What are Essential Fatty Acids?

Essential Fatty Acids (Omega's 3, 6 & 9) are the major component of fats and oils. There are some non-essential fatty acids but the essential fatty acids are vital for good health.

Omega-3 fatty acids are required across the whole lifecycle, from maternity to maturity. There are different types of omega-3 fatty acids, each with a specific chemical structure, but the key health benefits are thought to come from long chain omega-3s, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA).

EPA and DHA can be synthesised in our bodies from the essential fatty acid, alpha-linolenic acid (ALA), but the process is very slow and inefficient. This is why experts advise that these nutrients are consumed directly from the diet. The best source of Omega-3 essential fatty acids can be found in oily fish such as sardines, mackerel, pilchards.

Omega-6 essential fatty acids are found in Evening Primrose Oil, Starflower Oil, Nuts, Seeds, Sunflower, Hemp, Safflower and Linseed (Flax) oil.

EFAs play a role in every cell of our bodies and are needed for

- Brain development and function
- Vision
- Cell function
- Healthy heart function

Symptoms of EFA Deficiencies can include:

- ADHD / hyperactivity
- Mood changes and poor attention
- Visual problems
- Digestive problems
- Excessive thirst or insatiable appetite
- Dry, flaking skin; "chicken skin" bumps on the back of arms and/or thighs / cheeks
- Brittle, soft or splitting fingernails
- Dry, unmanageable hair, dandruff

- Excessive or hard earwax
- Eczema, asthma or multiple allergies

EFA deficiencies are common and will occur if there is:

- Consumption of too few EFA rich foods such as oily fish
- Insufficiency of co-factors (vitamins and minerals). More details on this can be found in the HACSG publication "Essential Fatty Acids – Vitamins & Minerals in the Management of ADHD" – link to Your Order Page
- Consumption of hydrogenated vegetable oils (found in margarine and many snack foods such as crisps)
- Consumption of too much white flour and processed food.
- Consumption of too much sugar
- Presence of Candida / yeast infection

Research carried out by the HACSG in 1981 into the links between hyperactivity and EFA deficiency based on a detailed survey of the characteristics of many of the hyperactive children with which it was working.

The HACSG came to the conclusion that many ADHD children have a deficiency of EFAs, either because they cannot metabolise linoleic acid correctly, they cannot absorb EFAs from the gut, or their EFA requirements are higher than would normally be the case.

In fact, the HACSG was the first to propose that fatty acid deficiency could be a factor in ADHD. The findings of this research were published in 1981, "A Lack of EFAs as a possible cause of hyperactivity in children" (Medical Hypotheses, 7(5), 1981, Irene Colquhoun & Sally Bunday).

The Colquhoun/Bunday hypotheses stimulated further studies and treatment trials which have generally supported the theory.

Forty years ago they were supported in their research by the (late) Dr David Horrobin, who was himself involved with EFA studies.

We have seen such dramatic effects on behaviour when families have taken EFAs and as these youngsters have grown into adults able to manage their allergies and intolerances we are always happy to share stories to help families of today.

The following two cases are from the original research.

Charles

An 11-year-old boy with eczema, disordered sleep and severely disruptive behaviour which lead to being expelled from school. He responded reasonably well to the Feingold Food Programme together with a low dose of medication. However, he still had bouts of disruptive behaviour at home. Following a period of 8 weeks during which he was given supplements of

EFAs his eczema improved and he had no hyperactive episodes. It was also noted that despite having a number of 'forbidden' foods over Christmas, he had no adverse reaction.

David

Aged 20. He had a history of disturbed sleep and behaviour from birth and developed Eczema and Asthma during childhood. He was given medications from the age of 8 years until 14. David had very serious problems at school between the age of 14 and 16. At the age of 16 he began on a modified Feingold diet and things gradually improved. He also started to take some EFA supplements plus the tablets of the vitamins and minerals, known as 'co-factors' (they assist in the absorption of the EFAs). David's parents noted a rapid positive improvement. He became calmer, more relaxed and more self- confident.

Further Research

Research is ongoing throughout the world into the links between essential fatty acids, nutrition and behavioural disorder. Research carried out, for example, with British and US offenders suggests nutritional deficiencies play a strong role in aggressive behaviour.

A prison trial at Aylesbury in the UK showed that when men were fed multivitamins, minerals and EFAs, the level of violent offenses committed in prison fell by some 37%. While no one suggests that an improvement in nutrition is the cure-all for complex social ills, evidence strongly suggests a link between diet and behaviour.

One US researcher into the effects of Omega-3 on the brain believes that modern industrialised diets may be changing "the architecture and functioning of the brain". Deficiency in the essential fats the brain needs and the nutrients needed to metabolise these fats, is leading to increases in mental problems from depression to aggression.

In the past 100 years western diets have undergone a shift in which the omega-3 fatty acids, essential to brain function, have been overwhelmed by competing omega-6 fatty acids. These come mainly from the industrial preparation of takeaways, ready meals and snack foods which have become staple parts of the diet for many families.

For more information on essential fatty acids, download the HACSG's free guide: Essential Fatty Acids Minerals & Vitamins which includes a collection of documents and case histories. click here: HACSG Free Guide on EFAs Minerals and Vitamins