Monitor alarms are essential for alerting caregivers to changes in patients’ condition. But inaccurate or too-frequent alarms can erode the quality of care. Excessive alarms may increase patient and family anxiety, overwhelm and stress clinicians, and even lead to alarms being silenced, disabled or ignored. Alarm management technologies from GE Healthcare enhance patient monitoring and alarm accuracy, reduce false alarms, all while helping to ensure that when alarms do sound they are clinically significant. The technologies include sophisticated monitor algorithms and tools to help clinicians tailor alarms for specific patient conditions.

The GE EK-Pro multi-lead ECG algorithm reliably detects arrhythmias while reducing false alarms:

**Reliable performance**
- Detects cardiac events that might otherwise go unnoticed
- Assures uninterrupted ECG monitoring in situations where a single electrode contact failure is detected
- Distinguishes noise and artifact from true beats, reducing false alarms

**Accuracy**
- Multi-lead ST-segment analysis to help assess myocardial ischemia
- Our recent algorithm design development has focused on improvements of detection reliability. This means improvements with detection of true events, but also reduction of false detections.
- Can be configured for the unique waveforms of neonatal and pediatric patients

**Advanced ECG processing**
- **Continuous correlation** improves beat detection and recognition despite noise or artifact, comparing incoming waveforms to beat templates
- **Incremental template updating** accurately tracks subtle, progressive changes in beat shapes based on the multi-lead waveform templates used for beat classification and measurement
- **Contextual analysis** uses information from neighboring beats to identify arrhythmia events, evaluating features and information about the rhythm in a way similar to that used by clinicians
Making monitor alarms more flexible and reliable than ever

Monitor innovations from GE Healthcare help you ensure accuracy even in challenging environments, tailor alarms to suit a wide variety of patients and conditions, and allow custom alarm configurations while minimizing errors and misuse that could place patients in jeopardy. It all means greater reliability and fewer false alarms.

ApexPro® Telemetry, Dash®, Solar®, CARESCAPE™ CIC Pro central station and CARESCAPE modular monitors

User-configurable alarm settings
Caregivers can adjust default settings to fit the patient: for example, reducing heart rate lower limits for patients with a known low heart rate. Conversely, limits can be tightened and alarm priority raised for a particular intermittent arrhythmia.

• Default limits reset when the patient is discharged
• Built-in default levels let caregivers choose alarm settings to fit patient profiles (such as trauma or cardiac cases)
• Central station can configure alarm levels for telemetry patients

CARESCAPE modular monitors and CARESCAPE CIC Pro central station

IntelliRate®
The algorithm extracts information from multiple physiologic signals (e.g., ECG, arterial blood pressure and pulse oximetry) and displays the heart rate source that has the highest likelihood of being accurate.

Absolute limits (guard limits)
Parameter limits can be set to keep a caregiver from erroneously setting the limits too high, too low, or with a range so wide that the alarm is essentially disabled.

ApexPro Telemetry and CARESCAPE CIC Pro central station

Telemetry smart alarms

After five minutes, alarms will reactivate if the patient is within range of the antenna system for 15 seconds or longer and continuous ECG data is detected.