Non-Contact Infrared Thermometer Guidance

May 1, 2020

Clinical Engineering Informational Document

FDA Non-Contact Infrared Thermometers Guidance

Measuring a person’s temperature can be done in several ways. One method to measure a person’s surface temperature is with the use of non-contact infrared thermometers (NCITs). NCITs may be used to reduce cross-contamination risk and minimize the risk of spreading disease. While typically 98.6°F (37.0°C) is considered a “normal” temperature, some studies have shown that “normal” body temperature can be within a wide range, from 97°F (36.1°C) to 99°F (37.2°C). Before NCITs are used, it is important to understand the benefits, limitations, and proper use of these thermometers. Improper use of NCITs may lead to inaccurate measurements of temperature.

Benefits of NCITs

- Non-contact approach may reduce the risk of spreading disease between people being evaluated
- Easy to use
- Easy to clean and disinfect
- Measures temperature and displays a reading rapidly
- Provides ability to retake a temperature quickly

Limitations of NCITs

- How and where the NCIT is used may affect the measurement (for example, head covers, environment, positioning on forehead).
- The close distance required to properly take a person’s temperature represents a risk of spreading disease between the person using the device and the person being evaluated.

Proper Use of NCITs

The person using the device should strictly follow the manufacturer’s guidelines and instructions for use for the specific NCIT being used. The manufacturer’s instructions for use typically include the following information and recommendations for proper use.

Preparing the Environment and NCIT:

The use environment may impact the performance of the NCIT. Instructions will typically include recommendations for optimal use, such as the following:

- Use in a draft-free space and out of direct sun or near radiant heat sources.
- Determine if conditions are optimal for use. Typically, the environmental temperature should be between 60.8-104°F (16-40°C) and relative humidity below 85 percent.
- Place the NCIT in the testing environment or room for 10-30 minutes prior to use to allow the NCIT to adjust to the environment.
Cleaning Between Uses:
For cleaning NCITs between uses, follow the instructions in the Cleaning and Disinfecting section of the product instructions. Most NCITs should never be immersed in water or other liquids.

Preparing the Person being Evaluated:
In preparation for taking a temperature measurement with an NCIT, the person using the NCIT should typically ensure that
- The test area of the forehead is clean, dry and not blocked during measurement.
- The person’s body temperature or temperature at the forehead test area has not been increased or decreased by wearing excessive clothing or head covers (for example headbands, bandanas), or by using facial cleansing products (for example cosmetic wipes).

Using the NCIT:
As previously noted, the person using the device should **strictly follow the manufacturer’s guidelines and instructions for use** for the specific NCIT being used. In particular, the following are typical instructions for NCIT usage.
- Hold the NCIT sensing area perpendicular to the forehead and instruct the person to remain stationary during measurement(s). (See Figure 1)
- The distance between the NCIT and forehead is specific to each NCIT. Consult the manufacturer’s instructions for correct measurement distances.
- Do not touch the sensing area of the NCIT and keep the sensor clean and dry.

Figure 1: Correct Use – Forehead unobstructed, and NCIT perpendicular to forehead and used at distance identified in manufacturer’s instructions.

Figure 2: Incorrect Use – Not perpendicular to forehead
Info specific to thermometers coming from DISC

For ALL Non-Contact Infrared Thermometers: Before taking the temperature of a person coming from an ambient at a different temperature than the room where the thermometer is used (for example from outside), you must give them the time to stabilize themselves into the new room. To do this we suggest that the person stays in the room for several minutes before taking their temperature.

Model DT-8806C

Have Clinical Engineering calibrate this unit prior to use.

Precautions Before Use
Let the unit reach ambient temperature before using; 15-20 minutes.
Allow 1-minute interval between measurements.
When inserting new batteries, wait 10 minutes before use.
Press the MODE button for 5 seconds to switch between C and F.

Use
AIM towards the center of forehead, hold between 0.5 and 2.0 inches (1-5cm) from forehead, pull the measuring trigger, the temperature will be displayed. Unit will shut itself off after use.
(Make certain there is no hair, perspiration, cosmetic or fabric covering the forehead.)

Cleaning
Clean lens with cotton or alcohol wipe, the rest can be wiped with Sani-wipes.

Accuracy +/- 0.2 C (.4F)
For readings below 36C (96.8F) or above 39C (102.2F) the accuracy drops to +/- 0.3C (.5F)
No Calibration Required

Precautions Before Use
Let the unit reach ambient temperature before using; 15-20 minutes.
Allow 1-minute interval between measurements.
When inserting new batteries, wait 10 minutes before use.
Press the Speaker button for 5 seconds to switch between C and F.

Use
AIM towards the center of forehead, hold between 0.5 and 2.0 inches (1-5cm) from forehead, pull the measuring trigger, the temperature will be displayed. Unit will shut itself off after use. *(Make certain there is no hair, perspiration, cosmetic or fabric covering the forehead.)*

Cleaning
Clean lens with cotton or alcohol wipe, the rest can be wiped with Sani-wipes.

Accuracy +/- 0.2 C (.4F)
*For readings below 36C (96.8F) or above 39C (102.2F) the accuracy drops to +/- 0.3C (.5F)*

---

Thermofocus®

No Calibration Required

Precautions Before Use
Let the unit reach ambient temperature before using; 10-30 minutes.

Use
Open the protective cap, hold the thermometer as it was a pen, press the button "on" to activate the tracking lights and keep it pressed, get the thermometer close to the center of the forehead, you will notice two points, at the right distance (approx. 3 cm or 1.2 inch) the two beams converge to form a single red spot on the skin of the forehead. Release the button and keep the thermometer still for less than one second until the lights flash and the temperature appears in the LCD display of the thermometer.

Cleaning
Clean the entire thermometer with Sani-wipes.

Accuracy +/- 0.2 C (.4F)
*For readings below 36C (96.8F) or above 39C (102.2F) the accuracy drops to +/- 0.3C (.5F)*

*(There is no need to concern if the aiming lights are pointed into the eyes: the beams are harmless and are not laser lights.)*
Clinical Engineering does not recommend that the non-contact IR thermometer be used for diagnostic purposes due to the potential variability in temperature readings and that they only be used for screening of colleagues entering the building. Please contact your local clinical engineering department for assistance with gaining familiarity for use of the particular model provided to your hospital.