



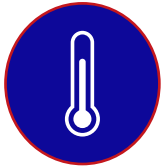
مستشفى الملك فيصل التخصصي ومركز الأبحاث
King Faisal Specialist Hospital & Research Centre
مؤسسة عامة Gen. Org.

Thermometers



King Faisal Specialist Hospital & Research Center
P.O Box 3354 Riyadh 11211
Kingdom of Saudi Arabia
Tel: +966 114647272
www.kfshrc.edu.sa

Body temperature is one of the important signs about the body's health. Therefore, choosing the right thermometer is key in diagnosing and controlling illness.



Why should body temperature be checked?

- Keep a distance of at least 1 meter between you and others.
- Avoid crowds as much as possible.
- Avoid small gatherings like family occasions and even with friends.
- Refrain from handshaking, hugging and kissing to greet others and instead use culturally sensitive non-physical gestures like waving or placing hand on chest.



What is the normal body temperature?

Normal body temperature is 37 degrees Celsius, around 98.6 Fahrenheit. Keep in mind that the temperature may vary half a degree Celsius or a degree or 2 Fahrenheit in a day. Usually, body temperature is less in the morning and gradually increases throughout the day peaking in the afternoon or evening.



What is fever?

Fever is high body temperature, 38 Celsius (100.4) Fahrenheit in adults. Fever can be treated at home by taking fever-lowering medications, high fluid intake and good rest until full recovery. However, if the temperature exceeds 38.8 Celsius (1.12 Fahrenheit), you should report to the hospital for medical attention.

Thermometer types:

Digital Thermometer: Provides the most accurate temperature readings and available in most pharmacies and medical stores.

Digital thermometers can be used in three ways:

- **Orally:** Can be used for adults and children above the age of four, who can keep the thermometer in their mouth under the tongue.
- **Rectally:** Can be used in children until the age of three. It could be difficult to apply in children who are above the age of three, in this case the thermometer should be inserted gently in the rectum.

Under armpit: Can be used in children or adults when it is difficult to apply other routes for accurate readings, the thermometer is placed under the armpit. Although such a method is not as accurate as the oral and armpit routes, it can be applied, as a preliminary method until the oral and rectal route are available.

Other thermometer types:

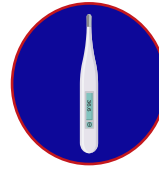
- Electronic ear thermometer: Can be used in children above the age of three months and in adults. This type measures body temperature using infrared ray scanner through the inner ear. It is easy and quick. However, do not use in children who have excessive earwax or ear pain.
- Forehead Temporal Artery thermometer: Can be used in children and adults. This type measures body temperature using infrared ray to scan the temporal artery. Using this type of thermometers may not yield accurate results as compared to the other types of digital thermometers and more costly as well.



Un-recommended types of thermometers:

Do not use the following thermometers because of inaccuracy:

- Plastic strip thermometer that can only measure skin temperature.
- Pacifier thermometer is hard to use because it needs to stay in the mouth for a long time to provide accurate readings.
- Smartphone thermometer apps.
- Glass and mercury thermometers are inaccurate and could cause mercury poisoning.



How to use thermometers: Oral thermometer:

- Wash hands with soap and water.
- Before use, wash the thermometer with soap and water, sterilize with alcohol and then rinse with cold water.
- Refrain from eating and drinking 5 minutes before measuring the temperature in order to get accurate readings.
- Place the thermometer under the tongue as instructed by manufacturer insert and keep your mouth closed for accurate readings.
- Keep the thermometer under the tongue for 40 seconds.
- Numbers will gradually rise until Celsius or Fahrenheit signs appear and start flashing.
- It usually takes 30 seconds for thermometers to show results. You should hear a beep once the reading is ready.
- After use, wash the thermometer with soap and water, sterilize with alcohol and then rinse with cold water.



Thermometer types:

- Wash hands with soap and water.

- Wash the thermometer with soap and water, sterilize with alcohol and then rinse with cold water.
- Apply a small amount of lubricant like Vaseline on the tip of the thermometer.
- On a comfortable and flat surface like bed or table, lay the baby on its belly while placing one hand on the baby's back. You can also lay the baby on its back and gently bend the knees towards the chest, hold the back the baby's thighs with one hand. It is important to place a diaper or a piece of cloth under the baby because the baby might defecate immediately after pulling the thermometer out.
- Using your other hand, gently insert the thermometer into the baby's rectum to full length of the thermometer. Pull the thermometer out immediately if the baby shows any signs of distress.
- Secure the thermometer with your hand until you get the temperature reading which usually take 30 seconds.
- Gently pull the thermometer out.

Wash the thermometer with soap and water, sterilize with alcohol and then rinse with cold water.



Armpit thermometer:

- Wash hands with soap and water.
- Undress the baby. Place the thermometer tip under the armpit. It is important to dry the armpit in order to get accurate results.

- Secure the thermometer under armpit by placing the baby's arm on it's chest.
- The thermometer will beep once the reading is ready which might take 30 seconds.
- Remove the thermometer.
- Wash the thermometer with soap and water, sterilize with alcohol and then rinse with cold water.

Rectal thermometers are the most accurate. When using oral or armpit thermometers, add 0.3 to 0.6 degrees Celsius or 0.5 to 1 degree Fahrenheit to the temperature reading for more accuracy.



Electronic ear thermometer:

- Wash hands with soap and water.
- Gently pull up top of the ear to open the ear canal.
- Place the thermometer's tip cover
- Gently insert the thermometer in the ear canal to its full length.
- The thermometer will beep one the reading is done. Usually in 1 to 2 seconds.
- Gently pull the thermometer out and dispose of the tip cover.



Forehead temporal artery thermometer:

- Place the thermometer's tip cover, some modern thermometers do need tip covers because they can read temperature without touching the forehead.
- swipe the thermometer across the forehead to get a temperature reading from the temporal artery.
- Dispose of the tip cover.

How many times should I check my temperature?

- When feeling sick.
- When feeling feverish.
- To check the efficacy of the treatment plan as instructed by the treating physician.
- When instructed by the treating physician.

Thermometer storage and cleaning:

- It is important to follow the storage and cleaning instructions provided by the manufacturer as per insert.
- Wash thermometer with soap and water or clean it with alcohol sanitizers before and after use.
- It is important to store thermometers in a accessible designated place away from heat and humidity.
- It is important to store thermometers I a way that makes it easy to differentiate between types especially for elderly people.

References:

<http://my.clevelandclinic.org/health/articles/9959-thermometers-how-to-take-your-temperature>