INNOVATION
In addition to providing gentleness for patients, ease of use, and accuracy for clinicians, the Exergen Temporal Artery Thermometer is the only thermometer with an Antimicrobial Head manufactured from a material fully impregnated with silver ions that are released through a unique and controlled ion exchange process.

HOW IT WORKS
Effective Against Microbes — Laboratory tests demonstrate the controlled release of silver ions from the sensor head provides continuous antimicrobial protection for more than five years. The antimicrobial compound works proactively against a broad spectrum of bacteria, fungi and other microbes. In laboratory studies, this has been proven to reduce bacteria on the treated product by as much as 99.999%, or 5-log reduction.

Kills even the most resistant bacteria strains — Laboratory tests show that Methicillin-resistant Staphylococcus aureus (MRSA) and Vancomycin-resistant Enterococcus (VRE) are reduced by over 20% in ten minutes, and to undetectable levels in 6 hours.

Antimicrobial Resistance - Unlike 'organic' based antimicrobial agents commonly found in antibacterial soaps, Silver has not been shown to contribute to the creation of super bugs, as has the overuse of antibiotics and other antibacterial agents.

WHY SILVER?
Silver has been used in medicine since 4000 BC, is a well-established broad-spectrum antibiotic with no known association with drug resistance, and is completely safe for human use. Studies have demonstrated the acute toxicity of the antimicrobial compound used to be less toxic than ordinary table salt.

PATIENT CARE BENEFITS
More than 25 peer reviewed published studies have demonstrated the Exergen temporal artery thermometer to be more accurate than ear thermometry, and offers accuracy comparable to the Gold Standards of pulmonary artery catheters, esophageal probes, rectal temperature on a stable patient, and rectal temperature when compared over time, and to outcome. Currently, more than 60% of the hospitals in the United States are using the Exergen temporal artery thermometers, many of which have standardized on this method throughout their entire facility for all their patient populations.

FISCAL BENEFITS
A 90% cost reduction is provided because disposable covers are optional, as an alcohol or other disinfectant wipe can be used between patients.posable covers are available for certain patients, which can be reused on the same patient.

Further, the Lifetime Warranty, unique to thermometry, completely protects the entire instrument, and eliminates spare parts storage, biomedical engineering labor, and all repair charges.
Accuracy and Benefits of Using Exergen Temporal Artery Thermometry

Frequently Asked Questions at Products and Value Analysis Committee Meetings

1. **Settled Science:** It is accurate to report that Exergen Temporal Artery Thermometers have never been proven inaccurate when compared to the true Gold Standards of pulmonary artery catheters, esophageal probes, rectal temperature on a stable patient, and outcome. When temperature is rapidly changing, however, rectal temperature is well known to lag behind arterial temperature on adults, the scientific evidence for which dates back to the late 1960’s with the invention of the PA catheter, and, most recently, rectal lag has been identified in infants (17).  

2. **What are the benefits for our hospital in changing to Exergen TA Thermometry?**
   The significant clinical and fiscal benefits of the Exergen temporal artery thermometers have been confirmed by about 60% of the hospitals throughout the United States:
   a. Clinically, the TA thermometers are as accurate as the most invasive methods.
   b. Fiscally, the method is 90% less expensive than any other method of thermometry, and provides a payback in approximately 8 months, with near zero expenditure from that point forward.

3. **How do the results compare to rectal temps, oral temps, and ear temps?**
   a. Several peer reviewed published studies conducted in major university hospitals on newborn infants through geriatric patients have demonstrated the temperatures measured by the Exergen Temporal Artery Thermometer to be: significantly more accurate than ear thermometers (4,8,12,13,14,16,19,21,22,23,24,27,34); as accurate as rectal temperature (1,2,5,6,8,9,10,13,16,17,25,35,37,39), core temperature as measured with an esophageal probe, pulmonary artery catheter, or brain thermistor (1,2,3,4,7,9,10,20,21,23,24,27), and outcome (17,23,26,33,36,38).

4. **At what age is the method validated?**
   a. Newborns 0-3mo (5,6,9,11,16,17,18,25,33,35,36,37), infants and children (1,2,5,6,7,16,17,20,33,35,36,37,39), adults through geriatric patients (3,4,7,10,12,13,14,15,21,22,23,24,26,27,32).

5. **Below the age group the thermometer is validated, what equipment will we use and how will that equipment be supported?**
   a. Age is not a factor as the TA thermometer has been demonstrated to be accurate for use on all ages.
   b. Nonetheless, when the patient is under a radiant warmer or in an isoelette, the TAT should be allowed to equilibrate ~20 minutes before use. If not possible, Exergen recommends using the Exergen LXN Instant infrared axillary thermometer, an instrument successfully used for many years, mainly in Neonatal Intensive Care Units. Studies available from Exergen.

6. **What is the evidence that we will not spread disease with this device?**
   a. The TA thermometer features a silver ion antimicrobial head, unique in thermometry, but widely used clinically in such items as catheters, stents, wound dressings, spinal implants, IV flow valves, in which the silver ions protects by naturally and continuously resisting the growth of microbes.
   b. Laboratory tests demonstrate the controlled release of silver ions from the sensor head provides continuous antimicrobial protection for more than five years. The antimicrobial compound works proactively against a broad spectrum of bacteria, fungi and other microbes. In laboratory studies, this has been proven to reduce bacteria on the treated product by as much as 99.999%, or 5-log reduction. Studies available from Exergen.
   c. The TA thermometer is used by ~60% of the hospitals in the US. Of these, ~92% have approved wiping the sensorhead between patients with an alcohol swab, or with whatever has been approved in their facility for wiping the stethoscope diaphragm between patients.
   d. Resposable caps and sheaths that enclose the entire instrument are available for use where preferred.

---

1 Numbered references in parenthesis refer to attached list of “Peer-Reviewed Papers and Abstracts on Exergen Temporal Artery Thermometers.”

Additional clinical information can be found at Exergen’s Clinical Website at www.TAThermometry.org.
Peer-Reviewed Published Papers, Abstracts, Letters on Exergen Temporal Artery Thermometry

<table>
  <thead>
    <tr>
      <th>Ref</th>
      <th>Title</th>
      <th>Journal</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>21. </td>
      <td></td>
    </tr>
    <tr>
      <td>22. </td>
      <td>Langham GE, Maheshwari A, Contrera K, You J, Mascha E, Sessler DI. Noninvasive temperature monitoring in postanesthesia care units. <i>Anesthesiology</i>, V 111, No 1, Jul 2009</td>
      <td></td>
    </tr>
    <tr>
      <td>23. </td>
      <td></td>
    </tr>
    <tr>
      <td>24. </td>
      <td></td>
    </tr>
    <tr>
      <td>25. </td>
      <td></td>
    </tr>
    <tr>
      <td>26. </td>
      <td></td>
    </tr>
    <tr>
      <td>27. </td>
      <td></td>
    </tr>
    <tr>
      <td>28. </td>
      <td></td>
    </tr>
    <tr>
      <td>29. </td>
      <td></td>
    </tr>
    <tr>
      <td>30. </td>
      <td></td>
    </tr>
    <tr>
      <td>31. </td>
      <td>Pompei F. Misguided guidelines on noninvasive thermometry. <i>Crit Care Med.</i> 2009 Jan;37(1):383; author reply 383-4.</td>
      <td></td>
    </tr>
    <tr>
      <td>32. </td>
      <td></td>
    </tr>
    <tr>
      <td>33. </td>
      <td></td>
    </tr>
    <tr>
      <td>34. </td>
      <td></td>
    </tr>
    <tr>
      <td>35. </td>
      <td></td>
    </tr>
    <tr>
      <td>36. </td>
      <td></td>
    </tr>
    <tr>
      <td>37. </td>
      <td>Siberry GK, Diener-West M, Schappell E, Karron RA (Department of Pediatrics, School of Medicine, The Johns Hopkins University). Comparison of temple temperatures with rectal temperatures in children under two years of age. <i>Clinical Pediatrics</i>, pp 405-414, July/August 2002.</td>
      <td></td>
    </tr>
    <tr>
      <td>38. </td>
      <td>Szmuk P, Curry BP, Sheeran PW, Farrow-Gillespie AC, Ezri T (Anesthesiology, UT Southwestern and Children's Medical Center, Dallas, Texas). Perioperative temperature audit in a large pediatric hospital. <i>Anesthesiology</i> 2007; 107: A1612.</td>
      <td></td>
    </tr>
    <tr>
      <td>39. </td>
      <td></td>
    </tr>
  </tbody>
</table>