



**PHILIPS**

Cardiac Resuscitation

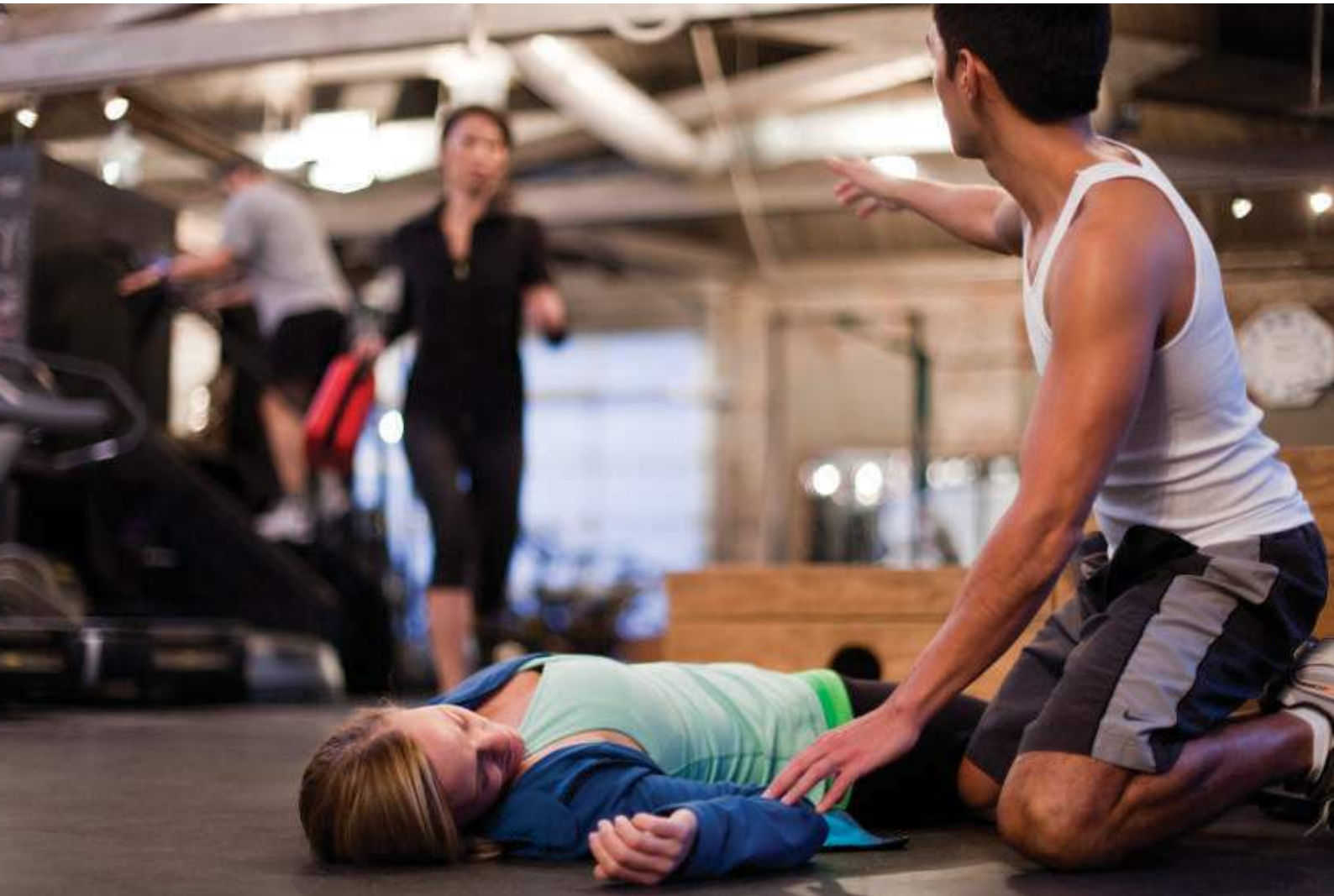
HeartStart OnSite

**Lead the way  
to save a life**

Philips HeartStart OnSite defibrillator

# For the **extraordinary** moment

With access to the right equipment and support, everyone can help save a life. Philips HeartStart OnSite defibrillator with Life Guidance acts as your personal coach to guide you through a cardiac emergency with a simple, step-by-step process. Adaptive instructions keep you on track, and intelligent sensors automatically deliver the right therapy, helping give you the confidence to lead the way to save a life.





# Ready to act. Ready to go.

Designed for the ordinary person in the extraordinary moment, OnSite is ready to act and ready to go. It allows virtually anyone to treat the most common cause of sudden cardiac arrest (SCA) by delivering a shock quickly and effectively, wherever SCA happens.

## Guides you through every step

Just pull the green handle to activate your OnSite defibrillator, and Life Guidance voice instructions will calmly and clearly guide you through the entire process – from placing each pad on the patient to performing cardiopulmonary resuscitation (CPR) and delivering a defibrillation shock. It even guides you on the frequency and depth of chest compressions, as well as breaths.

## Use OnSite to train

To give you confidence in your ability, you also can install a special pads cartridge that temporarily turns your OnSite defibrillator into a trainer, or watch our collection of videos that describe every aspect of the defibrillator.

## Virtually ready to use out of the box

With OnSite's Ready-Pack, you can enjoy peace of mind knowing your OnSite is deployed correctly and is ready to go when needed.

- Arrives with the SMART Pads cartridge and battery already installed
- Is positioned inside the carry case with a spare SMART Pads cartridge in place
- Just pull the green tab to launch the initial self-test
- Conducts 85 automatic self-tests daily, weekly, and monthly, including testing the pads



A simple, step-by-step process with clear, adaptive voice instructions empowers even the most inexperienced responders.

## What's the impact?

In the United States, it is estimated that SCA outpaces deaths from breast cancer, prostate cancer, house fires, traffic accidents, and HIV combined.<sup>1-4</sup> Yet there is hope. Over half the victims of the most common cause of SCA can survive when treated early with CPR and shock from a defibrillator.<sup>5</sup>

# Save time. **Save lives.**

When someone experiences SCA, you should act quickly, but calmly. To help you remain calm and focused, we've equipped OnSite with integrated SMART Pads. Just place the SMART Pads on the person's bare skin, and they will provide feedback to the AED so it can adapt its voice instructions to your actions and your pace. The SMART Pads sense when they have been placed on the patient and when you've completed each step. The system won't announce the next step until you are ready. Prompts are repeated and rephrased, and include additional instruction to aid understanding. You don't need to worry about feeling rushed, overwhelmed, or slowed down.

## Fast, confident shock delivery

Studies show that minimizing time to shock after CPR may improve survival.<sup>6-10</sup> With patented Quick Shock, OnSite is among the fastest in its class at delivering shock treatment after CPR — typically in just eight seconds.



Weighing just 1.5 kg (3.3 lbs), the HeartStart OnSite defibrillator is small and lightweight.

# Personalized therapy. Enhanced care.

OnSite is designed for use on anyone, with features that personalize therapy. SMART Analysis automatically assesses the person's heart rhythm and will only deliver a shock if it is needed — even if the Shock button is pressed. You don't need to worry about shocking someone unnecessarily.



When used on infants and children, the system senses when the special Infant/Child SMART Pads cartridge is installed and automatically adjusts to a lower energy level.\* It also provides coaching for performing infant/child CPR.

## How easy is it?

OnSite is made for people who have never used a defibrillator before. The first and only AED available without a prescription, it is designed to be the easiest to set up and use, and the most reliable defibrillator available. OnSite's ease-of-use was unsurpassed in four different published studies.<sup>11-14</sup>



## Establishing a successful program

As the world leader in AEDs, we're also a leader in providing products and services designed to help you establish and maintain a successful AED program. Smart Track, our web-based AED and accessory management tool, helps you keep track of your devices, and can even send an automatic email when it is time to replace pads or batteries. You can also choose to use our medical direction services to provide advice on your AED program and write any necessary prescriptions for pediatric pads cartridges.\* In addition, we offer access to training providers and post-event support.

\* The Infant/Child SMART Pads cartridge is sold separately, and is available only under the order of a physician, by prescription only.

# Answers for your questions

## Sudden Cardiac Arrest

### Q: What causes SCA?

A: SCA occurs when the electrical system of the heart becomes chaotic, causing it to stop beating effectively. Lacking proper blood flow, the person becomes unresponsive and stops breathing normally. CPR is important, but it alone cannot restore a normal heart rhythm. A shock from a defibrillator is the most effective way to restore the heart's normal pumping rhythm.

## Technique

### Q: What if I don't know the proper technique?

A: OnSite's Life Guidance will lead you through all the steps, and special sensors in the pads will provide feedback so that the instructions are tailored to you.

### Q: How soon must the defibrillator shock be administered?

A: The person's best chance of survival is to receive that shock within five minutes of collapse. A defibrillator will not save every person who experiences SCA, but more lives could be saved if those affected were reached more quickly. Your quick response makes a real difference.

### Q: How do I know if a shock is needed?

A: The defibrillator assesses the patient's heart rhythm. If a shock is advised, it directs you to press the flashing orange Shock button. If the defibrillator determines that a shock is not called for, you cannot deliver a shock, even if you press the Shock button.

### Q: What if I don't know where to put the pads?

A: The SMART Pads cartridge contains two adhesive pads that have pictures on them to show you where to place the pads on the person's bare skin, and voice instructions will remind you to look at the pictures. The pads are "smart" because they sense when they have been removed from the cartridge, peeled from their liners, and applied to the patient, causing the voice instruction to adjust to your actions.

### Q: What do I tell the professionals when they arrive?

A: They will know what questions to ask you. If an Emergency Medical Services (EMS) responder needs a summary of care, it can be retrieved from the defibrillator's internal memory. The EMS provider simply presses the i-button, and OnSite will verbally recount events from its last clinical use.

## Technology

### Q: How does OnSite assess heart rhythm?

A: OnSite includes highly proven Philips technology for heart rhythm assessment, called SMART Analysis. SMART Analysis is a sophisticated algorithm that simultaneously evaluates several attributes of a person's heart rhythm to determine if the rhythm is shockable.

### Q: How does OnSite know how much energy to deliver?

A: A technology called SMART Biphasic Impedance Compensation helps OnSite deliver the right amount of current and energy. Smart Biphasic is the first biphasic therapy with sufficient evidence to be classed "standard of care" and "intervention of choice" by the American Heart Association. SMART Analysis and SMART Biphasic's effectiveness are backed by over 40 published, peer-reviewed studies.<sup>15</sup>

## Training

### Q: Is training available?

A: Yes. A special training SMART Pads cartridge can be installed in the defibrillator. It disables the defibrillator's ability to shock, while walking you through patient care scenarios. We also offer easily accessible, online training that discusses everything from setting up an AED program to replacing your defibrillator's battery.

## Expertise

### Q: What is Philips background in defibrillators?

A: We are the worldwide leader in automated external defibrillators (AEDs), having shipped over 1.25 million AED units. Our AEDs are on the job, having logged over 50 billion daily self-tests. We make defibrillators that are used by healthcare professionals every day. While OnSite is designed for anyone to use, it has the same ability to start a heart as our AEDs that are designed for expert use.



# HeartStart OnSite defibrillator specifications

## Defibrillator

Defibrillator family	HS1. Order M5066A
Standard configuration	Defibrillator, battery, adult SMART Pads cartridge (1 set), Setup and Maintenance Guides, Owner's Manual, Quick Reference Guide, date sticker
HeartStart OnSite Ready-Pack configuration	Order option R01. Defibrillator, battery, carry case, adult SMART Pads (1 pre-installed set, 1 spare set), Setup and Maintenance Guides, Owner's Manual, Quick Reference Guide, date sticker
Waveform	Truncated Exponential Biphasic; waveform parameters adjusted as a function of each patient's impedance
Therapy	Adult defibrillation: peak current 32 A (150 J nominal into a 50-ohm load) Pediatric defibrillation with optional Infant/Child SMART Pads cartridge installed: peak current 19 A (50 J nominal into 50-ohm load)
Shock-to-shock cycle time	Typically less than 20 seconds between shocks in a series
Quick Shock	Able to deliver a shock after the end of a CPR interval, typically in 8 seconds
Voice instructions	Detailed voice messages guide responder through use of the defibrillator
CPR coaching	Instructions for adult or infant/child CPR available at user's option
Shock delivery	Via adhesive pads placed on patient's bare skin as illustrated on pads
Controls	Green SMART Pads cartridge handle, green On/Off button, blue i-button, orange Shock button
Indicators	Ready light; blue i-button; caution light, Shock button lights up when shock is advised

## Physical

Size	7 cm x 19 cm x 21 cm (2.8" x 7.4" x 8.3") D x H x W
Weight	With battery and pads cartridge: 1.5 kg (3.3 lbs.) Without battery or pads cartridge: 1 kg (2.4 lbs.)

## Environmental/physical requirements

Sealing	Solid objects per EN60529 class IP2X Drip-proof per EN60529 class IPX1
Temperature	Operating: 0° – 50° C (32° – 122° F) Standby: 10° – 43° C (50° – 109° F)
Humidity	Operating: 0% to 95% relative, non-condensing Standby: 0% to 75% relative, non-condensing
Altitude	Operating: 0 to 15,000 feet Standby: 0 to 8,500 feet > 48 hours and 8,500 to 15,000 feet < 48 hours
Shock/drop abuse	Withstands one-meter drop to any edge, corner or surface
Vibration	Meets EN1789 random and swept sine, road ambulance specification in operating and standby states
EMI (radiated/immunity)	Meets EN55011 Group 1 Level B Class B and EN61000-4-3

## Data recording and transmission

Infrared	Wireless transmission of event data to a Smartphone or PC, using the IrDA protocol
Data stored	First 15 minutes of ECG and the entire incident's events and analysis decisions

## Patient analysis system

Patient analysis	Evaluates patient ECG to determine if a rhythm is shockable. Rhythms considered shockable are ventricular fibrillation (VF) and certain ventricular tachycardias (VT) associated with lack of circulation. For safety reasons, some VT rhythms associated with circulation will not be interpreted as shockable, and some very low-amplitude or low-frequency rhythms will not be interpreted as shockable VF.
Quick Shock	Able to deliver a shock after the end of a CPR interval, typically in 8 seconds
Sensitivity/specificity	Meets AAMI DF80 guidelines and AHA recommendations for adult defibrillation (Circulation 1997;95:1677-1682)
Artifact detection	The effects of pacemaker artifact and electrical noise are minimized

## Battery (M5070A)

Type	9 Volt DC, 4.2 Ah, composed of disposable long-life lithium manganese dioxide primary cells
Capacity	Minimum 200 shocks or 4 hours of operating time (EN 60601-2-4:2003)
Install-by date	Battery is labeled with an install-by date of at least 5 years from date of manufacture
Standby life	Four years typical when battery is installed by the install-by date (will power the AED in standby state within the specified standby temperature range, assuming 1 battery insertion test and no defibrillation uses)

## SMART Pads

Adult SMART Pads cartridge	M5071A defibrillation pads for patients 8 years of age and older or 25 kg (55 lbs.) and over
Infant/Child SMART Pads cartridge	M5072A defibrillation pads for patients under 8 years of age or 25 kg (55 lbs.); by prescription only
Active surface area	85 cm <sup>2</sup> (13.2"²) each
Cable length	Adult SMART Pads: 137.1 cm (54") Infant/Child SMART Pads: 101.6 cm (40")
Use-by date	Cartridge is labeled with a use-by date of at least 2 years from date of manufacture

## Training SMART Pads

M5073A	Adult Training SMART Pads cartridge
M5074A	Infant/Child Training SMART Pads cartridge
Function	Training SMART Pads cartridges feature 8 real-world training scripts; used with training mat (included) or with adapters on manikins

## Automated and user-activated self-tests

Daily automatic self-tests	Tests internal circuitry, waveform delivery system, pads cartridge, and battery capacity
Pads integrity test	Specifically tests readiness-for-use of pads (gel moisture)
Battery insertion test	Upon battery insertion, extensive automatic self-tests and user-interactive test check device readiness
Status Indicators	Blinking green "Ready" light indicates ready for use; audible "chirp" indicates need for maintenance

\* Refer to the HeartStart OnSite Defibrillator Owner's Manual for detailed product instructions. All specifications based on 25° C unless otherwise noted. The defibrillator and its accessories are made of latex-free materials.

1. Go AS, Mozaffarian D, Roger VL, et al. Heart disease and stroke statistics — 2013 update: A report from the American Heart Association. *Circulation*. Published online December 12, 2012.
2. CDC National Vital Statistics Report, Vol. 60, No. 3, Dec. 29, 2011.
3. CDC Fire Deaths and Injury Fact Sheet.
4. 2011 U.S. Breast Cancer Statistics, [www.breastcancer.org](http://www.breastcancer.org).
5. 2010 European Resuscitation Council Guidelines. *Resuscitation* 2010;81:1277-1292.
6. Yu T, et al. Adverse Outcomes of Interrupted Precordial Compression During Automated Defibrillation. *Circulation* 2002;106:368-372.
7. Eftesol T, Sunde K, Steen PA. Effects of Interrupting Precordial Compressions in the Calculated Probability of Defibrillation Success During Out-of-Hospital Cardiac Arrest. *Circulation* 2002;105:2270-2273.
8. Snyder DE and Morgan C. Wide Variations in Cardiopulmonary Resuscitation Intervals Among Commercially Available Automated External Defibrillators May Affect Survival Despite High Defibrillation Efficacy. *Critical Care Medicine* 2004;32(9) Supplement:S421-S424.
9. American Heart Association Guidelines 2010. *Circulation* 2010;122:S706-S719.
10. Edelson D, et al. Effects of compression depth and pre-shock pauses predict defibrillation failure during cardiac arrest. *Resuscitation* 2006;71:137-145.
11. Andre A, et al. Automated External Defibrillator Use by Untrained Bystanders: Can the Public-use Model Work? *Prehospital Emergency Care* 2004;8:284-291.
12. Mosesso Jr. V, et al. Effects of AED device features on performance by untrained laypersons. *Resuscitation* 2009;80:1285-1289.
13. Fleischhackl R, et al. Differing operational outcomes with six commercially available automated external defibrillators. *Resuscitation* 2004;62:167-174.
14. Eames P, et al. Comparison of ease of use of three automated external defibrillators by untrained lay people. *Resuscitation* 2003;58:25-30.
15. Philips Medical Systems. SMART Biphasic Studies, listed alphabetically by study author: [http://www.healthcare.philips.com/au\\_en/products/resuscitation/biphasic\\_technology/references.wpd](http://www.healthcare.philips.com/au_en/products/resuscitation/biphasic_technology/references.wpd)

© 2015 Koninklijke Philips N.V. All rights are reserved.

Philips Healthcare reserves the right to make changes in specifications and/or to discontinue any product at any time without notice or obligation and will not be liable for any consequences resulting from the use of this publication.



Please visit [www.philips.com/OnSite](http://www.philips.com/OnSite)

Printed in The Netherlands.  
4522 991 09651 \* FEB 2015