

# Body temperature and heat regulation



**ASSIGN  
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Task Body Temperature and Heat Regulation Homeostasis is the process through which an organism maintains a constant body temperature when there are changes in the outside environment (IHW, 2006). The process of regulating body is called thermoregulation, and is usually done in five main ways. Mammals and bird are the only known animals to maintain their normal temperatures even with fluctuations of temperature in their surroundings. The first way of regulating external body temperature is through conduction, where the body conducts heat to the environment (IHW, 2006). The second way is vasoconstriction or vaso-dilation, where the blood vessels change their outside appearance in response to changes in the outside environment (IHW, 2006). Sweating is also used to regulate body temperature, where an organism sweats when it is hot and ceases when it is cold (IHW, 2006). Shivering is another way of increasing body temperature, where an organism tries to increase body metabolism by increasing motor actions (IHW, 2006). The last method is through hormonal secretion, where the body secretes different hormones whose function is to control the temperature in the body (IHW, 2006). Heat related illness can be prevented by drinking a lot of water, avoiding alcohol (since it dehydrates the body), reduce exposure time to heat, wearing light clothing to prevent heat build up and adapting engineering methods like increasing air flow by using fans.

Heat cramps refer to the uncontrolled, irregular movement of muscles that occurs in an active person (Bray, Sokas and Ahluwalia, 2010). It is usually accompanied by irregular spasms of the muscles and sweating and its only symptom is muscle cramps. By stretching the muscle cramp and by hydrating is how one deals with a muscle cramp. Heat stroke is where the

body temperature increases significantly, its symptoms usually look similar to a heart attack, and sometimes heat exhaustion can lead to heat stroke (Bray, Sokas and Ahluwalia, 2010). The first aid provided for heat stroke victims include placing them in a shade and trying to cool them off by fanning them or spraying water and by hydrating the victims. Heat exhaustion occurs when ones body gets overheated leading to fatigue, headache, thirst, nausea, increased heart rate and fainting (Bray, Sokas and Ahluwalia, 2010). The first aid to heat exhaustion is to stay in a cool place and to hydrate by drinking water or sports drinks that contain electrolytes.

#### References

Bray, P., and Sokas, R., and Ahluwalia, J. (2010). Heat-Related Illnesses: Opportunities for Prevention. *Journal of Occupational & Environmental Medicine*, Vol. 52(8). Pp. 844-845.

IHW. (2006). Homeostasis.

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