



# Clinic Newsletter

## Homocysteine

*A recent study in the Netherlands followed 302 men and women with no history of cardiovascular disease in order to investigate risk factors and biomarkers in predicting cardiovascular mortality (risk of dying due to heart disease). After 5 years, the level of plasma homocysteine had most predictive power. Adding additional risk factor information e.g. smoking, high blood pressure, cholesterol, diabetes did not increase the predictive power.*

*Therefore measuring and addressing homocysteine levels was found to be effective at protecting against heart disease.*

*Westendorp & Assendelft, British Medical Journal, 2009;338:a3083*

*A recent review of the considerable amount of research on homocysteine suggested that each 3  $\mu\text{mol/L}$  point decrease in homocysteine levels might, on average, reduce the risk of:*

*Heart attacks by 16%*

*Strokes by 24%*

*DVT (deep vein thrombosis) by 25%*

*Verhoef, et. al. Am. J. Epidemiol. (1996)*

Homocysteine is a naturally occurring sulphur containing amino acid. It is involved in essential chemical pathways in the body and an increasing number of medical experts are saying that raised levels in the blood may be as, or more important than, raised levels of cholesterol. It is a byproduct of an essential amino acid, methionine, which is normally detoxified by the body.

Many factors are thought to raise levels of homocysteine. Among them are poor diet - leading to low levels of vitamins B6 and B12,

poor lifestyle especially smoking and high alcohol intake, some prescription drugs, diabetes, rheumatoid arthritis and poor thyroid function. Normal levels increase with age and higher levels are more common in men than women. As with cholesterol, family history and

genetic make up can play a part in causing raised levels as can obesity and lack of exercise.

### What effect does homocysteine have on my body?

High levels of homocysteine cause damage to the wall of the arteries. This increases the risk of coronary heart disease and strokes. Raised levels of homocysteine are thought to be one of the major indicators for coronary heart disease which consistently remains the biggest killer in the Western world. Every year in the UK approximately 270,000 people suffer a heart attack and in England over 110,000 people are killed by a heart attack each year.

### Are you at risk?

There are always people who are at high risk and low risk but the only way to find out definitively is to have a homocysteine test.

People at high risk include people with a poor diet, lack of regular exercise, are overweight, suffer from diabetes, smokers and those that consume excess amounts of coffee or alcohol.

Even people with an active, healthy lifestyle may still be at risk, if there is a family history of high levels of homocysteine or disease.

Levels of homocysteine can increase with age, oestrogen deficiency and with some long term medications, including corticosteroids and some cancer treatment drugs.

Strict vegetarians and vegans may also be at risk and people that suffer from stress can suffer too.

Whatever the state of your health a homocysteine test can help you to assess what your risk might be - allowing you to take action to reduce that risk and give you peace of mind for the future.

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### Prevention is better than the cure.

If you want to ensure you reduce the risk of developing heart disease, or having a stroke then you can take the following steps:-

- 1. Supplementation**– If you discover that your homocysteine level is too high you may need to supplement your diet with folic acid; vitamin B6 and B12 as these can help to reduce your levels of homocysteine.
- 2. Stop smoking**– If you smoke your heart receives less oxygen, and it is put under more pressure as it works harder. Smokers under the age of 50 years are five times more likely to die of coronary heart disease than non-smokers.
- 3. Maintain a healthy balanced diet**– By being careful and choosing the correct foods to eat you can improve your health. Eating foods high in fibre can help lower your cholesterol level. A high intake of salt is linked to high blood pressure so avoid processed foods wherever possible and avoid using salt as a seasoning when preparing your food. Reduce your intake of saturated fats and increase your intake of good fats which are omega-3 fatty acids found in oily fish, and omega-6 fats found predominantly in olives, nuts, seeds and seed oil and some vegetables and grains.
- 4. Reduce cholesterol levels**– High levels of cholesterol can clog the lining of your arteries putting your heart under pressure. By being careful and maintaining a balanced diet low in cholesterol you can reduce your cholesterol levels.
- 5. Be as active as you can**– For general health benefit, adults of all ages should achieve a total of at least 30 minutes moderate activity a day on five or more days of the week.
- 6. Drink alcohol in moderation**– Try to limit your consumption of alcohol to one unit every other day, by doing this you are reducing the risk of coronary heart disease and strokes.

## Testing Your Homocysteine Level

Several companies offer plasma homocysteine testing. We use York Test. A test kit can be sent to you at home or you can come into the clinic and be assisted in taking the test. Your test sample is then returned for testing and the result comes back within 14 days. Tests cost approximately £75.

## Homocysteine Supplements

It has been shown that the B group of vitamins are very important for detoxifying homocysteine.

Research shows that the optimum daily amounts to take are 0.5-5mg Folic Acid, 25-50mg Vitamin B6 and 500mcg Vitamin B12. It may also be helpful to take 20mg Vitamin B2 and 2g Choline.

Another nutrient, Tri-methyl glycine (also called glycine betaine) was discovered to be beneficial to heart health back in the 1950s. TMG operates along a different pathway than the B vitamins. TMG acts as a “methyl donor,” providing extra methyl groups to hasten the conversion of homocysteine back to methionine. The recommended dosage is 1g Tri-methyl glycine daily.

We recommend Higher Nature’s H-Factors or, if you are already taking B vitamins, TMG.

Or Solgar’s Homocysteine Modulators.



### SAFE IN OUR HANDS CERTIFICATION MARK

The Certification Mark ‘Safe in our hands’ shows that osteopaths are registered with the General Osteopathic Council. The title ‘Osteopath’ is protected by law in the UK. The General Osteopathic Council (GOsC) was set up under The Osteopaths Act 1993 and is one of the 13 UK health and social care statutory regulators. The regulators are set up to protect the public so that whenever a member of the public visits a health or social care professional, they can be sure they meet the required standards.