

## H.8 FEVER

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A fever is a temporary increase in the body temperature. Fever can be a sign of serious illness. Any person with fever needs medical attention to determine the cause. Fever caused by malaria, typhoid, pneumonia (lung infection) etc., can be very dangerous if they are left untreated and can lead to death.

The normal body temperature is around 37 °C (98.6 °F). Fever is generally agreed to be present if the temperature is above 37.7 °C (100 °F).

Following set points are used to identify fever:

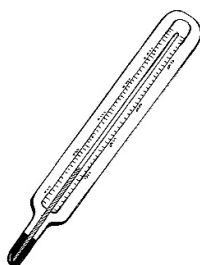
- If the temperature in the anus (*anal/rectal*) is at or over 38.0 °C (100.4 °F).
- If the temperature in the mouth (*oral*) is at or over 37.7 °C (100 °F).
- If the temperature under the arm (*axillary*) or in the ear (*otic*) is at or over 37.2 °C (99.0 °F).

### H.8.1 HOW TO MEASURE THE BODY TEMPERATURE?

The body's temperature can be measured by a thermometer you place in the armpit, mouth, rectum, ear or on the forehead.

#### H.8.1.1 TYPES OF THERMOMETERS

##### H.8.1.1.1 MERCURY TEMPERATURE THERMOMETERS



In a mercury thermometer, a glass tube is filled with mercury and a standard temperature scale is marked on the tube. A mercury thermometer can be easily identified by the presence of a silver bulb. Do not use mercury thermometers to measure the body temperature via the mouth or rectum.

If the bulb is red, blue, purple, green or any other colour, it is not a mercury thermometer, but contains another non-poisonous fluid. It works on the same principle as a mercury thermometer. These type of glass thermometers also can be used to measure the body temperature via the mouth or rectum.

Shake down the fluid in the glass thermometer before starting a new temperature measurement. Do this by holding the thermometer firmly and flicking the wrist until the fluid reads at or below the lowest number.

With changes in temperature, the fluid expands and contracts in a consistent fashion and the temperature can be read from the scale.

#### **H.8.1.1.2 ELECTRONIC BODY TEMPERATURE THERMOMETERS**



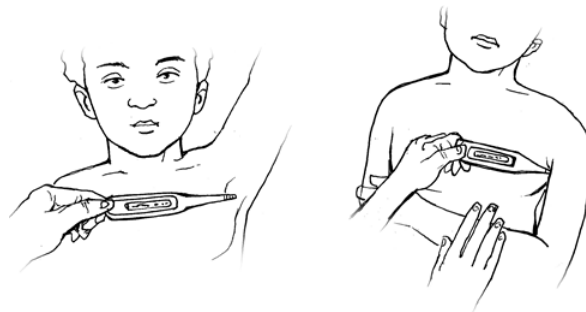
Electronic thermometers exist in different formats and types. These mostly work on battery power, some use sunlight as power source. They have a display where you can read the measurement (in Celsius or Fahrenheit corresponding to the device settings). Most electronic thermometers will beep when the measurement is complete and the body temperature can be read of the display.

Special electronic thermometers exist to measure the temperature via the ear or via scanning the forehead.

#### **H.8.1.2 MEASURING THE BODY TEMPERATURE**

##### **H.8.1.2.1 MEASURING THE BODY TEMPERATURE IN THE ARMPIT**

1. Clean the thermometer using water and soap or rubbing alcohol.
2. Place the thermometer in the armpit.



3. Wait for five minutes or until the electronic thermometer beeps.
4. Read the temperature.
5. Clean the thermometer using water and soap or rubbing alcohol.
6. Wash your hands after taking care of the person. Use soap and water to wash your hands. If no soap is available, you can use ash to wash your hands. Alcohol-based sanitizers can also be used, if available.

##### **H.8.1.2.2 MEASURING THE BODY TEMPERATURE IN THE MOUTH**

1. Clean the thermometer using water and soap or rubbing alcohol.
2. Place the thermometer in the mouth, under the tongue.



3. Ask the person to close the mouth and fix the thermometer via the lips, but not to bite on the thermometer. The person can breathe through the nose.
4. Wait for three minutes or until the electronic thermometer beeps.
5. Read the temperature.
6. Clean the thermometer using water and soap or rubbing alcohol.
7. Wash your hands after taking care of the person. Use soap and water to wash your hands. If no soap is available, you can use ash to wash your hands. Alcohol-based sanitizers can also be used, if available.

#### **H.8.1.2.3 MEASURING THE BODY TEMPERATURE IN THE RECTUM**

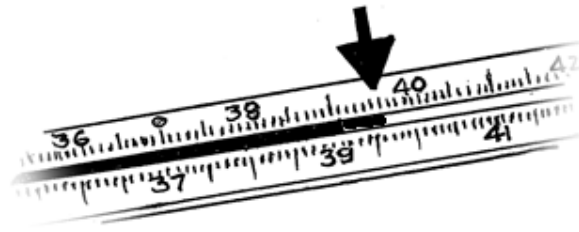
1. This method is used for small children.
2. Clean the thermometer using water and soap or rubbing alcohol.
3. Put petroleum jelly (Vaseline) on the bulb of the thermometer.
4. Place the child face down on a flat surface or knees.
5. Spread the buttocks and insert the bulb end about 1 to 2 cm (1/2 to 1 inch) into the anal canal. Be careful not to insert it too far. Struggling can push the thermometer in further.



6. Wait for three minutes or until the electronic thermometer beeps.
7. Read the temperature.
8. Clean the thermometer using water and soap or rubbing alcohol.
9. Wash your hands after taking care of the person. Use soap and water to wash your hands. If no soap is available, you can use ash to wash your hands. Alcohol-based sanitizers can also be used, if available.

### H.8.1.3 READ THE RESULT

Read the temperature of the glass fluid or electronic thermometer immediately after taking the temperature.



The temperature is read to the closest line of the fluid in glass fluid thermometers, or from the electronic display in electronic thermometers.

A person has fever if his temperature is higher than  $37.7^{\circ}$  ( $>100^{\circ}\text{F}$ ) in the mouth.

If you have no thermometer you can feel with the back of the hand on the abdomen

If the skin feels hot, the person has probably fever.

### H.8.2 WHAT DO I SEE AND ENQUIRE WHEN A PERSON HAS FEVER?

Following signs and symptoms may be observed:

- The person has a raised temperature.
- The person complains of feeling cold, but his skin feels hot.
- He may shiver and have chattering teeth.
- Later the person may show a hot, flushed skin and is sweating.
- The person may complain of headache, malaise (feeling sick) and muscle pain.



- Children under five year of age may show convulsions (aka fits) and shake fast and uncontrollably when their body temperature rises quickly. Seizures can occur even if the child has a mild fever. Alternatively, they can occur when a child's temperature drops fast from a high level.

During simple febrile seizures:

- the child's body will become stiff and their arms and legs will begin to twitch,
- they'll lose consciousness and they may wet or soil themselves,
- they may also vomit and foam at the mouth and their eyes may roll back,

- the seizure usually lasts for less than five minutes,
- following the seizure, the child may be sleepy for up to an hour afterwards.

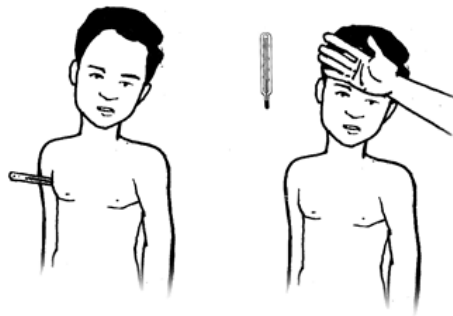
Look also for signs of dehydration, especially when the sick person has diarrhoea or vomiting, the sickness lasts over a longer period, or it is a sick child or elderly person.

### **H.8.3 WHAT DO I DO?**

#### **H.8.3.1 HYGIENE**

1. Wash your hands before and after taking care of the patient. Use soap and water to wash your hands. If no soap is available, you can use ash to wash your hands. Alcohol-based sanitizers can also be used, if available.

#### **H.8.3.2 SUPPORT THE SICK PERSON**



2. Find out how high the temperature of the person is (see “How to measure the body temperature?”).
3. Ask the person to rest.
4. Keep the person in a cool environment.



5. Give the person lots of water to drink to prevent dehydration. Check if the urine darkens or there is less urine.

Breast-fed babies should be breast-fed more frequently than usual.

Bottle-fed babies should be bottle-fed normally and should be given extra rehydration drinks as a supplement.

6. Contact the local healthcare worker as soon as possible so the cause of the fever can be investigated.
7. Evaluate how the person is dressed.

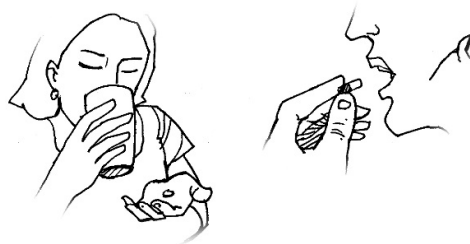
Too much clothing can increase the fever; too little can cause shivering which will deplete the energy of the sick person.



8. Use water at room temperature to sponge the sick person unless he does not like it and starts shivering. Do not use cold water.

If the person with fever is suffering he may benefit from paracetamol. Give the person the appropriate dose of anti-fever medication. These medications might bring temporary relief, but do not treat the cause of the illness.

9. If the sick person has convulsions (aka fits) (the person suddenly shakes fast and uncontrollably): treat for fits (see chapter 'Fits – convulsions – seizures').
10. Keep checking on the sick person. There may be need to get up in night to check the temperature.



11. If medication has been prescribed to treat the person, advise the person to finish the whole course of medicine. If he does not finish the whole course, the disease might come back.

Advise the person to make sure the correct dose and amount of medicine is taken at the prescribed time intervals. Advise the parents when giving medication to a child to make sure that the child is not crying. When a child is crying, the medication will not be swallowed.

If the sick person vomits less than 30 minutes after taking the medicine, the medicine can be given again.

12. Advise not to use, buy or give medication that has:
  - passed the expiry date, or
  - has been exposed to direct sunlight, or
  - has been wet.
13. Bring the person to a nearby healthcare facility if the fever remains or the patient's condition worsens.

### **H.8.3.3    HYGIENE**

Wash your hands after taking care of the patient. Use soap and water to wash your hands. If no soap is available, you can use ash to wash your hands. Alcohol-based sanitizers can also be used, if available.

### **H.8.4        WHEN TO REFER TO A HEALTHCARE FACILITY?**

Fever can be a sign of a serious illness. Any person with fever needs medical attention to determine the cause. It is always advised to undergo a blood test for malaria in malaria prone regions.

Medical attention is especially important for babies, children, pregnant women and the elderly.



Arrange transport for the person to a nearby healthcare facility if:

- The person cannot take his medication.
- The person has convulsions (fits).
- The person is very sleepy, difficult to wake up or is confused.
- The person complains of headache.
- The person keeps vomiting.
- The person cannot drink.
- The person urinates less and the colour of the urine darkens.
- The person has sunken eyes.
- The sick child continues to cry without tears.
- The person's mouth is dry.
- The person cannot sit up or stand up.
- If sick baby is less than three months old, or the baby is too weak.
- The person has fast breathing:
  - Children up to 12 months: more than 50 breaths/minute.
  - Children more than 12 months: more than 40 breaths/ minute.
- The person has difficulty in breathing, for example chest heaving, nostrils flaring or chest indrawing.
- The person lets out a whistling noise when breathing.
- The person starts bleeding spontaneously.

When transporting the person to a healthcare facility or hospital, provide him with something to drink.