Health problem addressed
Continuous monitoring is a valuable tool that helps provide additional information to the medical and nursing staff about the physiologic condition of the patient. Using this information, the clinical staff can better evaluate a patient’s condition and make appropriate treatment decisions. Most commonly used for treatment of patients with cardiac conditions.

Product description
Telemetric monitors designed for continuous measurement and transmission of several vital physiologic parameters to a central station or a bedside monitor. These monitors typically consist of transmitters and electrodes, an antenna system or access points, receivers, and a display screen and recorder. Telemetry systems transmit physiologic parameters like ECG, NIBP, SpO2.

Principles of operation
Telemetric monitoring systems transmit patients’ physiologic parameters to a central station display and/or a bedside monitor. Data transfer is done to a remote location by means of radio waves. Because they use radio-wave transmission, cables are not required to connect the patient and transmitter to the display monitor, thereby allowing greater patient mobility.

Operating steps
Appropriate monitoring electrodes must be attached to the patient. The cables are attached to the telemetry transmitter. The transmitter sends physiologic monitored data to the central station or bedside monitor that receives, consolidates, and displays the information collected from one or more patients.

Reported problems
The frequency bands used by wireless medical telemetry are getting crowded, putting medical telemetry at risk for interference. Signal fading, during which the ECG signal is momentarily lost, results in inaccurate ECG signals, false alarms, and monitoring data loss. To reduce the potential of interference from noise, hospitals should survey the installation site to ensure that the antennae are properly placed, that no other equipment operates at that frequency, and that no outside interference impede telemetry signals.

Use and maintenance
User(s): Physicians, nurses, other medical staff
Maintenance: Biomedical or clinical engineer/technician, medical staff, manufacturer/servicer
Training: Initial training by manufacturer, operator’s manuals, user’s guide

Environment of use
Settings of use: Hospital; step-down/intermediate care areas, cardiac rehab, any area with mobile patients that require physiologic monitoring
Requirements: Uninterruptible power source, battery backup, good lead/pad/cable connections

Product specifications
Approx. dimensions (mm): 124 x 70 x 35
Approx. weight (kg): 0.18
Consumables: Batteries, cables, sensors/electrodes
Price range (USD): 2,300 - 150,000
Typical product life time (years): 7-10
Shelf life (consumables): NA

Types and variations
Telemetry pack worn by patient (e.g., pendant, strapped to arm, garment pouch)