

Bullet Points of Importance in an Inservice for Using the Exergen TemporalScanner Thermometer

- **Basics:**

Begin with basics so nursing staff can see how the TemporalScanner should be used, but first use your forefinger rather than the instrument:

1. Place your forefinger in the center of your forehead.
2. Slide it in a straight line over to your hairline.
3. Lift your forefinger and touch that little soft depression your neck just below your earlobe.

If you had the Exergen Temporal Artery Thermometer in your hand, you would have just taken the fastest, gentlest, most accurate temperature in the world!

- **Basic Steps in Using the TemporalScanner:**



1 Brush hair away if covering the forehead or ear



2 Place probe **FLUSH** on forehead, depress button & **keep depressed until you are done**



3 Slide **STRAIGHT** across forehead, **NOT** down the side of the face



4 Lift probe from forehead and touch neck just behind the ear lobe

5 Remove, read and record temperature



- **Scan in a straight line and you will never miss the artery – here's why:**

1. We all know that the temporal artery comes up the side of the face from the external carotids, but, it can go deep, introducing a variable unsuitable to making an accurate measurement.
2. The superficial part of the temporal artery is our target. This is located up in the forehead, about 2 mm below the skin, literally trapped between the skin and the skull.
3. While we know how deep the superficial part of the artery is, its exact location varies with each individual, which is why we scan allowing the TAT to locate it, something like a radar detector.

- **The touch behind the ear is to assure the correct reading if the patient is sweaty – here’s why:**
 1. If the forehead is moist, the effect of evaporative cooling will result in a low reading, however,
 2. Since vasodilation is 100% assured when sweating, and we sweat last on the neck, unless the patient is completely sweaty, the touch on the neck just behind the earlobe will override the effect of evaporative cooling.
 3. If the patient is completely sweaty, either return in about 10 minutes to take the temp, or place an Exergen film strip over the temporal artery area and scan over the film.
 - a. The film becomes an impermeable barrier to moisture, preventing any effect from evaporative cooling. This allows a scan to be made on top of the film strip, without the requirement to scan on the neck area behind the ear. And, the strip will self-adhere as long as the tissue is moist.

- **Infants. Scanning both the forehead and behind the ear is not required – here’s why:**
 1. Infants are in a constant state of vasodilation until they are nearly a year old when their vasomotor controls are mature.
 - a. As vasodilation is the prerequisite for making the measurement, a gentle touch to the temporal artery area, or a 2 inch scan across the temporal artery area is all that is required.
 - b. It is easier to depress the button prior to touching an infant's head

- **Important Things to Know**
 1. The TemporalScanner measures CORE Temperature, about 1°F (0.6°C) higher than an oral temperature.
 - a. Mean normal core temperature is about 99.4°F (37.4°C) vs. about 98.6°F (37°C) for an oral temperature.
 - b. Fever protocol will need to be adjusted upwards if your current protocol is based on an oral temperature.

 2. The TemporalScanner is also available in an oral equivalent calibration
 - a. No adjustment in fever protocol is required.

 3. High Readings are typically a result of:
 - a. Comparing to another method, typically an oral temperature.
 - b. The area being measured is not exposed.

 4. Low Readings are typically a result of:
 - a. A dirty lens – needs cleaning every two weeks with a Q-Tip dampened with an alcohol wipe.
 - b. Curving down the side of the face.
 - c. Multiple temps taken in rapid succession on the same patient.
 - d. A sweaty patient.

 5. Exergen has a comprehensive Clinical Education Website at www.Tathermometry.org.

- **Important Things to Avoid:**
 1. Taking multiple temps in rapid succession on the same patient (something NEVER done with an oral or rectal thermometer. And, here’s why:
 - a. The cold probe cools the skin, and skin is part of our measurement.
 - b. Wait about 30 seconds before repeating a temp on the same patient.

2. Relying on the accuracy of touching the patient (palpation) to determine fever. And here's why:
 - a. Your hand is not a good indicator of fever, it is subjective and depends on the temperature difference between your hand and the patient.
 - b. While palpation will be correct about 98% if the patient does NOT have a fever, it will be wrong more than half of the time if the patient does have a fever.
3. Believing the rectal temperature over temporal artery temperature if they differ. And, here's why:
 - a. Rectal temperature has a well proven lag time in responding to a rapidly changing temperature.
 - i. Lag time for adults can be several hours, well documented since the invention of the Swan Ganz PA catheter in late 1960.
 - ii. Lag time for infants as young as 0-12 months can be 60-90 minutes, first quantified by Harvard Medical School and Boston Children's Hospital in 2004.

- **Alternate sites for measurement**

1. **The neck behind the earlobe:**

- a. If the forehead is inaccessible because of bandages due to head trauma, vasodilation in the neck is assured. Just touch the neck behind the earlobe, press and release the button.
- b. If behind the earlobe is covered, scan the part of the neck that is accessible.

2. **The femoral artery area:**

- a. The femoral artery is a strong artery with a long history as a temperature measurement site. To make the measurement, just scan across the femoral artery following the crease of the groin.

3. **Lateral thoracic artery area**

- a. Scan in a zigzag pattern about 4 inches wide from an imaginary line in between the axilla and the nipple, scanning down to the waist and back up to the level of the nipple.

- **Preventive Maintenance**

1. **Cleaning the Instrument: IMPORTANT: Dirty Lens = Low Temps**

- a. The lens deep in the center of probe should be cleaned every 2 weeks with a Q-TIP dampened with an alcohol prep pad.
 - i. Absolutely no bleach based solutions or wipes should be used on the lens, as bleach will etch the lens, resulting in low readings.
 - ii. The casing can be cleaned with any hospital approved disinfectant, but only alcohol can be used on the lens.

2. **Battery:** A 9-volt alkaline battery will provide approximately 15,000 readings, about a year of heavy usage.

- a. A low battery warning will be indicated on the display.
- b. A low battery will never be responsible for low (or high) readings.
- c. The battery is located in the compartment directly under the instruction label, and easily changed after loosening the screw and removing the cover.

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