



Feel Good stay on *top*

**Why do we need to
supplement?**



CYTOPLAN
NATURE MEETS SCIENCE

The nutrition gap

Research in 2004 carried out by Dr Paul Clayton, a leading UK scientist and author of *Health Defence*, identified the difference between the nutrients that the average person obtains from food and the levels required for optimum health. We call this difference the nutrition gap. The nutrition gap can have a detrimental effect on health and wellness and can increase the risk of many conditions.

Professor Bruce Ames (University of California), hypothesised that if you are depleted in just one

nutrient, your body will go into a triage response where it will favour survival over long term health. This means that you can be at an increased risk of early ageing and chronic disease but it would leave critical metabolic functions, such as ATP (energy) production, intact. He states that “A multivitamin-mineral supplement is one low-cost way to ensure intake of the Recommended Dietary Allowance of micronutrients throughout life.”



Bridging the gap

Our food based supplements are designed to bridge the nutrition gap; therefore our multivitamin and mineral supplements provide nutrients at an appropriate level alongside a well-balanced diet. As our bodies have evolved over millions of years to utilise vitamins and minerals from food, we use nutrients in Food State or Wholefood form this means they are in the same form as found in food.

Bio-active forms are used eg Vitamin D is in the active D3 form, and folic acid is in the form of methylfolate. This means that they are ready to be used by the body.



Why is there a nutrition gap?

Sedentary lifestyle

Our ancestors expended about 4000 calories as opposed to an average of 2000 today therefore they consumed a greater amount of food to meet their energy requirements. We are now consuming fewer calories and fewer micronutrients (e.g. vitamins and minerals)

Poor digestive health

This will reduce our ability to absorb nutrients



Food choices

We often choose calorie dense but nutrient poor foods



Food processing

Processing of food severely depletes nutrient content e.g. milling of flour reduces calcium, magnesium, zinc and folate

Lifestyle choices

Smoking, alcohol and stress all deplete nutrients



Modern farming methods

Soil depletion, transport, storage, genetically modified organisms and deep ploughing all affect the nutrient content of food



Is the NRV enough?

The short answer is no. The NRV (Nutrient Reference Value) is the level of nutrients required in order to prevent a deficiency disease state. However, NRVs are not considered sufficient for optimal health, merely for the absence of disease. They also do not take into account digestive function and lifestyle factors which can affect nutrient absorption and deplete nutrients.



CYTOPLAN

Why choose Cytoplan?

Cytoplan Ltd provides an innovative range of science-based nutritional supplements supplying the needs of healthcare professionals and consumers. The company was founded in 1990 by health practitioners, including doctors and nutritionists, with many years' experience in nutrition therapy.

Cytoplan is a leader in the highly specialised food-based supplementation sector with a product range continually developed based on the latest nutrition research for optimally 'bio-effective' products. Not all vitamins and minerals are the same and a bio-effective nutrient is one that will easily be taken up into human metabolic pathways and have a biological outcome that is beneficial to health.

Cytoplan is wholly owned by the AIM foundation, a charitable organisation that addresses the issue of community wellbeing plus health and nutrition projects in the UK and overseas. Cytoplan has supplied supplements to over 6,000 health professionals in the UK and overseas such as doctors, dentists and nutrition therapists. The company offers an incentivised, nurturing and supportive programme for health professionals and students.

What is the Food State™ process?

Food State™ nutrients are made via a proprietary process. Food State™ nutrients are combined in a variety of appropriate food bases to ensure they come complete with the phytonutrients and associated food factors which are necessary for absorption and use in the body.

Food State™
simply replicates
nature

The resulting products are in essence nutrient-enriched wholefoods. Examples of the appropriate food bases we use include citrus pulp for vitamin C, alfalfa for vitamin K, cornmeal for choline and carrot concentrate for beta carotene. *Lactobacillus bulgaricus* (a natural inhabitant of the gut) is used where appropriate and acts as a carrier into the digestive tract.



Food State™ simply replicates nature.

What are Wholefood nutrients?

Wholefood nutrients are also well absorbed because they too utilise and replicate the way nature works. We use a species of brassica from the broccoli family called *Brassica juncea*, also known as Indian mustard. This plant has huge leaves and an ability to uptake minerals at a much higher rate than normal plants, making it ideal for mineral enrichment.

The brassica is cultivated hydroponically in a mineral rich water. When the leaf tissue contains the level of minerals required in the finished product, it is harvested, dried, powdered and encapsulated in a vegan capsule. Most products are thus pure fill capsules without the need for excipients and fillers.

As examples of excellence, the chromium is in the GTF (glucose tolerance factor) form, which is necessary for it to be bio-active; and selenium is included primarily as seleno-methionine.

In order to achieve good levels of nutrients in our products, certain nutrients may be augmented above that which can be achieved from food.

Summary

Food based supplements
using Food State™ and
Wholefood nutrients that
are understood as food by
the body

Nothing in nature works
in isolation. Food State™
and Wholefood replicate
nature's way

Free From



All of Cytoplan products are **free from dairy, gluten, GMOs, added sugar, flavourings and colourings**. The majority of our products, including our vitamin D, are vegan. We also offer a vegan omega-3 derived from algae. Our products are suitable for people with *Candida* and whole yeast sensitivities.

Why are Nutrients important?

To maintain good health...

The human body requires a daily intake of vitamins, minerals and other nutrients from food. Many people are short of essential nutrients. Sub-optimal intake of essential nutrients and poor digestive capacity is linked to many of the prevailing degenerative diseases of our generation

Vitamins

The word vitamin comes from “Vital Amine” - meaning a vital molecule which must be obtained from the diet in order to survive. Each vitamin has many functions in the body which include acting as co-enzymes or precursors of co-enzymes in the maintenance of metabolic processes. Each vitamin has a specific disease state linked to its deficiency (e.g. scurvy is a deficiency

state of vitamin C) and sub-optimal levels can contribute to chronic disease. The 2016 SACN (Scientific Advisory Committee on Nutrition) report states that everyone over the age of 1 should consume 10ug (400IU) of Vitamin D per day. Vitamin D is essential for the maintenance of healthy bones and teeth as well as for a normal immune response.

Minerals

Like vitamins, minerals have many functions in the body particularly as cofactors for enzymatic reactions. However, minerals originally come from the soil and therefore the mineral content of the soil will directly impact the mineral intake of each person.

“Minerals in the soil control the metabolism of plants, animals and man. All life will be either healthy or unhealthy, according to the fertility of the soil.” Dr Alexis Carrel, 1912 Nobel Prize Winner.

Essential Fatty Acids

The body has an amazing ability to make the fat it needs from food intake (fat can be made from carbohydrate if necessary). However there are 2 types of fat that we cannot make ourselves and therefore must obtain from the diet; Omega 6 and Omega 3. Our diets already tend to be quite high in omega 6 as sources are meat, dairy and

vegetable oils. Sources of omega 3 are oily fish, seeds such as flax and chia and dark green leafy vegetables. Omega 3 fats found in oily fish are important for normal cardiovascular function, maintenance of healthy cholesterol levels as well as for normal cognitive function.

Antioxidants

There is an array of antioxidants, which are obtained from the diet and produced by the body, many of them are vitamins and minerals. Some antioxidants are specific chemicals found in plants known as phytonutrients, these also have

multiple benefits to health but are not considered to be vitamins or minerals. Modern farming, particularly the use of pesticides, has depleted phytonutrients in plants. Phytonutrients can help to support antioxidant capabilities and wellness.

Gut health

Even if we have an excellent diet and take good quality supplements, our nutrient status is only as good as our capability to absorb them in the digestive system. The health of our digestive system is essential for nutrient absorption but it also has many impacts on health. Seventy per cent of our immune tissue is found in the digestive system and it has been shown that digestive function, in particular

the balance of healthy gut bacteria, is important for normal immune function. Ninety per cent of our feel good neurotransmitter (i.e. brain chemical) is produced in the digestive system and therefore supporting the gut may also help improve serotonin production. Serotonin is converted to melatonin at night and is responsible for helping us to sleep.

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Cytoplan is wholly owned by a charitable foundation.

