

ULTRA ACCESS

Sweating - the evolutionary superpower...

And how the body reacts to ones core temperature plummeting

Sweating is one of the human body's most amazing evolutionary developments. A biological cooling system, which kicks in as the core temperature rises in the body and begins by causing its sweat glands, (located on the; palms, soles, forehead and torso, among other places) to secrete a hypotonic fluid that spreads across the skin as a way to cool the body.

Scaffolding is brutally physical work. Your muscles turn most of the energy into heat, not movement, so your body heats up fast and starts sweating hard - even in winter.

Now, in the hotter days of the year this thin film of (essentially) water that covers the skin evaporates easily, helped by the warm air and usually lower humidity. As long as the body stays hydrated, everything works perfectly - more sweat appears whenever it's needed to keep the core cool.

However... when the ambient temperature is low or close to freezing, the real danger isn't the cold air itself.

During hard physical work like scaffolding, the muscles produce so much heat that the body still sweats heavily - sometimes almost as much as on a summer day. Most winter work clothing can't shift that amount of moisture vapour quickly enough, so the sweat condenses inside the layers and soaks everything.

Once the heavy lifting stops, those wet clothes lose nearly all their insulation and pull heat out of the body fast. This can send core temperature crashing to dangerously low levels and bring on **hypothermia** in just an hour or two.

Hypothermia ensues when core temperature falls below 35 °C and scientifically, it is classified as:

- **Mild** (35–32 °C): intense shivering, impaired dexterity, and poor judgement.
- **Moderate** (32–28 °C): shivering stops (a grave sign), consciousness clouds, muscle rigidity increases, as well as signs of the body going into shock.
- **Severe** (<28 °C): loss of reflexes, abnormal heart rate, falling unconscious, declining heart rate.

In short: Very few people literally 'freeze to death' with ice forming in their tissue. Almost everyone dies long before that point, when severe **hypothermia** drops the core body temperature below about 28 °C and the heart goes into ventricular fibrillation - causing cardiac arrest or stops altogether.

The trick is highly breathable or easily vented outer layers, which keep you dry and can be removed, when the sweating begins with 1-2 thinner mid layers and a "wicking"/absorbing, but quick drying base layer, preferably merino wool - never trap yourself in one thick jacket that stops the sweat vapour escaping.

Sweating is an evolutionary superpower, but in winter it can kill you if you wear the wrong kit.