

# Patient Monitor Procedure

Estimated time: 15 minutes

## Equipment information

Control number: \_\_\_\_\_ Hospital: \_\_\_\_\_  
 Manufacturer: \_\_\_\_\_ Model: \_\_\_\_\_  
 Serial number: \_\_\_\_\_ Location: \_\_\_\_\_

## Test information

Technician: \_\_\_\_\_ Date: \_\_\_\_\_

Test type: Incoming \_\_\_\_\_ Post repair \_\_\_\_\_

**Test equipment needed:** ESA615 Electrical Safety Analyzer (or equivalent)  
 ProSim 8 Vital Signs Simulator or equivalent\*  
 Stopwatch or watch with a second hand  
 Cables to connect to ProSim 8  
 Tubing and connectors to connect to ProSim 8  
 Cuff Mandrel to attach BP cuff to ProSim 8  
 Certified gas canister/cylinder with a known quantity and concentration of CO<sub>2</sub>

| Test Result               |      |     |   |                                 |
|---------------------------|------|-----|---|---------------------------------|
| Pass                      | Fail | N/A |   |                                 |
| <b>Physical condition</b> |      |     |   |                                 |
|                           |      |     | Device is clean and decontaminated  |                                 |
|                           |      |     | No physical damage to case, display, mounts, cart, or components              |                                 |
|                           |      |     | Switches and controls operable and correctly aligned                          |                                 |
|                           |      |     | Display intensity adequate for daytime use                                    |                                 |
|                           |      |     | Control numbers, labeling, and warnings present and legible                   |                                 |
|                           |      |     | Inlets and hoses  |                                 |
|                           |      |     | Power cord, accessory cables, charger   |                                 |
|                           |      |     | Filters and vents clean   |                                 |
| <b>Electrical safety</b>  |      |     |   |                                 |
|                           |      |     | Ground wire resistance  | < 0.3 Ω                         |
|                           |      |     | Chassis leakage   | < 100 μA NC<br>< 500 A SFC      |
|                           |      |     | Patient leakage current   | < 100 μA B and BF<br>< 10 μA CF |
|                           |      |     | Patient lead leakage current – isolation test (mains on patient applied part) | < 100 μA BF<br>< 10 μA CF       |

**\*Using single-function simulators or those without built-in automation may significantly increase estimated test time referenced above.**

| Test Result                   |      |     |  |
|-------------------------------|------|-----|--|
| Pass                          | Fail | N/A |  |
| <b>Preventive maintenance</b> |      |     |  |
|                               |      |     | Check condition of tubing, cuffs and hoses   |
|                               |      |     | Clean recorder paper compartment, rollers and paper guides   |
|                               |      |     | Lubricate motor and paper drive mechanism  |
|                               |      |     | Verify proper time and date; correct if necessary  |
|                               |      |     | Replace battery every 24 months  |
|                               |      |     | Complete model-specific preventive maintenance   |
| <b>Performance testing</b>    |      |     |  |
|                               |      |     | Verify unit operates on battery  |
|                               |      |     | Heart rate accuracy ± 5 %  |
|                               |      |     | Amplitude accuracy ± 5 %   |
|                               |      |     | Recorder speed ± 4 %   |
|                               |      |     | Respiration rate accuracy ± 5 %  |
|                               |      |     | NIBP Leak test ≤ 15 mmHg/min   |
|                               |      |     | NIBP Static pressure accuracy ± 3 mmHg   |
|                               |      |     | NIBP Pressure relief test ≤ 330 mmHg   |
|                               |      |     | Dynamic NIBP pressure repeatability ± 10 mmHg  |
|                               |      |     | Auto interval time ± 10 %  |
|                               |      |     | Stop/cancel/deflate ≤ 10 sec   |
|                               |      |     | SpO <sub>2</sub> accuracy ± 3 %  |
|                               |      |     | Invasive pressure accuracy ± 5 %   |
|                               |      |     | Verify invasive pressure repeatability (dynamic) displays same systolic/diastolic (mean) each time presented with the same value (example: 120/80) |
|                               |      |     | Temperature accuracy ± 0.3° c  |
|                               |      |     | Carbon dioxide concentration accuracy ± 0.4 vol %  |
|                               |      |     | Alarm function   |
|                               |      |     | Complete model-specific performance testing  |

### Physical condition

Check the physical condition of the device, as described in the General Equipment Procedure.

### Electrical safety

Perform electrical safety checks as described in Chapter 5: Electrical Safety. Check ground wire resistance and chassis leakage.