How to check child temperature correctly

Choose the right thermometer and route

The first step is matching the thermometer method to the child’s age and the clinical situation. For infants and toddlers, rectal temperature is considered the most accurate estimate of core body temperature, particularly in children younger than 3 years. This is the route most often recommended when precision matters, such as in a young infant or when a caregiver needs to confirm a fever.

Use a digital thermometer rather than a glass mercury thermometer. Mercury thermometers are no longer recommended for home use because breakage can expose the household to mercury vapor or droplets. Digital thermometers are faster, easier to read, and can be used for rectal, oral, or axillary measurement depending on the device instructions. Keep one thermometer clearly labeled for rectal use only, and do not later use it orally.

Oral temperatures are suitable for many older children who can reliably keep the thermometer under the tongue with lips closed. Ear, or tympanic, thermometers can be useful when positioned correctly, but readings can be affected by ear canal anatomy, wax, poor placement, and recent exposure to cold outdoor air. Forehead, or temporal artery, thermometers are convenient and noninvasive, and some are approved for infants 3 months and older, but they

still require careful placement and attention to the manufacturer’s technique.

Armpit, or axillary, temperatures are the least invasive and can be helpful for screening, but they are generally less precise than rectal measurements. If an axillary reading is high, low, or inconsistent with how the child looks, confirm it with a more accurate method when appropriate and feasible.

Prepare before taking the temperature

A calm setup improves accuracy and reduces distress. Wash your hands, read the thermometer instructions, and make sure the device is clean, functional, and has working batteries. If disposable probe covers are used, apply one before measurement and remove it afterward according to the device instructions.

Try to avoid taking a temperature immediately after circumstances that can alter the reading. For oral temperatures, wait about 30 minutes after the child has eaten or drunk hot or cold fluids. Vigorous activity, heavy blankets, a warm bath, or being bundled in a car seat can temporarily raise skin temperature or affect peripheral readings. If possible, let the child rest in a comfortable indoor environment for several minutes before measuring.

Positioning matters. For infants, have all supplies within reach before you begin, especially if you are taking a rectal temperature. You should never leave a baby unattended on a changing table, bed, or counter. For older children, explain briefly what you are doing in age-appropriate language. A child who is frightened, crying hard, or resisting may move suddenly, which can interfere with the measurement and increase the chance of injury with rectal or oral methods.

Record the number, route, time, and any relevant context. For example, a note such as "101.2´℉ oral at 7:30 p.m., no fever-reducing medicine yet" is more useful than a number alone. If you call a clinician, they will often ask how the temperature was taken and whether the child has received any medication.

How to take a rectal temperature

Rectal measurement is usually the preferred method for accurate temperature assessment in babies and young children, but it must be done gently. Use a

digital rectal thermometer with a flexible tip if available. Clean the tip, apply a small amount of lubricant such as petroleum jelly or water-based lubricant, and place the child safely on their back with knees gently drawn toward the chest, or on their belly across your lap with one hand securing them.

Insert only the thermometer tip into the rectum. Common pediatric guidance is about 1/2 inch to 1 inch, depending on the child's size and the thermometer design. Do not force the thermometer. If you meet resistance, stop and choose another method or seek guidance. Hold the thermometer steady between your fingers and keep your hand braced against the child's buttocks so sudden movement does not push it farther in.

Wait until the digital thermometer signals that the reading is complete, then remove it gently and read the result. Clean the thermometer according to the manufacturer's instructions. Soap and water followed by appropriate disinfection is commonly used for many devices, but instructions vary.

Because rectal temperature is close to core temperature, clinicians often use it as the reference point in infants. A rectal temperature of 100.4´℉ or 38´℃ or higher in a baby younger than 3 months should prompt immediate medical advice, even if the baby otherwise seems well. In this age group, fever can be the only early sign of a potentially serious infection, and a healthcare professional should guide next steps.

How to take an oral temperature

Oral temperature works best for children old enough to cooperate, usually around school age, though readiness varies. The child must be able to keep the thermometer correctly positioned under the tongue, keep lips closed, and avoid biting the device. If the child is congested and cannot breathe comfortably through the nose, an oral reading may be difficult or unreliable.

Before taking an oral temperature, wait about 30 minutes after hot or cold drinks, food, chewing gum, or vigorous activity. Place the digital thermometer tip under the tongue toward the back of the mouth, in one of the heat pockets beside the base of the tongue. Ask the child to close the lips around it without clenching the teeth. Holding the thermometer loosely in the center of the mouth or opening the mouth repeatedly can produce a falsely low reading.

Stay with the child until the thermometer beeps. Afterward, remove the device, read the number, and clean it. If the result does not match the child's clinical picture, repeat the measurement after a short rest or use another appropriate route. For example, a child who feels very hot, is shivering, and appears ill but has a normal oral temperature may have had poor placement or mouth breathing during the reading.

Oral measurements should not be used in a child who is vomiting, very drowsy, confused, unable to follow instructions, or at risk of biting the thermometer. In those situations, use a safer method and seek professional advice if the child's condition is concerning.

How to use armpit, ear, and forehead methods

An armpit temperature is taken by placing the digital thermometer tip high in the center of the dry armpit, directly against skin rather than clothing. Hold the child's arm snugly against the body until the device signals completion. This method is comfortable and safe, but it is less accurate than rectal measurement. It may underestimate fever, so a borderline or unexpected result should be interpreted cautiously.

For an ear temperature, use a tympanic thermometer designed for the ear, not a general digital stick thermometer. Correct alignment is essential because the sensor needs to read infrared heat from the eardrum area. In many children, gently pulling the ear back and up can help straighten the ear canal. Insert the probe only as directed by the manufacturer, aim appropriately, and wait for the signal. Do not force the probe into the canal. Ear readings may be unreliable in very young infants, after lying on one ear, with significant earwax, or when the ear canal is small or inflamed.

Forehead thermometers measure heat over the temporal artery area. Some devices require a slow scan across the forehead; others are no-touch sensors used at a specified distance. Follow the exact device instructions. Skin should be dry and unobstructed. Sweat, hats, direct sun, cold air, and poor scanning technique can alter results. Forehead readings are convenient for repeated monitoring, but a surprising value should be confirmed with a method appropriate for the child's age.

Across all non-rectal methods, consistency helps. Use the same thermometer and route when tracking a fever trend, and write down the route with the result. A series of forehead readings is more interpretable than switching between forehead, ear, armpit, and oral methods without noting the change.

Interpreting the number safely

Temperature is one clinical sign, not a diagnosis. A child's age, immune status, symptoms, hydration, breathing, alertness, and pain level all matter. Many childhood fevers are caused by viral infections and resolve with supportive care, but some situations need prompt medical evaluation. Caregivers should avoid trying to determine the cause of fever from the number alone.

For babies younger than 3 months, a rectal temperature of 100.4´℉ or 38´℃ or higher is a reason to contact a healthcare professional promptly. For children 3 months to 3 years, fever thresholds and urgency depend on the height of the temperature, duration, symptoms, and the child's appearance. A very high temperature, persistent fever, or fever with concerning signs should be discussed with a clinician.

Look carefully at behavior. A child who is drinking, urinating, making eye contact, consolable, and breathing comfortably is different from a child who is lethargic, difficult to wake, breathing fast or hard, showing signs of dehydration, or developing a non-blanching rash. Seek urgent care for severe symptoms, stiff neck, persistent vomiting, seizure, difficulty breathing, blue or gray color, inconsolable distress, or signs that the child is seriously unwell.

Also consider measurement uncertainty. If a reading seems inconsistent, repeat it using careful technique. Confirm an elevated armpit, ear, or forehead result with a more accurate route if the child's age and circumstances allow. When speaking with a clinician, report the exact temperature, route, time taken, the child's age, symptoms, medical conditions, and whether fever-reducing medication has been given. Do not give aspirin to children unless a clinician specifically instructs you.

Cleaning, storage, and common mistakes

Thermometers are shared medical devices within the household, so hygiene matters. Clean the probe before and after each use according to the manufacturer’s instructions. Keep probe covers, lubricant, and spare batteries in a consistent location. Store the thermometer away from heat, direct sunlight, and moisture, because environmental exposure can affect device function.

Label thermometers by route if you use more than one. A rectal thermometer should remain rectal-only, even after cleaning. If you have multiple children, cleaning between uses is important, especially during contagious illnesses. Do not rely on touch alone to judge fever; a hand on the forehead may tell you a child feels warm, but it cannot accurately measure temperature.

Common errors include taking an oral temperature too soon after a cold drink, placing an axillary thermometer over clothing, scanning a sweaty forehead, using an ear thermometer at the wrong angle, inserting a rectal thermometer too far, or switching measurement routes without noting it. Another frequent problem is over-focusing on decimal differences. A change from 101.1´℉ to 101.4´℉ may be less meaningful than whether the child is breathing comfortably, drinking fluids, and becoming more alert.

If you are unsure which method is best for your child, ask your pediatrician or primary care clinician during a routine visit. This is especially useful for premature infants, children with complex medical conditions, children with immune compromise, or families using specialized thermometers. Having a plan before the next illness can make fever monitoring less stressful and more reliable.