



# MANAGEMENT FILE

by DR CHARLES SHEPHERD, our medical adviser

This leaflet is based on an article which first appeared in the ME Association's quarterly *ME Essential* magazine. MEA membership costs £18 a year for people living in the UK/BFPO. For contact details, see foot of this page.



## VITAMINS AND VITAMIN SUPPLEMENTS

### INTRODUCTION

UK consumers buy more vitamin supplements than any other over-the-counter drug – even though taking a reasonably balanced diet should provide all the vitamins that most people require. But is there any evidence that people with ME/CFS are vitamin-deficient and do they need to be taking what can be quite expensive supplements? Also, can taking vitamin supplements cause any harm to your health?

### WHAT ARE VITAMINS?

All the different vitamins were originally known by a series of letters (A, B, C etc) but they are now referred to by their chemical names as well (eg Vitamin C is ascorbic acid).

There are four fat-soluble vitamins (A, D, E, K), all of which are stored in the liver and fat. Consequently, these can sometimes accumulate if taken in excess and cause harmful side-effects.

All the vitamins belonging to the B group (B1/thiamine; B2/riboflavine; B6/pyridoxine; B12/cobalamin; nicotinic acid, folic acid; pantothenic acid) and vitamin C are water-soluble. This means that any excess is usually removed via the urine. However, serious side-effects can still occur if very large amounts are taken.

All these different vitamins are only required in minute amounts for the various tasks they help to perform in the body.

### WHY ARE VITAMINS SO IMPORTANT TO HEALTH?

Vitamins play a crucial role in almost every type of process that takes place at a cellular level in the body – everything from energy production, growth and forming healthy bones to making sure the immune and nervous systems function properly. There is also growing evidence to indicate that the three antioxidant vitamins – A, C and E – help to prevent oxygen molecules causing cellular damage leading to illnesses like cancer and heart disease. Some researchers now believe that this type of oxidative stress may play a role in ME/CFS.

### WHERE DO VITAMINS COME FROM?

As most vitamins cannot be made in the body (vitamin D is one exception as it's produced in the skin through the action of sunlight), the main source of supply is through a healthy balanced diet, especially one that contains plenty of fruit and vegetables.

People who are on a more restrictive diet, possibly because of a food allergy or intolerance, may therefore be placing themselves at risk of vitamin deficiency. Malabsorption of food in the intestines can also produce a vitamin deficiency.

### IS THERE ANY EVIDENCE THAT VITAMIN LEVELS ARE DECREASED IN ME/CFS?

With the exception of folic acid, there is little in the way of reliable published

evidence to show that people with ME/CFS are deficient in any specific vitamin – provided they are not on a restrictive diet. Much of the 'evidence' which supports the use of vitamin supplements in ME/CFS is based on anecdotal reports from vitamin-enthusiast doctors and alternative practitioners. It's not hard scientific fact.

A study of 12 patients who had not taken vitamin supplements during their illness was carried out at King's College Hospital (ref: *Journal of the Royal Society of Medicine*, 1999, 92, 183-185). The research group found preliminary evidence of slightly lowered levels of B vitamins, particularly B6/pyridoxine. Out of 101 potentially suitable patients for this study, only 17 had never taken vitamin supplements!

A study into folic acid (ref: *Neurology*, 1993, 43, 2645 - 2647), which looked at the levels in 60 ME/CFS patients, found that around half had a significant deficiency. This is an important finding for any woman with ME/CFS who is contemplating pregnancy as folic acid deficiency is linked to spinal cord defects.

### IS IT WORTH HAVING A BLOOD TEST FOR VITAMIN LEVELS?

Testing for individual vitamin deficiency is not something that your GP is likely to want to arrange on the NHS. This is because the tests which are thought to be most reliable are only available through specialised laboratories. So

blood tests are usually only ordered if there are symptoms that strongly suggest a particular deficiency. Although it is quite easy to find vitamin-testing services outside the NHS, some of these commercial tests may not provide reliable results.

## ARE SUPPLEMENTS OF ANY VALUE IN ME/CFS?

At present, there's no convincing evidence to show that taking extra vitamins, or high doses of certain individual ones, will have any beneficial effects on ME/CFS. Neither is it correct to claim, as some practitioners do, that taking high/mega doses of vitamin C will 'boost the immune system' in ME/CFS.

Even so, it may be worthwhile taking a good quality multivitamin tablet every day, especially if your diet is in some way restricted. It may also be worth considering the use of one of the daily antioxidant supplements – containing vitamins A, C and E – in view of the possible links between oxidative stress and ME/CFS.

## WHAT IS A SAFE DOSE? WHICH ARE GOOD VALUE SUPPLEMENTS?

The body requires minute amounts – measured in only a few milligrams or micrograms – of each individual vitamin to keep it fit and healthy. These are requirements which change according to your age, sex, and state of health.

As far as safe doses are concerned, it is usually perfectly safe to regularly take a dose which is up to what is known as the recommended daily allowance (RDA).

A good value multivitamin tablet should contain a reasonable range of vitamins with no individual dose exceeding the RDA for that vitamin – this information is usually provided on the packaging. There is no evidence that very expensive preparations are any better than cheaper ones from reputable manufacturers.

## WHAT SORT OF HARM CAN BE CAUSED BY TAKING TOO MANY VITAMINS?

Most vitamins are unlikely to cause any serious harm if taken in slightly larger than required amounts. However, there are others which do need to be taken with care if you decide to take more than the RDA on a regular basis.

- Vitamin A/retinol supplements should not be taken during pregnancy as excessive amounts can damage an unborn child. Excessive intake over a long period of time can lead to dry skin, liver damage, and even raised pressure in the brain.
- Vitamin B3/niacin can cause skin flushing, liver damage and blood sugar problems for people who have diabetes.
- Vitamin B6/pyridoxine can cause nerve damage – so do not take more than 10mg per day on a regular basis. If you want to go higher than this dose, then do seek medical advice first.
- Vitamin C/ascorbic acid can cause kidney stones, diarrhoea, gastric upsets and interfere with blood oestrogen levels (which may then interfere with the action of the contraceptive pill). At present, there seems little point in taking more than 250mg per day (well above the RDA) if you want to use an individual supplement.
- Vitamin D/calciferol can cause weakness and kidney problems.

## ARE THERE ANY RELIABLE SOURCES OF ADVICE?

With more and more research linking diet to health, it is not surprising to find

that there is all kinds of advice available. Sadly, most NHS doctors are not very interested in nutritional medicine – so what should be a free and reliable source of information may not exist.

Although there are an increasing number of nutritional therapists, anyone can set themselves up with such a title, obtain some impressive looking letters after their name, and then offer advice which is not really appropriate (or sometimes involves a financial conflict of interest in the products being recommended).

While there are a number of membership organisations for nutritional therapists, none are regulated by law. State Registered Dietitians provide expertise within the NHS – they are degree-qualified, and regulated by law. You can get a referral to an NHS dietician through your GP or obtain more information on Registered Dietitians working in private practice from the British Dietetic Association (tel: 0121 200 8080; website: [www.bda.uk.com](http://www.bda.uk.com)).

The ME Association has a diet and nutrition adviser, Sue Luscombe, who is a member of the British Dietetic Association, and has had many years of experience of working with people with ME/CFS. She can be reached through her own website:

[www.hampdenhealth.plus.com](http://www.hampdenhealth.plus.com)

## FURTHER INFORMATION

For further information on individual vitamins see pages 275-280 of *Living with M.E.* (Vermilion, 1999).

For further balanced information on vitamins and minerals, check out the A-Z of vitamins and minerals on the FSA website at: [www.food.gov.uk](http://www.food.gov.uk) Type 'vitamins and minerals' into the search box to find it.

**Medical information contained in this leaflet is not intended to be a substitute for medical advice or treatment from your own doctor. The ME Association recommends that you always consult your own doctor or healthcare professional about any specific problems. We also recommend that any of the medical information provided by The MEA in this leaflet is, where appropriate, shown to and discussed with your doctor.**