

DR. WILLIAMS' PROTOCOL FOR ELEVATED HOMOCYSTEINE

Homocysteine is an amino acid in the blood. Too much homocysteine is related to a higher risk of coronary heart disease, stroke, and vascular disease. Blood homocysteine levels are strongly influenced by diet, as well as by genetic factors. The dietary components with the greatest effects on homocysteine are folic acid, vitamin B6, and B12. These vitamins help break down homocysteine in the body. Lowering homocysteine and getting more folic acid, and vitamins B6 and B12, can help lower your risk for heart disease, and may be particularly useful for those with a personal or family history of cardiovascular disease. The normal range for homocysteine is 5-15 $\mu\text{mol/L}$, but the desirable range is less than 10 $\mu\text{mol/L}$. Optimal levels, according to natural medicine principles, is even lower – less than 5 $\mu\text{mol/L}$. For this protocol, you will need the following supplements:

HOMOCYSTEINE LEVELS	RISK
5-10 $\mu\text{mol/L}$	Low
15-30 $\mu\text{mol/L}$	Moderate
30-100 $\mu\text{mol/L}$	Intermediate
> 100 $\mu\text{mol/L}$	Severe

- **Folic Acid 5 mg**
- **Vitamin B6 (as Pyridoxal-5'-Phosphate, P5P) 50 mg**
- **Vitamin B12 (as methylcobalamin) 1,000 mcg**
- **Vitamin B Complex**
- **Trimethylglycine (TMG, as called betaine) 750 mg**
- **Zinc Picolinate 30 mg**
- **SAMe 400 mg**

ADULTS UNDER 50: Take each of the nutrients above in the dosages indicated once daily. If your homocysteine levels do not decline in six months, consult your doctor.

OVER 50: Age lowers our body's production of folic acid and vitamin B12, while simultaneously increasing our need for these key nutrients. Take each of the above nutrients in the dosages recommended twice daily.

MAINTENANCE: Once you've lowered your homocysteine level to the desirable range, you can maintain it with a formula (like HOMOCYSTEINE FACTORS by Pure Encapsulations) combining the key nutrients in one capsule.

DISCLAIMER: These recommendations are for educational use only and are not intended to provide a complete or individualized plan for patients or replace medical care or advice. Consult your doctor if you have any questions.