

**INTEGRATING HEALTH****● Skin Temperature**

Two temperatures are important in the human body—core temperature and skin temperature. Core temperature is the temperature of the brain and inner body, and this temperature extends to about 2 cm beneath the body's surface. Skin temperature is the temperature at the skin's surface.

Extra heat can come to the body from internal and external sources. Internal sources raise core temperature first and skin temperature second. An example of an internal source of heat is the muscular activity that is part of exercise. The sun, hot air, hot surfaces, or other external sources raise skin temperature first and core temperature second. Because heat flows from areas of warmth to areas of coolness, core temperature and skin temperature also affect each other.

Average core temperature, which is 37°C, can rise to 38°C or 40°C during exercise. During sleep, core temperature usually drops 1°C. The average comfort zone of skin temperature is 33°C to 34°C. If skin temperature drops to 32°C, the person feels cold. A person loses all sensation in skin with a temperature of 15°C or less. When skin temperature reaches a range of 35°C to 39°C, individuals will feel warm or hot. At 39°C to 41°C, people feel pain. When skin temperature is greater than 41°C, burning pain begins. Rapid tissue damage to skin results from skin temperatures of 45°C or higher.

**Your Turn to Think**

1. In the space below, make a chart of skin temperatures and their associated sensations.
2. If skin temperature reaches average core temperature, what sensation can be expected?
3. At what skin temperature might someone benefit from gloves to keep his or her hands warm?
4. On average, do people tend to experience a wider range of skin temperatures or core temperatures?