

Handheld Pacemaker Training Simulator for Cardiac Nurses

INTRODUCTION

650,000

Cardiac arrests each year

38,000

Temporary pacemaker implanted annually



Nurses feel unprepared handeling pacemaker post-orientation

NEED CRITERIA

- Hands-on pacemaker simulation
- Realistic pacemaker interactions
- Assesses nurse competency
- Provides post-evaluation feedback
- Simulates various cardiac scenarios

Nursing managers need a way to simulate external pacemaker use so that they can train and evaluate nurses to proficiently handle patient care scenarios.

STEP 1 Nurse retrieves pacemaker raining device and credentials	STEP 2 View modules
Learner Signin bet_cardio_rurse Open to the an excentification to the second to	✔ PaceSin Character Stanulation Platform Catinua Learning: Sensitivity & ECG Identification Continue Unite Verter you left off Module 1: Initial Info Module 2: Sensitivity & ECG Identification Module 2: Sensitivity & ECG Identification Module 2: Sensitivity & ECG Identification Module 3: Scenario 1 Module 6: Septure Calibration Module 6: Failure to Capture
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вр 120/80

SOLUTION

	MODE			A
				B
DO	Mode: VOO	6	(C
Rate	80 30 200	80 ppm		3
A. Output	• Connection error	0.0 mA	Stree.	5102
V. Output	• Connection error 10.0 0 25 • Connection error	0.0 mA	K	5
VOO	V/VI	O¢		
VVT	AOO	<	E	6
AAI	DOO	^		
DDD	DDI		(

Top-Facing View of Pacemaker Device



ST Progress is dash	STEP 7 Progress is recorded in dashboard			
PaceSim		\$ <mark>8</mark>		
 Profile Nurse Jane Smith Cardiology Nurse Johns Hopkins Hospital Training Time 12.5 hrs 	♀ Success Rate 85%			
 C Last 3 Sessions Sensitivity & ECG Identification Today		Completed		
Basic Calibration Yesterday Failure to Capture 3 days ago		Completed		

- familiarity (2.5*5*1 inch)

- Includes 4 functional dials and 7 interactive buttons • Supports standard pacing modes: VVI, DDD, DOO • Enables realistic calibration and adjustment practice
- Hardware inputs instantly reflect in software (under 1 second)
- experience



nteractive Buttons

- L. DOO Emergency
- . Power On/Off
- Lock Dials/Mode
- . Select
- 5. Up
- **Down**

Functional Dials

- A. Rate Control
- B. Atrial Output
- C. Ventricular Output
- D. Sensitivity
 - Atrial or Ventricular
 - depending on mode

Hardware Usage Notes

- 1. Supports standard pacing modes: VVI, DDD, DOO
- 2. Hardware inputs instantly reflect in software (under 1 second)
- 3. Simulates 71% of key external pacemaker
- functions

Simulates 71% of key external pacemaker functions • Replicates realistic device size for hands-on

• Designed for intuitive use by nurses with limited

Durable build for repeated training sessions