

## **Fever Facts**

Victor G. Strang, D.C.

1. Fever (pyrexia) is not the result of damage to the body caused by germs. It is caused by the body itself in response to exposure to germs. The part of the brain that regulates body temperature (the hypothalamus) changes the "set point" to a higher point, like we turn up the thermostat on a furnace. The nervous system then causes the changes that result in a combination of more heat being produced and less heat allowed to escape to the environment, and the temperature goes up to the new set point. (fever!)
2. Fever is "user-friendly". It seems to help the body adapt more successfully or deal with infection better. Fever has been shown to increase levels of interferon, an antiviral substance produced by the body, and to increase blood levels of copper and zinc; also, blood iron levels are lower with fever. The combination of these and other changes helps the body's immune response. Animal studies have proven that too aggressively suppressing fevers may actually be harmful, rather than helpful. Lowering a fever unnecessarily may promote contagion, and may prolong the duration of the illness.
3. The doctor's first concern should not be "how high is the fever?", but he/she should do a good history and exam to determine what is going on. In particular, the patient should be checked for *dehydration*. Prolonged fever, vomiting, and diarrhea are things that can cause dehydration, and make it harder for the body to maintain a stable temperature at high levels. Infants in particular can get dehydrated more rapidly than older children or adults.
4. High fevers do not always mean more serious illnesses, especially in children. Likewise, persistent low-grade fever can be a symptom of serious illnesses, such as urinary-tract infection or leukemia. However, the great majority of fevers occur with minor illnesses, such as upper respiratory tract infections.
5. A doctor or parent who worries about bringing down a fever is like a fireman who tries to turn off the fire alarm rather than find the fire. Fever is a symptom of illness, and successfully suppressing the fever with medications like acetaminophen (Tylenol), ibuprofen (Advil), or aspirin does not make the illness go away! In fact, aspirin use is generally discouraged by doctors because it can cause Reye's syndrome (a very serious, occasionally fatal condition). Further, long term acetaminophen and ibuprofen use have been found to cause liver and kidney damage.
6. Fever that results in brain damage is a fear that people have, but this concern is not warranted. If brain injury occurs with a febrile illness, it is because the infection was in the brain or meninges (meningitis or encephalitis), and not because of very high fever. Excessive bundling, or wrapping of a child with a fever should not be done. Heat stroke is a situation encountered by people whose body temperatures go very high, usually when they're dehydrated, but this is not the same thing as a fever- these people need to be cooled down rapidly!

7. Febrile seizures (or convulsions) occur only in children with a congenital tendency toward them (only 2-6 % of the population!). They do not always occur at the highest point of a fever. They are not the result of nervous system damage from the fever, nor do they (the seizures) result in damage to the nervous system. They are not the same as *afebrile* seizures (epilepsy), and a child who has had one or more simple febrile seizures does not have a greater risk of developing epilepsy!

8. Any treatment with a main objective of lowering a fever is generally a mistake if the fever is not very high (*hyperpyrexia*- over 106 degrees Fahrenheit measured orally). Moderate to high fever (up to 106 degrees) can usually be allowed to "run its course". Most fevers rarely last more than 3-5 days.

9. Chiropractic adjustments do not always lower fevers- they're given for subluxation complexes, not for fevers. If a subluxation complex is hindering the ability of the nervous system to be in careful control of body temperature, then an adjustment may bring about a change of body temperature in an individual with a fever. Sometimes the temperature will even temporarily rise!

10. Alcohol rubs and ice-water baths should never be used to lower a fever; bathing the forehead or tepid (lukewarm) water baths may be used, if a parent feels the need to do something. A child should not be excessively bundled up with blankets or clothing when febrile, but should not be allowed to shiver. The room temperature should be kept comfortably cool, and not too warm. Keep in mind that the skin is where heat loss is controlled, so enough of it should be kept exposed to allow heat to escape, and for the fever to "break" when that time arrives. When this happens, sweating will often occur.

### References

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