The forgotten importance of phosphate

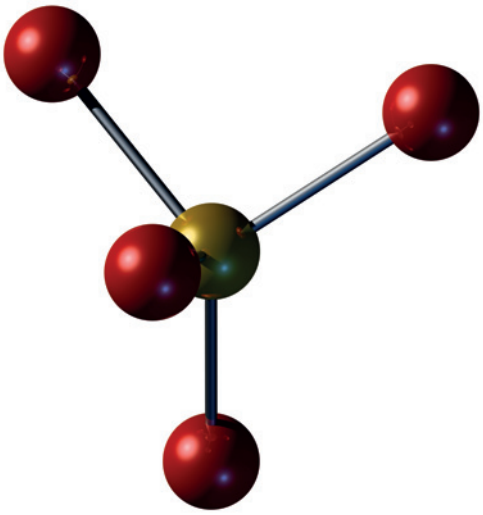

Illustration: Istockphoto

Haemoglobin is important and necessary for the absorption of oxygen in the lungs. 2,3 DPG (diphosphorglycerate) is necessary for releasing oxygen at capillary level. The precursor to 2,3 DPG is 1,3 DPG. A certain minimum amount of phosphate is necessary to enable the body to make 1,3 DPG (1). 1,3 DPG is also the precursor of ATP (1). A supply of glucose to the body is important, but when a large amount of energy is needed, substantial quantities of glucose bind phosphate in order to make the glucose fat-soluble. The release of large quantities of glucose from the liver can have the same effect as intake of glucose per os. A typical example of the undesirable effect glucose may have was seen in 1945 when American soldiers discovered concentration camps (2).

These facts permit an explanation of my personal experiences and those of many others. A person who is totally exhausted and takes phosphate and glucose will be quite rested and able to start again after 3–4 minutes. The result of taking phosphate and glucose after completing hard work or exercise will be that the following day there is no stiffness, even if the muscles have not been stretched afterwards.

Andreas Skulberg Sr
Oslo

Andreas Skulberg (born 1924) MD, PHD and former anaesthetist at Ullevål Hospital for 30 years. He was medical director at the same hospital from 1988–90, and was responsible for medical training of ambulance personnel in Oslo 1976–1988.

Conflicts of interest: None declared

References

1. Lau K. Phosphate disorders. I: Kokko JK, Tannen RL, red. Fluids and electrolytes. London: W.B. Saunders, 1986: 425–6.
2. Skulberg A. Glucose – a potential killer. Acta Anaesthesiol Scand 2009; 53: 684.

Submitted 26 September 2011 and approved 3 November 2011. Medical editor Anne Kveim Lie.