

Fever in Adults and the Elderly

What is a Fever?

Fever is an elevated body temperature. Temperature is considered elevated when it is higher than 100°F (37.8°C) as measured by an oral thermometer or higher than 100.8°F (38.2°C) as measured by a rectal thermometer. Many people use the term “fever” loosely, often meaning that they feel too warm, too cold, or sweaty, but they have not actually measured their temperature.

Although 98.6°F (37°C) is considered normal temperature, body temperature varies throughout the day. It is lowest in the early morning and highest in the late afternoon, sometimes reaching 99.9°F (37.7°C). Similarly, a fever does not stay at a constant temperature. Sometimes temperature peaks every day and then returns to normal - a process called intermittent fever. Alternatively, temperature varies but does not return to normal - a process called remittent fever. Doctors no longer think that the pattern of the rise and fall of fever is very important in diagnosis of certain disorders.

Causes

Substances that cause fever are called pyrogens. Pyrogens can come from inside or outside the body. Microorganisms and the substances they produce (such as toxins) are examples of pyrogens formed outside the body. Pyrogens formed inside the body are usually produced by monocytes and macrophages (two types of white blood cells).

Pyrogens from outside the body cause fever by stimulating the body to release its own pyrogens. However, infection is not the only cause of fever. Fever may also result from inflammation, a reaction to a drug, an allergic reaction, autoimmune disorders (when the body produces abnormal antibodies that attack its own tissues), and undetected cancer (especially leukemia or lymphoma).

Acute Fever

In people with an acute fever, certain signs and characteristics are cause for concern. They include

- A change in mental function, such as confusion
- A headache, stiff neck, or both
- Low blood pressure
- Flat, small, purplish red spots on the skin (petechiae), which indicate bleeding under the skin
- Rapid heart rate or rapid breathing
- Shortness of breath (dyspnea)
- A temperature of > 104°F (40°C) or < 95°F (35°C)
- Recent travel to an area where malaria is common
- Recent use of drugs that suppress the immune system (immunosuppressants)



Fever in the Elderly

Fever can be tricky in older people because the body may not respond the way it would in younger people. In frail older people, infection is less likely to cause fever.

Diagnosis is similar to that for younger adults, except that for older people, doctors usually recommend urine tests (including culture) and a chest x-ray. Samples of blood are cultured to rule out a blood infection. Older people with a blood infection are admitted to the hospital.

Treatment

Drugs used to lower body temperature are called antipyretics. The most effective and widely used antipyretics are paracetamol and nonsteroidal anti-inflammatory drugs (NSAIDs), such as aspirin, ibuprofen, and naproxen.

Typically, people may take 650 to 1000 milligrams of paracetamol every 6 hours (not to exceed 4000 milligrams in 1 day). Alternatively, they may take 400 milligrams of ibuprofen every 6 hours. Because many over-the-counter cold or flu preparations contain paracetamol, people must be careful not to take paracetamol and one or more of these preparations at the same time.

Other cooling measures (such as cooling with a tepid water mist and using cooling blankets) are needed only if the temperature is about 106°F. Sponging with alcohol should be avoided because alcohol can be absorbed through the skin and may have harmful effects.

Reference: *The Merck Manual - Home Health Handbook*