



**THE HEALTH SUPPLEMENTS INFORMATION SERVICE COMMENTS ON
SELENIUM AND EVOLUTION**

7th April 2008 – A paper published in Genome Biology¹ suggests that evolutionary processes may reduce the reliance on the essential trace element selenium.

Commenting on this latest paper, Pamela Mason, HSIS spokesperson notes, "Selenium (Se) is an essential trace element that occurs in proteins in the form of selenocysteine and is transported in the blood. As a result, it is a vital antioxidant nutrient, protecting the body cells from damage, helping to maintain the body's defence system and has a role in cancer prevention. It also works in conjunction with vitamin E and is a component of many enzymes.

"This latest article suggests that we have lost some of our need for selenium during evolution. Whether this suggestion has relevance for selenium intake will require a great deal more research. The questions raised in this paper are preliminary. Moreover, this paper speaks to the **US context where dietary selenium intake is significantly higher than in the UK.**

"Indeed, in the UK, dietary **intakes of selenium are a cause for concern** as they have decreased considerably during recent decades, falling by 50% over the past 30 years. Average intake of selenium is 35 micrograms daily in British adults, while the Reference Nutrient Intake is 60 micrograms for women and 75 micrograms for men. This reduction in intake has occurred because much British bread is now made from European wheat which is low in selenium compared with North American wheat which was used years ago. While the health impact of this reduction is not fully known, The Department of Health is sufficiently concerned to be monitoring it."

In summary Pamela notes: "Until the full health impact of the UK's low selenium intake is known, **it would be unwise to suggest that attention to selenium intake is unnecessary.** We do know that selenium is **essential for human health** and given that dietary intake is low in the UK, a supplement containing this essential nutrient can

be consumed in accordance with recommended dietary allowances."

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1. Lobanov AV et al. Reduced reliance on the trace element selenium during evolution of mammals. Genome Biology 2008, 9:R62.

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