

How to take a temperature

Children and adults

There are 4 ways to take (measure) a temperature:

- Under the armpit (axillary method)
- In the mouth (oral method)
- In the ear (tympanic method)
- In the rectum/bum (rectal method)

What type of thermometer should I use?

A digital thermometer is best for taking temperatures by the armpit and mouth.

Fever strips and pacifier thermometers do not give an accurate temperature. Do not use a mercury thermometer. Mercury is toxic and the thermometer could break.

Over the forehead (temporal artery method)

Non-contact infrared thermometers (NCITs) measure body temperature from a specific distance by sensing the energy emitted by humans. NCITs offer a way to take your temperature without touching, unlike traditional thermometers that require physical contact. NCITs are considered more susceptible to inaccurate measurements than other thermometers (for example, oral and rectal thermometers, well-calibrated tympanic thermometers). Several factors influence the ability of NCITs to detect fever accurately, including:

- Relative humidity
- Significant perspiration
- Positioning on forehead
- Exposure to cold or hot weather before temperature measurement

Follow the best practices and the manufacturer's instructions when using NCITs. Remember that

many factors affect NCIT accuracy and that NCIT readings do not themselves rule in or rule out the presence of infection. NCIT's are not the recommended temperature taking method for children.

Speak to a pharmacist if you have any questions when buying a thermometer. A pharmacist can help you select the best type of thermometer for the method you choose to use.

Whichever type of thermometer you use, make sure to clean them (except ear thermometers) with cool, soapy water and rinse off before and after use.

How should I take a child's temperature?

From birth to age 5, the most common way to take a temperature is under the armpit. For children older than 2, temperatures can also be taken by ear or, if the child is able to sit still long enough, by mouth. The most accurate way to take a temperature is in the bum (rectal method). See the section on the rectal method to learn how safely take a rectal temperature.

Always wash your hands before and after taking your child's temperature. For more information on hand washing, see [HealthLinkBC File #85 Hand washing: Help stop the spread of germs](#).

Make sure to read and follow the manufacturer's instructions each time you use a different type or brand of thermometer.

Axillary method (under the armpit)

The armpit method is usually used to check for fever in newborns and young children:

- Place the tip of the thermometer in the centre of the armpit

- Tuck your child’s arm snugly (closely) against their body
- Leave the thermometer in place for about 1 minute, until you hear the “beep”
- Remove the thermometer and read the temperature

Oral method (in the mouth)

The mouth method can be used for children who are older than 5 years of age. It is not recommended for children younger than 5 years of age, because it is hard for them to hold the thermometer under their tongue long enough:

- Carefully place the tip of the thermometer under your child’s tongue
- With your child’s mouth closed, leave the thermometer in place for about 1 minute until you hear the “beep”
- Remove the thermometer and read the temperature

Tympanic method (in the ear)

The ear method is recommended for children older than 2 years old. Though quick to use, the ear method can produce temperature readings that are incorrect, even when the manufacturer’s directions are followed:

- Use a clean probe tip each time, and follow the manufacturer’s instructions carefully
- Gently tug on the ear, pulling it back. This will help straighten the ear canal, and make a clear path inside the ear to the ear drum
- Gently insert the thermometer until the ear canal is fully sealed off
- Squeeze and hold down the button for 1 second
- Remove the thermometer and read the temperature

Rectal method (in the rectum or bum)

The rectal method can be used to check for fevers in newborns and young children. Use a rectal thermometer only if you are comfortable doing so and a health care provider has shown

you how to do it safely:

- Cover the silver tip with petroleum jelly (such as Vaseline)
- Place your baby on their back with their knees bent
- Gently insert the thermometer in the rectum, about 2.5 cm (1 inch), holding it in place with your fingers
- Leave the thermometer in place for about 1 minute until you hear the “beep”
- Remove the thermometer and read the temperature

For more detailed instructions on how to take a temperature using the rectal method, speak to your health care provider.

After a thermometer has been used to take a rectal temperature, do not use it to take an oral temperature. Make sure that the rectal thermometer is clearly marked so that it is not used orally. For example, you could label your rectal thermometer with an “R” and your oral thermometer with an “O”.

How should I take an adult’s temperature?

Take an adult’s temperature by mouth, in the ear or under the armpit. The armpit method is less accurate and is normally only used if the person is extremely drowsy or not clear mentally. Follow the same methods used for taking a child’s temperature.

What is a normal temperature?

The normal temperature range varies, depending on the method you use:

| Method | Normal temperature range |
|--------------|-----------------------------------|
| Armpit | 36.5°C - 37.5°C (97.8°F - 99.5°F) |
| Mouth | 35.5°C - 37.5°C (95.9°F - 99.5°F) |
| Ear | 35.8°C - 38°C (96.4°F - 100.4°F) |
| Rectal (bum) | 36.6°C - 38°C (97.9°F - 100.4°F) |

Temperatures may vary throughout the day, rising as much as 1 degree in the morning and reaching a maximum during the late afternoon. Mild increases may be caused by exercising, too much clothing or bedding, taking a hot bath or being outside in hot weather.

When a child is sick with an infection, it is normal to have a fever (temperature higher than 38°C (100.4°F). A fever is part of the normal process of fighting an infection. Usually, it goes away after 3 days.

Thermometers are not always accurate so it is important to be watching for other signs that your child might be ill. Also, the degree of a fever does not always indicate how serious an illness is, but rather the child's behaviour, overall appearance and other symptoms such as headache, stiff neck, nausea, and vomiting are generally the most important factors. A fever with other symptoms may mean a more serious illness.

What can I do if my child has a fever?

- Offer plenty of fluids
- Encourage your child to rest
- Remove extra blankets or extra clothing as long as the child does not become too cold or shiver. Shivering can cause the body's temperature to rise
- Medicine to reduce a fever is not always needed
- Sponge baths, alcohol baths and rubs are not recommended

When should I take my child to see a health care provider?

Call your health care provider if your child:

- Has a fever for more than 3 days
- Is not eating or drinking well
- Is lethargic (low energy), excessively fussy or irritable
- Has a fever and signs of another illness (rash, cough, vomiting, diarrhea)

Babies younger than 3 months of age must be seen by a health care provider when they have a fever. During the first 3 months of life, babies are not always able to fight infections, so they need to be seen sooner than older babies and children with fevers.

For babies 3 to 6 months, the parents should speak with their health care provider.

For more information

For more information, see the following HealthLinkBC Files:

- [HealthLinkBC File #84 Reye syndrome](#)
- [HealthLinkBC File #112 Febrile seizures \(fever seizures\)](#)

For more information about fever and temperature taking, visit Caring for Kids at https://caringforkids.cps.ca/handouts/health-conditions-and-treatments/fever_and_temperature_taking.

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