DEVICE CLINIC MANAGEMENT ESSENTIALS

COURSE SYLLABUS

Developed in Collaboration With:

MEDAXIOM ACADEMY | CV Remote Solutions

QUESTIONS AND ASSISTANCE

For technical support, please contact: *tech_support@medaxiom.com*
For course questions or assistance, please contact: *academy@medaxiom.com*

COURSE DESCRIPTION

This nine-module course provides self-directed content to support team members, such as nurses and technicians, who are new to the management of cardiac implantable electronic devices (CIED) in the device clinic setting. The CIED technologies include pacemakers, implantable defibrillators, cardiac resynchronization therapy (CRT) devices and implantable loop recorders.

The course incorporates video and online learning to cover these essential topics:
1. Basics of Electrocardiogram Interpretation and Rhythm Recognition
2. Device Technology
3. Remote Device Clinic Operations & Management
4. In-Person Device Clinic Operations & Management
5. Device and Lead Function
6. Interrogation Basics
7. Programming Basics
8. Implantable Loop Reorders
9. Coding, Billing and Documentation of CIED monitoring

COURSE GOALS

Cardiac device monitoring roles are highly technical and patient management workflow is complex. Once recruited, even qualified trainees can require a year or more of instruction. This course is designed to provide a baseline understanding and framework of CIEDs through the application of technical knowledge and skills to evaluate device function and assist with device management in outpatient, procedural and in-patient settings. Participants will gain an understanding of function, programming and troubleshooting CIEDs. This course also includes an overview of the operational and financial aspects of successful device clinic management.

COURSE MATERIALS
Resources sold separately

Required Texts, Materials or Equipment
- Internet access includes audio and visual.

THE METHODOLOGY

Each lesson has a 60-minute didactic presentation followed by a mandatory quiz. To be completed at student's own pace within a 12-month period or less. Enrollment begins at the date of purchase.

Course Grading
Statement of Grading Approach or Philosophy: This is a pass/fail course based on the completion of the material. This course can be done at the student's own pace. However, each student will have a maximum of 12 months to complete the course material. Students must pass a quiz upon course completion with an 80 percent or above and the final course evaluation feedback survey to receive a certificate of completion.

COURSE SCHEDULE

Disclaimer:
The instructors reserve the right to make modifications to this course material as needed.

Preliminary Schedule of Topics, Learning Objectives and Quizzes

WEEK #	TOPIC/LEARNING OBJECTIVES
1	**Topic: 1. Basics of Electrocardiogram Interpretation & Rhythm Recognition** *Learning Objectives*: 1. Understand proper technique for high-quality electrocardiograms (ECGs) 2. Discuss the systematic assessment of ECGs to include the evaluation of rate, rhythm and regularity 3. Differentiate between benign and potentially life-threatening ECG rhythms
2	**Topic: 2. Device Technology** *Learning Objectives:* 1. Discuss key components of CIED devices and their primary roles in managing cardiac arrhythmias and heart failure (HF). 2. Differentiate between various CIED devices, including pacemakers, implantable cardioverter-defibrillators (ICDs), cardiac resynchronization therapy (CRT) devices, and implantable loop recorders (ILRs). 3. Discuss device-specific indication for implantation. *Additional Resources:* • Al-Khatib SM, Stevenson WG, Ackerman MJ, et al. 2017 AHA/ACC/HRS Guideline for Management of Patients With Ventricular Arrhythmias and the Prevention of Sudden Cardiac Death. *Circulation*. 2017;138(13):e272-e391. https://www.ahajournals.org/doi/10.1161/CIR.0000000000000549
3	**Topic: 3. Remote Monitoring Device Clinic Operations & Management** *Learning Objectives:* 1. Define CIED remote management and its role in the care of patients with implanted devices. 2. Provide an overview of the technology, its implementation, staffing models, processes and patient education and communication.
4	**Topic: 4. In-Person Device Clinic Operations & Management** *Learning Objectives:* 1. Define the structure, processes and role of an in-person device management clinic in the office setting and to support hospital services. 2. Review current "best practice" models to support efficiencies, quality and patient-centered aspects of care.

5	**Topic: 5. Device and Lead Function**
	
	Learning Objectives:
	  1. Discuss the basic principles of pacing and defibrillation.
	  2. Introduce timing cycles, sensing, pacing thresholds, and additional device features.
	  3. Explore device functionality and implications for patient care.
	
	Additional Resources
	  • Cardiac Pacing and Defibrillation: A Clinical Approach. Hayes DL, Asirvatham SJ, Friedman PA, eds. 4th ed. Wiley; 2021. Clinical Cardiac Pacing, Defibrillation, and Resynchronization Therapy. Ellenbogen KA, Wilkoff BL, Kay GN, Lau C-P, Auricchio A, eds. 5th ed. Elsevier Inc.; 2017.

6	**Topic: 6. Interrogation Basics**
	
	Learning Objectives:
	  1. Learn how to conduct a follow-up for a device patient using a structured evaluation method.
	  2. Evaluate arrhythmias and respond to alerts and trends.
	  3. Interpret intracardiac electrograms.

7	**Topic: 7. Programming Basics**
	
	Learning Objectives:
	  1. Explain the basics of device programming and reprogramming.
	  2. Describe the importance of adjusting settings for individual patient needs.
	  3. Introduction to the concepts of programming single and dual chamber pacemakers and ICDs.
	  4. Specifications such as rate, mode, output and sensitivity settings are discussed along with any unique functions and features.

8	**Topic: 8. Implantable Loop Recorders**
	
	Learning Objectives:
	  1. Discuss ILR implantation and management strategies.
	  2. Review device implant, alert programming and remote management with considerations for implant indication.

9	**Topic: 9. Coding, Billing and Documentation of CIED monitoring**
	
	Learning Objectives:
	  1. Learning objectives for coding, billing, and documentation of CIED monitoring are crucial for healthcare professionals responsible for ensuring accurate and compliant reimbursement for services related to CIEDs.
	  2. This module will provide an overview of CPT and ICD-10 CM used in CIED monitoring.
	  3. Also included is an understanding of the clinical documentation needed to support medical necessity and care of the patient.