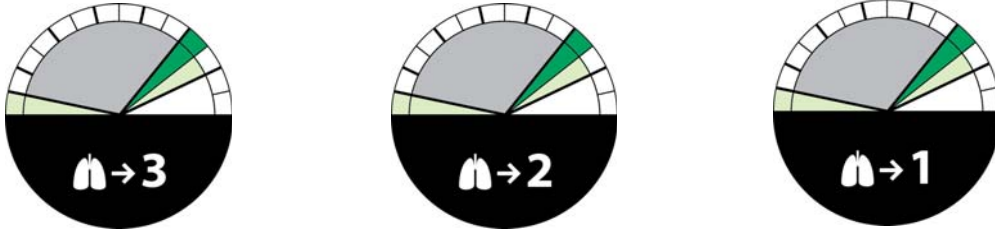
Compression > 6 cm:
Orange wedge appears outside compression target zone.



Recoil incomplete:
Arrow appears.

Rescue Breath Indicators and Tones

In No Airway mode, the device provides a countdown screen and tones to indicate when you should prepare to give rescue breaths. The countdown is followed by two ventilation prompts. The compression to breath ratio is 30:2.



Countdown to ventilation prompts. Three short tones sound.



Ventilation prompts. Two long tones indicate when ventilations should occur. Resume chest compressions immediately after the two tones.

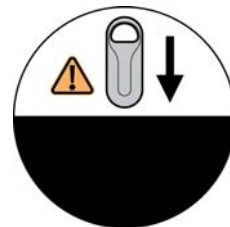
Alert Indicators



Electronic noise is interfering with device. Locate and remove source of interference. If indicator persists, perform CPR unaided.



Device cannot provide feedback. Turn device off and back on. If indicator persists, perform CPR unaided.



Back pad is incorrect distance from chest pad. Reposition back pad. If indicator persists, perform CPR unaided.




Shut-down Screen



Progress bar appears during shut-down.

Note: Shut-down may take several minutes. Do not remove batteries while shut-down is in progress.

Event Review Screens

Two event review screens display data for the most recent device use. To display the event review screens, start with the device turned off. Press the  (AIRWAY) and  (POWER) buttons simultaneously to turn the device on in Event Review mode. To switch between the screens, press the  (MUTE) button.



Percent of compressions with depth > 5 cm (2 in).

Percent of compressions with proper recoil.

Average compression rate (compressions per minute).



Total event duration.

Percent of total event with compressions.

Troubleshooting Tips

These troubleshooting tips provide immediate corrective actions for possible problems. If a problem persists, contact your local Physio-Control representative for assistance. In the USA, call Technical Support at 800.442.1142.

OBSERVATION	CORRECTIVE ACTION
No audible metronome.	<ul style="list-style-type: none"> • Use compression rate meter for guidance.
Device does not function.	<ul style="list-style-type: none"> • Only use device within specified operating temperature range of 0°–40°C (32°–104°F). • Remove batteries, wait 30 seconds, and then re-install batteries. • Perform CPR unaided.
Display is visible, but does not provide compression feedback.	<ul style="list-style-type: none"> • Turn device off and back on. Do not apply pressure to chest pad until calibration is complete and feedback screen appears. • Perform CPR unaided.
Alert indicator persists.	<ul style="list-style-type: none"> • Turn device off and back on. If indicator persists, perform CPR unaided. • Contact Technical Support or your local Physio-Control representative for assistance.

Data Management

The TrueCPR device can store compression data for three 60-minute sessions, or up to six sessions totaling 180 minutes. When all available memory has been used, the data from the oldest use is overwritten automatically.

Data can be transferred to a computer with TrueCPR device-compatible software via USB connection. Event reports can be printed directly from the software. For information on TrueCPR device reports and full event review functionality, contact your local Physio-Control representative.

WARNINGS

SHOCK HAZARD:

- To avoid potential shock hazard, any device connected to the TrueCPR device through the USB connector should be battery powered or certified to IEC 60601-1.
- Do not use the USB connector if the TrueCPR device is damaged.

POSSIBLE ELECTRICAL INTERFERENCE:

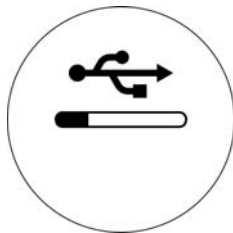
Using cables or accessories that are not specified for use with the TrueCPR device may result in increased emissions or decreased immunity from electromagnetic or radio frequency interference (RFI) for this device. This could affect the performance of the TrueCPR device or equipment in close proximity. Use only cables and accessories specified in these instructions for use.

To initiate data transfer:

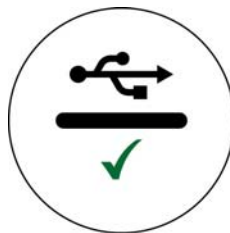
- 1 Connect a USB cable between the TrueCPR device and a computer with compatible software.

Note: Use only a USB cable that meets the following specifications: USB 2.0 A-Male to Mini-B 5-pin Male, 28/24 AWG cable with ferrite core (gold plated), 1 m (3 ft).

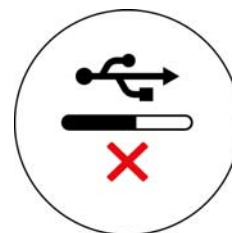
- 2 Turn on the TrueCPR device. If the software on the computer does not start automatically, open the program manually.
- 3 Follow the instructions in the software on the computer to select the TrueCPR device and initiate data transfer. Data transfer may take up to 5 minutes if memory is full. The following screens may appear on the TrueCPR device:



Data transfer in progress.



Data transfer successful.



Data transfer failed.

Cleaning the Device

Troubleshooting Tips for Data Management

OBSERVATION	CORRECTIVE ACTION
Feedback screen appears on TrueCPR device and metronome is heard.	<ul style="list-style-type: none">• Confirm USB cable is properly connected.• Confirm computer is on.• Replace USB cable.• Use recommended USB cable (see Step 1 on page 13).
Data Transfer Failed screen appears.	<ul style="list-style-type: none">• Turn TrueCPR device off and check connections. Then turn device on and attempt data transfer again.• If problem persists, contact Technical Support.

Cleaning the Device

The TrueCPR device should be cleaned and inspected after each use.

- 1 Clean the device with a sponge or cloth that has been dampened with one of the cleaning agents shown below:
 - Quaternary ammonium compounds
 - Hydrogen peroxide, 3% solution
 - Sodium dichloroisocyanurate (NaDCC), 3000 ppm solution
 - Chlorine bleach, 1:10 dilution with water
- 2 Inspect the device and cable for wear or damage. Remove from service if damaged.
- 3 After cleaning, wipe off solution with a clean, damp cloth.

IMPORTANT! Do not immerse or soak the chest pad or back pad.

Storing the Device

Place chest pad onto back pad. Store in carrying bag so that battery readiness indicator is visible.

CAUTION

POSSIBLE DEVICE DAMAGE: If the TrueCPR device will be stored for an extended period of time, remove the batteries to prevent possible damage due to battery leakage.

Maintaining and Recycling the Device

Maintenance

The TrueCPR device and cable should be inspected regularly as part of your routine equipment inspections. See the Operator's Checklist on page 12 for instructions.

Battery Replacement

Use only Duracell DL123 batteries for reliable performance.

WARNING

POSSIBLE LEAK, FIRE, OR EXPLOSION:

- Do not disassemble, puncture, crush, heat above 100°C (212°F), or incinerate the batteries.
- Do not use rechargeable batteries in the TrueCPR device. Use only nonrechargeable Duracell DL123 batteries.
- Replace both batteries at the same time with new Duracell DL123 batteries. Do not mix partially discharged and new batteries.

To replace the batteries, use a coin or similar tool to open the battery compartment door. Remove the old batteries, wait 30 seconds, and then insert new batteries as shown in the diagram on the compartment door. Close the compartment door securely.

Note: If the battery readiness indicator does not flash after the batteries are replaced, perform the following corrective actions.

- Verify batteries are installed correctly.
- Remove batteries, wait 30 seconds, and then re-install batteries.
- Turn device on and look for low battery indicator on screen. If low battery indicator does not appear, battery readiness indicator may be faulty. Contact Technical support or your local Physio-Control representative for assistance.

Service and Repair

The TrueCPR device contains no serviceable parts. If the device does not function correctly, contact your local Physio-Control representative for assistance.

Service Life

During product development, the TrueCPR coaching device is subjected to rigorous life testing. However, both rapid technological changes and the availability of replacement parts limit the useful life of all modern medical devices. The routine cleaning and inspection program recommended in this manual will assist in reliable operation.




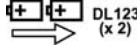










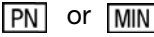
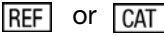




Recycling the Device and Batteries

Recycle the device and batteries according to national and local regulations. For instructions on disposing of this product, see www.physio-control.com/recycling or contact your local Physio-Control representative.

Symbols

Symbols

The following symbols may be found on the TrueCPR device or packaging.

SYMBOL	DESCRIPTION
	Power button
	Mute button
	Airway button
	Device requires two Duracell DL123 batteries (nonrechargeable)
	Operating temperature 0° to 40°C (32° to 104°F)
	Defibrillation proof, type BF applied part
	Attention, consult accompanying documents. (Symbol has blue background and graphical symbol is white.)
	Do not step on the device.
	Do not sit on the device.
	Do not dispose of this product in the unsorted municipal waste stream. Dispose of this product according to local regulations. For instructions on disposing of this product, see www.physio-control.com/recycling .
IP55	Enclosure ingress protection code per IEC 60529. This rating provides for a specified degree of protection against the ingress of particles and the harmful ingress of water.
	Device includes RF transmitter.
	Mark of conformity according to the European Medical Device Directive 93/42/EEC
	Mark of conformity to Canadian and US standards
	Mark of conformity to ACA standards
	Manufacturer's identification number (part number)
	Catalog number
	Serial number
	Date of manufacture
	Manufacturer
	Authorized EC representative

Product Specifications

SPECIFICATION	DESCRIPTION
Power Requirements	Batteries: 2 Duracell nonrechargeable DL123 cells
Operating Time	180 minutes at room temperature with new batteries
Operating Temperature	Device can be used at 0° to 40°C (32° to 104°F). Applied part temperature may reach 43°C (109°F) during extended use at ambient temperature of 40°C (104°F).
Shelf Life	Provides 30 minutes of CPR feedback after 24 months without use at 25°C (77°F), starting with new batteries installed.
Storage Temperature	-30° to 70°C (-22° to 158°F)
Relative Humidity	5 to 90%, non-condensing
Altitude	-382 to 4,572 m (-1,253 to 15,000 ft)
Object and Water Resistance	IP55 per IEC 60529 and EN 1789
Weight	Less than 0.75 kg (1.65 lb) with batteries installed
Ventilation Prompts	2 ventilation prompts every 30 compressions in No Airway mode. No ventilation prompts in Airway mode.
Compression Depth	Target depth range of 5 to 6 cm (2 to 2.4 in)
Metronome Rate	104.4 ± 1 compressions per minute, consistent with AHA and ERC guidelines.
Model	80596-000001

Safety Classifications

CATEGORY	CLASSIFICATION
Protection Against Electric Shock	Internally powered ME equipment. Type BF defibrillation proof applied parts.*
Protection Against Solid Object and Liquid Ingress	IP55
Mode of Operation	Continuous operation

* Type BF defibrillation proof applied parts are the underside of the chest pad and the top of the back pad. See page 16 for symbol illustration.

Electromagnetic Compatibility Guidance

Electromagnetic Emissions

Table 1 Guidance and Manufacturer’s Declaration - Electromagnetic Emissions

The TrueCPR coaching device, model 80596-000001, is intended for use in the electromagnetic environment specified below. The customer or user should ensure that the TrueCPR device is used in such an environment.		
Emissions Test	Compliance	Electromagnetic Environment - Guidance
RF emissions CISPR 11	Group 1	The TrueCPR device uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The TrueCPR device is suitable for use in all establishments including domestic and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes. The TrueCPR device is battery-powered.
Harmonic emissions IEC 61000-3-2	Not applicable	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Not applicable	

The TrueCPR device emits a continuous wave signal at 12 ± 0.1 kHz. The maximum Effective Isotropic Radiated Power (EIRP) and Effective Radiated Power (ERP) levels are -40 dBm, measured at a distance of 3 m (10 ft).

Essential Performance

The TrueCPR device maintains safe and effective performance (accurate depth and recoil) when operated in the electromagnetic environment specified in Table 2 through Table 4.

Electromagnetic Immunity

Table 2 Guidance and Manufacturer’s Declaration - Electromagnetic Immunity

The TrueCPR device, model 80596-000001, is intended for use in the electromagnetic environment specified below. The customer or user should ensure that the TrueCPR device is used in such an environment.			
Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment - Guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	Floors should be wood, concrete, or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/ burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/ output lines	Not applicable	The TrueCPR device is battery-powered.
Surge IEC 61000-4-5	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	Not applicable	The TrueCPR device is battery-powered.

Table 2 Guidance and Manufacturer’s Declaration - Electromagnetic Immunity (Continued)

The TrueCPR device, model 80596-000001, is intended for use in the electromagnetic environment specified below. The customer or user should ensure that the TrueCPR device is used in such an environment.			
Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment - Guidance
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% U_T (>95% dip in U_T) for 0.5 cycle 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles <5% U_T (>95% dip in U_T) for 5 sec	Not applicable	The TrueCPR device is battery-powered.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
Note: U_T is the AC Mains voltage prior to application of the test level.			


Table 3 Guidance and Manufacturer’s Declaration - Electromagnetic Immunity

The TrueCPR device, model 80596-000001, is intended for use in the electromagnetic environment specified below. The customer or user should ensure that the TrueCPR device is used in such an environment.			
Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment - Guidance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz–80 MHz	3 Vrms	Portable and mobile RF communications equipment should be used no closer to any part of the TrueCPR device, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d = 1.2\sqrt{P}$

Electromagnetic Compatibility Guidance

Table 3 Guidance and Manufacturer's Declaration - Electromagnetic Immunity (Continued)

The TrueCPR device, model 80596-000001, is intended for use in the electromagnetic environment specified below. The customer or user should ensure that the TrueCPR device is used in such an environment.

Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment - Guidance
Radiated RF IEC 61000-4-3	3 V/m 80 MHz–2.5 GHz	3 V/m	$d = 1.2\sqrt{P}$ 80 MHz to 800 MHz $d = 2.3\sqrt{P}$ 800 MHz to 2.5 GHz Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, ^a should be less than the compliance level in each frequency range. ^b Interference may occur in the vicinity of equipment marked with the following symbol: 

Note 1: At 80 MHz and 800 MHz, the higher frequency range applies.

Note 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

^a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the TrueCPR device is used exceeds the applicable RF compliance level above, the TrueCPR device should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the TrueCPR device.

^b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Separation Distances

Table 4 Recommended separation distances between portable and mobile RF communications equipment and the TrueCPR device, model 80596-000001.

The TrueCPR device is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or user can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the TrueCPR device as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter (W)	Separation distance according to frequency of transmitter (m)		
	150 KHz to 80 MHz $d = 1.2 \sqrt{P}$	80 MHz to 800 MHz $d = 1.2 \sqrt{P}$	800 MHz to 2.5 GHz $d = 2.3 \sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be determined using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

Note 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

Note 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Regulatory Compliance Information

Federal Communications (FCC) Compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

WARNING
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Hereby, Physio-Control declares that the radio equipment type TrueCPR Coaching Device is in compliance with Directive 2014/53/EU. The full test of the EU declaration of conformity is available at the following internet address: www.physio-control.com/EUDoC



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