

Medical Policies



Policy E-9003

Number:

Policy Name: Automated External Defibrillators for Home Use

Policy Type: Medical Equipment (DME)

Subtype:

Effective 09-15-2025 End Date: 11-02-2025

Date:

Description

Sudden cardiac arrest (SCA) is estimated to account for over 250,000 deaths annually. Although all known heart diseases can lead to SCA, the life-threatening arrhythmia of ventricular fibrillation (VF) is the leading cause. Early recognition of arrhythmia and subsequent defibrillation is the most important factor in survival from a cardiac arrest due to VF. Approximately 80 percent of people who suffer SCA are at home when it happens.

An automated external defibrillator, or AED, is a portable machine that is designed to use an algorithm to distinguish VF from other cardiac rhythms, advise the rescuer that a shockable rhythm is present, and then allow for the delivery of the appropriate amplitude shock to restore the individual's normal heart rhythm. AEDs are designed to be used by lay rescuers or first responders.

The United States Food and Drug Administration (U.S. FDA) cleared the HeartStart Home OTC Defibrillator (Philips Medical Systems, Seattle, WA) for home use through the 510(k)-approval process on September 16, 2004. The U.S. FDA cleared indication for use is, "For the termination of ventricular fibrillation and pulseless ventricular tachycardia. These devices are intended to be used on suspected victims of sudden cardiac arrest" (U.S. FDA, 2004). The previous version of this device required a prescription. However, this device is available without a prescription.

On June 06, 2019, HeartStart Home OTC Defibrillator received U.S. FDA Premarket Approval (PMA) (U.S.FDA, 2019). There are additional devices for home use that have also been cleared by the U.S.FDA, (for example, the HeartSine Samaritan® PAD [HeartSine Technologies, Inc., San Clemente, CA]).

On January 25, 2010, the Circulatory System Devices Panel of the U.S. FDA Center for Devices and Radiological Health (CDRH) issued a recommendation that, "AEDs be classified as Class III medical devices and be subject to the regulations in accordance with [PMA] applications." According to the U.S. FDA, AED devices, although historically classified as Class III devices, have not been subject to the requirement of submitting a PMA application to demonstrate affirmatively a reasonable assurance of safety and effectiveness. Instead, they have

been allowed to enter the market following FDA clearance of a 510(k) submission, usually reserved for lower-risk devices.

On February 3, 2015, the U.S. FDA issued a Final Order which now requires all AED devices to meet PMA protocols; AED manufacturers must now submit PMA applications for U.S. FDA approval for all previously cleared AED devices. In addition, this new order requires that all new AED devices and accessories have an approved PMA in effect before being placed in commercial distribution (U.S. FDA, 2015). This order is based on the reports of 45,000 adverse events and 88 recalls received by the FDA between 2005 and 2013, many due to battery failure and improper maintenance.

Policy Application

All claims submitted for this policy will be processed according to the policy effective date and associated revision effective dates in effect on the date of processing, regardless of service date.

Diagnosis Codes

Not Applicable

CURRENT CODING

HCPCS:

E0617	Automatic ext defibrillator	Commercial
E0617	Automatic ext defibrillator	Medicaid Expansion

References

Peer Reviewed Publications:

- 1. Bardy GH, Lee KL, Mark DB, et al.; HAT Investigators. Home use of automated external defibrillators for sudden cardiac arrest. N Engl J Med. 2008; 358(17):1793-1804.
- 2. Cecchin F, Jorgenson DB, Berul CI, et al. Is arrhythmia detection by automatic external defibrillator accurate for children: sensitivity and specificity of an automatic external defibrillator algorithm in 696 pediatric arrhythmias. Circulation. 2001; 103(20):2483-2488.
- 3. Fukuda T, Ohashi-Fukuda N, Kobayashi H, et al. Public access defibrillation and outcomes after pediatric out-of-hospital cardiac arrest. Resuscitation. 2017; 111:1-7.
- 4. Hallstrom AP, Ornato JP, Weisfeldt M, et al. Public Access Defibrillation (PAD) Trial Investigators. Publicaccess defibrillation and survival after out-of- hospital cardiac arrest. N Engl J Med. 2004; 351(7):637-646.
- 5. Kadish A. Public-access defibrillation: advances and controversies. Primary Care Perspectives. Medscape Primary Care. 2004; Volume 6(1).

- 6. Koster RW. Automatic external defibrillator: key link in the chain of survival. J Cardiovasc Electrophysiol. 2002; 13(1 Suppl):S92-S95.
- 7. Lee BK, Olgin JE. Role of wearable and automatic external defibrillators in improving survival in patients at risk for sudden cardiac death. Curr Treat Options Cardiovasc Med. 2009; 11(5):360-365.
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- 13. Rubertsson S, Lindgren E, Smekal D, et al. Mechanical chest compressions and simultaneous defibrillation vs conventional cardiopulmonary resuscitation in out-of-hospital cardiac arrest: the LINC randomized trial. JAMA. 2014; 311(1):53-61.
- 14. Sanna T, La Torre G, de Waure C, et al. Cardiopulmonary resuscitation alone vs. cardiopulmonary resuscitation plus automated external defibrillator use by non-healthcare professionals: a meta-analysis on 1583 cases of out-of-hospital cardiac arrest. Resuscitation. 2008; 76(2):226-232. Available at: http://www.crd.york.ac.uk/crdweb/ShowRecord.asp?View=Full&ID=12008103028. Accessed on December 13, 2020.
- 15. Solomon SD, Zelenkofske S, McMurray JJ, et al.; Valsartan in Acute Myocardial Infarction Trial (VALIANT) Investigators. Sudden death in patients with myocardial infarction and left ventricular dysfunction, heart failure, or both. NEJM. 2005; 352(25):2581-2588. Erratum in: NEJM. 2005; 353(7):744.
- 16. Sparks KE. Owning a home defibrillator: security blanket or excuse to do nothing? Primary Care Perspectives. Medscape Primary Care. 2004; Volume 6(1).
- 17. Stokes NA, Scapigliati A, Trammell AR, Parish DC. The effect of the AED and AED programs on survival of individuals, groups and populations. Prehosp Disaster Med. 2012; 27(5):419-424.
- 18. Weisfeldt ML, Everson-Stewart S, Sitlani C, et al.; Resuscitation Outcomes Consortium Investigators. Ventricular tachyarrhythmias after cardiac arrest in public versus at home. N Engl J Med. 2011; 364(4):313-321.

Government Agency, Medical Society, and Other Authoritative Publications:

- 1. American Association for Respiratory Care (AARC) Clinical Practice Guideline: Resuscitation and Defibrillation in the Health Care Setting. 2004 revision and update to 1995 Guideline on defibrillation during resuscitation and the 1993 Guideline on resuscitation in acute care hospitals. Available at: http://rc.rcjournal.com/content/respcare/49/9/1085.full.pdf. Accessed on December 13, 2020.
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- 3. Epstein AE, DiMarco JP, Ellenbogen KA, et al. American College of Cardiology/American Heart Association/Heart Rhythm Society (ACC/AHA/HRS) 2008 Guidelines for device-based therapy of cardiac rhythm abnormalities: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Writing Committee to Revise the ACC/AHA/NASPE 2002 Guideline Update for Implantation of Cardiac Pacemakers and Antiarrhythmia Devices) developed in collaboration with the American Association for Thoracic Surgery and Society of Thoracic Surgeons. May 2008. J Am Coll Cardiol.

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- 5. Kushner FG, Hand M, Smith SC Jr, et al. 2009 focused updates: ACC/AHA guidelines for the management of patients with ST-elevation myocardial infarction (updating the 2004 guideline and 2007 focused update) and ACC/AHA/SCAI guidelines on percutaneous coronary intervention (updating the 2005 guideline and 2007 focused update): a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol. 2009; 54(23):2205-2241. Available at: https://www.ahajournals.org/doi/10.1161/circulationaha.109.192663. Accessed on December 13, 2020.
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- 9. O'Gara PT, Kushner FG, Ascheim DD, et al. 2013 ACCF/AHA guideline for the management of ST-elevation myocardial infarction: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol. 2013; 61(4):e78-140.
- 10. Ontario Ministry of Health and Long-term Care, Medical Advisory Secretariat (MAS). Use of automated external defibrillators in cardiac arrest. An evidence- based analysis. Toronto, ON: MAS; December 2005; 5(19).
- 11. Priori SG, Bossaert LL, Chamberlain DA, et al. ESC-ERC recommendations for the use of automated external defibrillators (AEDs) in Europe. The European Society of Cardiology (ESC) and the European Resuscitation Council (ERC) Policy Conference: December 2002. Eur Heart J. 2004; 25(5):437-445.
- 12. Samson RA, Berg RA, Bingham R. Use of automated external defibrillators for children: an Advisory Statement from the Pediatric Advanced Life Support Task Force, International Liaison Committee on Resuscitation. Circulation. 2003; 107(25):3250-3255. Available at: http://circ.ahajournals.org/cgi/reprint/107/25/3250. Accessed on December 13, 2020.
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- 15. U.S. Food and Drug Administration (FDA). Center for Devices and Radiological Health Premarket Approval Application (PMA). Philips HeartStart Home OTC Defibrillator (Seattle, WA). Summary of Safety and Effectiveness. PMA Number: P160029. June 06, 2019. Available at: https://www.accessdata.fda.gov/cdrh docs/pdf16/P160029B.pdf. Accessed on December 13, 2020.

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ND Committee Review

Internal Medical Policy Review 07-22-2021 New Policy for ND Effective 9-6-2021

Internal Medical Policy Review 07-21-2022 Annual Review - no changes in criteria Effective 9-5-2022

Internal Medical Policy Committee 7-26-2023 Annual Review - no changes in criteria Effective 9-4-2023

Internal Medical Policy Committee 7-16-2024 Annual Review - no changes in criteria Effective 9-2-2024

Added Policy Application

Disclaimer

Current medical policy is to be used in determining a Member's contract benefits on the date that services are rendered. Contract language, including definitions and specific inclusions/exclusions, as well as state and federal law, must be considered in determining eligibility for coverage. Members must consult their applicable benefit plans or contact a Member Services representative for specific coverage information. Likewise, medical policy, which addresses the issue(s) in any specific case, should be considered before utilizing medical opinion in adjudication. Medical technology is constantly evolving, and the Company reserves the right to review and update medical policy periodically.