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## Welcome to the latest issue of Natural Health Research Review.

Yet again we have a study of the benefits of probiotics, this time protecting against diarrhoea in patients taking antibiotics. Based on the growing body of evidence for probiotics, I predict doctors will routinely prescribe them alongside antibiotics in the not too distant future. Our second study reports the benefits of selenium and coenzyme Q10 for heart health, and we have included several studies of the importance of vitamin D.

We hope you enjoy this issue of Natural Health Research Review, and welcome your feedback.

Kind Regards,

Shaun

Prof Shaun Holt shaun@naturalhealthreview.org

### Probiotics protect against antibiotic-related diarrhoea

#### The facts:

- An analysis of 63 previously published studies evaluated the effects of probiotics (including Lactobacillus, Bifidobacterium, Saccharomyces, Streptococcus, Enterococcus and/or Bacillus) on antibiotic-associated diarrhoea.
- People who took probiotics were 42% less likely to develop diarrhoea during antibiotic treatment than people not taking them.
- More research is needed to see which types of probiotics work best, which patients benefit most, and whether there are any risks associated with their use.

#### **Prof Shaun Holt:**

I hereby make a prediction: within a few years, doctors will routinely prescribe probiotics at the same time they prescribe a course of antibiotics. Around 1 in 3 times that people take antibiotics they will get diarrhoea, and this study, which looked at many previous studies, found that this side effect was reduced by almost a half. Further work to determine the best probiotic bacteria to use is likely to further reduce the occurrence of this side effect.

http://jama.jamanetwork.com/article.aspx?articleid=1151505





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# Selenium and coenyme Q10 improve heart function

#### The facts:

- 443 healthy Swedish citizens aged 70 years and over took both selenium 200µg and coenzyme Q10 200mg daily for 48 months to determine the effects of these widely available supplements on heart function.
- After 5 years, 5.9% of those given the supplements had died of heart disease compared with 12.9% of those taking placebo.
- Echocardiography after 5 years showed that individuals who took the active supplements had much better heart function than those who took the placebo.

#### **Prof Shaun Holt:**

For the last 5 years or so I've been taking a coenzyme Q10 supplement and a multivitamin containing selenium, and I'm sure glad that I have. Swedish researchers have shown that this combination, which costs around NZ\$2/day, halved the rate of death from heart disease over a 5-year period in a large randomised placebo controlled study. And it gets even better: there are rarely any side effects and there may also be other, non-cardiac health benefits as well.

http://www.internationaljournalofcardiology.com/article/S0167-5273(12)00593-1/abstract

# Vitamin D may help prevent falls in older people

#### The facts:

- Updated recommendations from the US Preventive Services Task Force suggest that taking vitamin D supplements and engaging in regular exercise or physical therapy may help prevent falls in older people.
- The Task Force reviewed studies of vitamin D supplementation and found that the risk of falls was reduced by about 17% after treatment for between 6 months and 3 years; the effect was greater in older adults with low levels at baseline.
- The Task Force also found convincing evidence that exercise or physical therapy reduced the risk of falls by about 13% in older people living in the community.



#### **Prof Shaun Holt:**

An unfortunate consequence of getting older is the increase in the number of falls which, coupled with thinning bones, can lead to fractures, particularly of the hip. And the necessary surgery and hospital stay themselves carry additional health risks. The good news is that this review of 50 studies found that vitamin D supplements can reduce the rate of falls by 17%, and physical therapy and/or exercise can reduce them by an additional 13%. For this reason, exercise and vitamin D supplements are strongly recommended for elderly people ... if not for everyone.

http://www.annals.org/content/early/2012/05/23/0003-4819-157-3-201208070-00462.full

## Berries may slow age-related cognitive decline

#### The facts:

- The effects of long-term dietary intake of berries on memory decline were evaluated in 16,010 older women participating in the Nurses' Health Study.
- Greater intakes of blueberries and strawberries (1 or more servings per week of blueberries or 2 or more servings per week of strawberries) delayed cognitive aging by up to 2.5 years.
- Berries contain high levels of a type of flavonoid called anthocyanidins, which can cross the blood-brain barrier and localise in the area of the brain involved in learning and memory.



#### **Prof Shaun Holt:**

Berries contain high levels of flavonoids, which have antioxidant and antiinflammatory properties. Oxidation and inflammation are thought to contribute to cognitive decline, and so could berries help prevent this? The results from this study suggest, but do not prove, that they can. Women who had a high intake of blueberries and strawberries had less cognitive decline, but it could just be that berry eaters have healthier lifestyles. Therefore, there is of course no harm and some potential benefits from having a good amount of berries in your diet.

http://onlinelibrary.wiley.com/doi/10.1002/ ana.23594/abstract



### Licorice root contains antidiabetic substances



#### The facts:

- German researchers have discovered substances (amorfrutins) in licorice root that reduce blood sugar and prevent fatty liver, a common disease caused by excessively fat-rich nutrition.
- The newly discovered compounds hold great promise for the treatment of complex metabolic disorders and may also be suitable for prophylactic use.
- Unfortunately drinking licorice tea or eating licorice is not useful for diabetics because the concentration of amorfrutins is too low to be effective.

#### **Prof Shaun Holt:**

I bet you never knew that licorice root has been named the medical plant of the year 2012! Studies such as this one certainly help. Components of licorice root have been found to reduce blood sugar and also to have anti-inflammatory properties, which mean that the plant root could be helpful for people with metabolic disorders including diabetes. Most of the work so far has been in animals, however we will hopefully get the same results from human clinical trials.

#### http://www.pnas.org/content/109/19/7257



## Vitamin D may be involved in weight regulation

#### The facts:

- 4659 elderly women participating in a large US study were weighed and had their vitamin D levels measured before being followed for almost 5 years.
- Women with adequate vitamin D levels weighed less at baseline and gained less weight during the study than those with low levels.
- Because higher vitamin D levels are associated with less weight gain, it is possible that low vitamin D status predisposes women to fat accumulation.



#### **Prof Shaun Holt:**

There are vitamin D receptors on human fat cells and there is increasing evidence that low vitamin D levels may contribute to weight gain. This huge study of nearly 5,000 older women found that those with higher vitamin D levels were less likely to gain weight. However, as the study was conducted only in white, postmenopausal females, the results may not apply to males, younger people or those in other ethnic groups.

http://online.liebertpub.com/doi/abs/10.1089/jwh.2012.3506

### Iron tablets can reduce tiredness

#### The facts:

- Nearly 200 iron-deficient women who were not anaemic but who complained of fatigue were randomised to take either oral ferrous sulfate (80mg of elemental iron) or placebo daily for 12 weeks.
- Fatigue scores decreased by 47.7% in the iron group compared with 28.8% in the placebo group, with improvements evident after 6 weeks.
- No significant effects on quality of life, depression or anxiety were observed.

#### **Prof Shaun Holt:**

We all know that iron supplements can reduce tiredness in people who are anaemic (low haemoglobin in blood or fewer red blood cells than normal). Tiredness and fatigue are common symptoms and are reported by around one third of patients at GP appointments, particularly women. This remarkable study found that iron tablets reduce tiredness by around 50%, even in people without anaemia but who were iron deficient (defined as having a ferritin level below 50 g/L).

http://www.cmaj.ca/content/184/11/1247.abstract

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### Vitamin D and chest infections in children The facts:

- 247 Mongolian schoolchildren with vitamin D deficiency drank either unfortified regular milk or fortified milk (containing 300IU of vitamin D<sub>3</sub>) daily for 3 months over winter to evaluate the effects of vitamin D on the risk of chest infections.
- Based on reports from the parents, children who drank fortified milk had about half the number of respiratory infections as those who drank unfortified milk.
- Therefore, vitamin D supplementation significantly reduced the risk of winter chest infections in Mongolian children with vitamin D deficiency.

#### **Prof Shaun Holt:**

Yet more evidence that vitamin D has an important role in respiratory health. Almost 250 school children in Mongolia received regular milk or milk that included additional vitamin D. Those receiving the extra vitamin D had around half the number of respiratory infections as those that did not receive it. This large benefit was definitely related to the children often having low initial levels of vitamin D, and future research will hopefully identify exactly who may benefit from taking a vitamin D supplement.

http://pediatrics.aappublications.org/content/130/3/e561

#### **Research Review**

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# Xylitol gum can prevent ear infections in children

#### The facts:

- The prophylactic effects of xylitol on middle ear infections have been investigated in 4 Finnish studies involving over 3000 children attending daycare centres.
- A daily dose of xylitol chewing gum, syrup or lozenges reduced the risk of middle ear infections by 25% in healthy children and no adverse events were reported.
- Xylitol had no effects on the incidence of ear infections in children with acute upper respiratory infections.

#### **Prof Shaun Holt:**

Acute otitis media is one of the most common bacterial infections in young children. Standard treatments include the use of antibiotics and surgery, both of which are a concern. Remarkably, a natural sugar substitute called xylitol may help – in test tube studies it stops the bacteria that cause the problem attaching to cells of the nose and throat, and clinical studies in daycare centres have found a 25% reduction in acute otitis media when it is taken by healthy children prophylactically.

http://dx.doi.org/10.1002/14651858.CD007095.pub2

# Vitamin E may reduce the risk of liver cancer

#### The facts:

- This study assessed the associations between vitamin intake and liver cancer in 132,837 men and women in China.
- Dietary and supplemental vitamin E intake were both associated with a lower risk of liver cancer; the association was consistent among people with or without self-reported liver disease or a family history of liver cancer.
- Participants who had the highest vitamin C intake from supplements and who had a family history of liver cancer or self-reported liver disease were more likely to develop liver cancer but there was no link between dietary vitamin C intake and liver cancer.

#### **Prof Shaun Holt:**

The third most common cause of cancer death is liver cancer and for various reasons it is more common in developing nations, particularly China. This study of over 130,000 people in China found that there was a large decrease in the rates of liver cancer in those with high intakes of vitamin E, whether or not the vitamin E was from the diet or from dietary supplements.

#### http://jnci.oxfordjournals.org/content/104/15/1174



Independent commentary by

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