

# Report on effects of consuming ethanol on body temperature

[Health & Medicine](#), [Body](#)



Following the story of the use of ethanol to provide warmth in cold environments, this paper presents research on the effect the consumption of ethanol has on an individual's body temperature. Firstly, the distribution of heat in the body is done by the blood. Through the vasodilatation and vasoconstriction of blood vessels, the body loses and retains heat respectively. Given that ethanol enters the bloodstream directly upon consumption, its effects are almost immediate. Its presence in the blood causes the widening of blood vessels due to its vasodilation effect (Eston & Reily, 2013).

This results in an increase in the flow of blood on the surface of the skin. As the skin flushes due to the increased flow of blood, an individual experiences an increase in body temperature. As such, consumption of ethanol causes an increase in body temperature in the short-term. However, this has a detrimental effect to body temperature, especially in a cold environment and with minimal insulation. The increased flow of blood to the surface of the skin causes the body to lose heat to the cooler environment. In this regard, the consumption of ethanol in cold weather achieves the reverse effects in the long-term (Denel, Libersa & Touitou, 2001). The body loses its heat to the environment resulting in reduced body temperature.

Additionally, nicotinamide adenine dinucleotide dehydrogenase results in the synthesis of glycerol and fatty acids, thereby diminishing other compounds that could be metabolized to produce heat in the body (Berg, Tymoczko & Stryer, 2002). In broad terms, the intake of ethanol affects the metabolism in the long-term. However, it is important to conceptualize the effects of ethanol on metabolism and the flow of blood in order to fully understand the

effect it has on the body temperature of an individual. With the loss of heat through the surface of the skin in the short-term, and the decreased production of heat in the body because of inhibited metabolism, the body temperature of an individual, especially in cold weather decreases.

In order to achieve increased body temperature in cold weather using ethanol, one would have to mitigate the loss of heat through the surface of the skin. This would require insulation of the skin using poor conductors of heat. These include woolen garments that trap the heat between the surface of the skin and the garment creating a temperature gradient between the microenvironment created and the surface of the skin (Fan, Hunter & Textile Institute, 2009), effectively preventing the escape of heat (Sherwood, 2013). Considering the fact that ethanol has a vasodilation effect, this affects the energy balance mechanisms of the body. This is because vasodilation is an antagonist to vasoconstriction, a mechanism that reduces the loss of heat (Sherwood, 2013). Additionally, ethanol inhibits the ability of the body to shiver, another mechanism of energy balance in the body. Considering all these factors, the consumption of ethanol in cold weather in order to increase the body temperature only works in the short-term since the core body temperature decreases in the long-term because of inhibited metabolism, loss of heat and inhibited energy balance mechanisms.

## References

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American Journal of Physiology. Regulatory, Integrative and Comparative Physiology, 281 (1): 52-55

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