

## Colostrum may boost immune function after exercise

By Stephen Daniells, 09-Jul-2010

Supplements of colostrum from cows may counter the drop in immune function following exercise, says a new study from Wales.

Four weeks of supplementation with bovine colostrum reversed the decreases in the function of immune cells that accompanied intense exercise, according to findings published in the **British Journal of Nutrition**.

“The main findings of the present study are that 4 weeks of bovine COL supplementation improved the speed of recovery of neutrophil function after exercise-induced immunodepression and reduced exercise-induced alterations in salivary lysozyme concentration and secretion rate,” wrote Glen Davison and Bethany Diment from the Department of Sport and Exercise Science, Aberystwyth University.

“This is the first study to demonstrate that **COL supplementation enhances these innate immune parameters in the recovery period after prolonged endurance exercise that causes acute immunodepression.**”

Colostrum is obtained from the first milk produced by a mammal after giving birth. It is considered to be a special boost to health thanks to its high level of immune globulin (IgG), a substance that helps build up the immune system of a newborn mammal.

The colostrum used in this study was provided by Neovite UK, which sources the ingredient from Fonterra, a major supplier of colostrum.

### Study details

Davison and Diment recruited 12 healthy, active men and randomly assigned them to receive either placebo or a daily bovine colostrum supplement for four weeks. After this time, all the participants cycled for two hours at 64 percent of their maximal oxygen uptake.

Results showed that there were no differences between the groups for levels of circulating immune cells (neutrophils), and the ratio of neutrophils to lymphocytes. However, **significant differences were observed between the groups for the function of the neutrophils, and for levels of lysozymes in the saliva.** Lysozymes are enzymes that are part of the immune system and a natural form of protection against a range of pathogenic bacteria.

“Bovine colostrum supplementation either **speeded the recovery** (neutrophil function) or prevented the decrease (salivary lysozyme) in these measures of innate immunity,” stated the researchers.

Commenting on the potential mechanism, the Aberystwyth researchers noted that previous findings only provide speculative evidence and that “further research is required to determine whether this is the mechanism by which oral supplementation with bovine colostrum enhances innate immunity after physical stress in human subjects.

“It is also worthy of note that, in the present study, we only assessed one aspect of neutrophil function. In order to determine the mechanisms of action, future studies should also examine other aspects of neutrophil function, such as chemotactic, phagocytic and oxidative burst responses for example,” they added.

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*“Bovine colostrum supplementation attenuates the decrease of salivary lysozyme and enhances the recovery of neutrophil function after prolonged exercise” Authors: G. Davison, B.C. Diment*