How can the human body adapt to work in the heat?

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Video file
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Workers doing manual tasks in the heat can build tolerance through a process called “heat acclimatization”.

Acclimatization requires a steady but gradual increase in daily workload.

On the first hot day, a worker would do 20% of their normal shift.

Then, by adding 20% more per day, the worker’s body can safely adapt to do a full workload. Once acclimatized, the body can maintain a lower heart rate. More blood flows from the deep tissues to the skin. Blood vessels in the skin dilate and release heat to the surroundings.

The body can maintain a lower overall temperature. It also sweats more, but without losing minerals, like sodium or potassium, that help muscle function.

These adaptations are not permanent: they start to decrease two weeks after heat exposure ends. The adaption schedule needs to be repeated after a prolonged absence of the worker. By implementing such plans alongside other practical measures, workers can adapt to heat and be protected in the face of a warming climate.

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