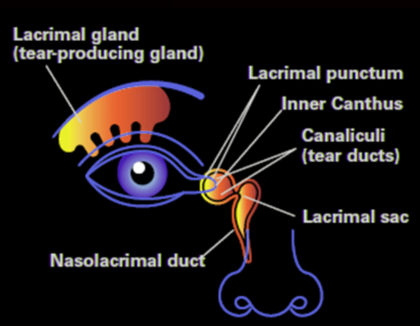
How to Measure for Accurate Screening

Human body temperature is a complex phenomenon. Humans are homeothermic, radiating heat through layers of skin to control internal temperature. As a dynamic organ, skin constantly adjusts the optimum balance between the physiologic demands of the body and external environmental conditions.

Research has shown that the corner of the eye—the region medially adjacent to the inner canthus—provides a more accurate estimate of core body temperature than other areas of skin such as the forehead. This is because skin at the canthi is thin (decreasing insulating effects), is less exposed to environmental factors, and is directly over major arteries which increase blood flow and heat transfer. Normal temperature ranges for inner canthi is between 93°F and 100.4°F.



Screening Workflow

As per the guidance of governing and regulatory agencies, a screening workflow should involve:

- Screening people one at a time.
- Allowance for people to stabilize their temperature if it was raised by exercise or strenuous physical activity.
- Instructions to have individuals remove any face and eye obstructions before measurement.
- Positioning of the individual at a fixed distance from the thermal imaging system.
- Positioning of the individual so they directly face the thermal sensor and have their entire face in the image area.
- Secondary screening on individuals who display an elevated skin temperature using a medical device designed specifically for measuring body temperature.

Screening Location

The screening location can significantly impact the efficacy of screening process. Care should be taken to ensure the following:

- Indoor screening is best with room temperatures maintained at 20°C to 24°C (68°F to 76°F) and relative humidity between 10 and 50 percent.
- Screening should be carried out in an area with no air movement, out of direct sunlight, and away from heat sources.
- Avoid locations with reflective backgrounds (e.g. windows or metallic surfaces).
- Allow for appropriate distancing between people in the screening queue, between the individual being screened and the camera, and between the camera and the screening operator.
- If screening must take place outdoors, steps should be taken to minimize the ambient environmental impacts on the persons being screened (i.e. – use of tents or shielding structures).