Continuous, Real-Time Body Temperature Monitoring System

Early Fever Detection Leads to Better Patient Care
Remote temperature monitoring that is accurate and effective in early fever detection

Non-invasive, wireless and fully integrated.

**Accurate**
Clinically tested and proven accuracy (in agreement with Pulmonary Artery Catheter).

**Continuous**
Once activated, TempTraq continuously monitors axillary temperature for up to 72 hours per patch, and issues alerts when temperature rises.

**Wireless**
Data transmits via Bluetooth, allowing patient freedom of movement.

**Non-invasive**
TempTraq applies easily to patient with a gentle adhesive.

**Fully Integrated**
The TempTraq system can be integrated with existing EHR’s and monitoring systems, a deeper data set than the existing Standard of Care.

**Remote Monitoring**
Patients can be remotely monitored via TempTraq Connect’s secure, HIPAA compliant cloud service.

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**TempTraq Clinical Integration**

The TempTraq system can be seamlessly integrated into existing nurse workflow, increasing productivity by automatically capturing and entering temperature data into the EHR.

TempTraq patch monitors a patient’s temperature in real time and wirelessly uploads data to our HIPAA-compliant cloud server. Data from the secure server can be integrated via HL-7 standards with Electronic Health Records, central nurse workstations, patient bedside monitors and mobile devices to provide clinicians with temperature data visualization and mapping of data to the desired patient record fields.

The system is scalable and can support a single hospital or a multi-hospital/physician group healthcare system.

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1. “Feasibility of Continuous Monitoring of Body Temperature for Patients Undergoing Stem Cell Transplant or High-Dose Chemotherapy” / Ehsan Malek, MD and Nina Dambrosio, MSN, CNP / University Hospital – Sieidman Cancer Center / February 2017
2. “Use of a Skin Patch Device to Obtain Temperature Measurements (Adult Study)” / Principal Investigator: Aris Eliades, PhD, RN, CNS, Co-Investigators: Kathy Stoner, MSN, RN and Jean Frisone, BSN, CNP / Akron Children’s Hospital, November 2015
3. Support expenditures. In addition, sepsis cases present: Severe sepsis accounts for an estimated 40% of all ICU accounting for $20.3 billion, or 5.2%, of all hospital costs. Septicemia is the costliest condition treated by U.S. hospitals, a smartphone app.
5. TempTraq(r) The Value of New Technology: There’s an app for that / Sandra L. Siedlecki PhD, RN, CNS and Sam Butler MS / Cleveland Clinic
8. TempTraq® Connect’s secure, HIPAA compliant cloud service.
Clinical Benefits

Earlier Fever Detection

Early detection of fever and prompt use of broad-spectrum antibiotics is crucial in neutropenic patients:

- 78% of patients who received an allogeneic HSCT had bacteremia during the first episode of fever.\(^3\)
- An hour delay in antibiotic administration resulted in an approximately eight hour increase in length of hospital stay among patients with febrile neutropenia.\(^4\)

Remote Patient Monitoring

Hospitals seeking to improve patient care, reduce readmissions, optimize reimbursements and gain competitive advantage, are rapidly embracing new technologies that enable remote patient monitoring.

TempTraq provides a proven, reliable system to remotely monitor patients for fever spikes, a key symptom of infection. It also allows for self-monitoring through a smartphone app.

Infection Control

Septicemia is the costliest condition treated by U.S. hospitals, accounting for $20.3 billion, or 5.2%, of all hospital costs.\(^5\)

Severe sepsis accounts for an estimated 40% of all ICU expenditures.\(^6\) In addition, sepsis cases present:

- Average length of stay of 19.6 days\(^7\)
- Average cost per case of $22,100\(^7\)
- Overall hospital mortality rate of 28%\(^7\)
- ICU treatment cost of 6X more than non-sepsis patients\(^8\)

"It is crucial to recognize neutropenic fever early and to commence broad spectrum empiric antibiotics promptly in order to avoid sepsis syndrome and possible death."

Thomas Perron, BMC Health Services Research

"Remote Monitoring for patients means fewer office and emergency room visits, fewer and reduced duration of hospitalizations, reduced patient travel time and expense, and increased access (for the elderly, the physically challenged, the homebound, and especially for rural patients)."

M Stachura, AdvaMed

"Each hour of delay in antimicrobial administration over the ensuing 6 hours was associated with an average decrease in survival of 7.6%."

A Kumar, et. al., St. Boniface Hospital, University of Manitoba
About Blue Spark Technologies

Founded in 2003, Blue Spark Technologies develops, manufactures, and markets applications powered by their proprietary thin, flexible carbon-zinc printed battery technology. Unlike most lithium and other battery chemistries, our carbon-zinc batteries contain no hazardous substances and are disposable, flexible, safe and eco-friendly.

TempTraq is an FDA Cleared Class II medical device and is Blue Spark’s flagship product. TempTraq gives Healthcare providers the first wireless continuous temperature monitor in the form of a soft comfortable disposable patch. Blue Spark believes that TempTraq can significantly improve the way temperature is measured in the clinical environment and provide clinicians a quicker, easier, and more effective way to measure temperature.

For More Information

**TEMPTRAQ®**

Technical Specifications

- **FDA Cleared**
  - Class II Medical Device
- **Operating Life**
  - 24 hours or 72 hours; Disposable/Single Use
- **Accuracy Rating**
  - Conforms with ASTM E1112-00 (2011) +/- 0.1°C or +/- 0.2°F over the temperature range of the device
- **Wireless**
  - Bluetooth Low Energy, patch must be within 40 feet of Bluetooth device
- **Power**
  - Eco-friendly, 2 - 1.5-volt carbon zinc batteries
- **Safe**
  - For all ages and all skin types; does not contain materials made with natural latex rubber
- **Temperature Display**
  - Fahrenheit or Celsius
- **Temperature Range**
  - 87.0 °F - 109.3 °F (30.6 °C - 42.9 °C)
- **Alerts**
  - Audible and/or visual notifications of rising temperature via applications
- **Patent Number**
  - US 9,693,689
  - US 9,782,082

**Vermed - a division of Nissha Medical Technologies**

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