

Goose Bumps

WHEN FEELING TOO COLD FOR COMFORT (and there's no coat or sweater readily available), one of the functions of your skin is to act quickly to decrease heat loss (which can sometimes be potentially life-threatening). The goose-bump response (*cutis anserine*) is a reflex of your sympathetic nervous system that goes into action to try to make the problem more tolerable.

So, how does getting goose bumps (which, in scientific circles is likely to be referred to as the pilomotor reflex, horripilation, or piloerection) positively impact your body's need for warmth?

Each of your hair follicles has a very tiny muscle attached to it. When your body perceives that the air around you is too cold, those muscles contract. This contracting reflex results in the attached hair follicle standing on end, which pulls on the skin, causing goose bumps. But here's the really cool (make that "hot") part: That hair-pulling/skin action literally creates an insulating space for air to get trapped. It is that "dead air" space that makes all the difference. It provides you with a nice thermal layer to help warm you up from the inside. Which, incidentally, is also why the hairs that make up the fur of a polar bear are hollow—they create insulating air spaces that can trap or reduce bodily heat loss.

Conversely, when the environment feels too hot to handle, instead of contracting, the blood vessels expand (dilate), which facilitates heat loss from the skin's surface (sweating). While sweating is *essential* to cooling down the body, sweating alone is not enough. The sweat must also evaporate off the skin—which is why it's so hard for your body to naturally cool off in very humid environments!

DID YOU KNOW?

The word *cutis* is Latin for the word "skin" and *anser* is Latin for "goose," hence the name "goose bump" (*cutis anserine*).

10 THINGS TO REMEMBER

1. Each hair follicle has a tiny muscle attached to it.
2. Hair follicles stand on end when the air around you is cold and those muscles contract.
3. Contractions cause the attached hair follicle to stand on end, creating a goose bump.
4. The hairs form a space for air to get trapped and create a thermal layer.
5. When a person feels hot, the blood vessels expand, resulting in sweating.
6. Sweat must evaporate off the skin to cool down the body.
7. In a humid environment, less sweat can evaporate and that makes it hard to cool down.
8. The scientific name for goose bumps is *cutis anserine*.
9. The goose-bump response is a reflex of the sympathetic nervous system.
10. The scientific terminology for the goose-bump reflex is the pilomotor reflex, horripilation, or piloerection.

1. Read

2. Summarize

3. Color

How Goose Bumps Form

