

Proper Temperature Measurement

YouTube Link: <https://youtu.be/Lwopnj3UWac>

FDA Non-Contact Infrared Thermometer Information:

Link: <https://www.fda.gov/medical-devices/general-hospital-devices-and-supplies/non-contact-infrared-thermometers>

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



Figure 3: Incorrect Use – Forehead exposed to direct sunlight outdoors