

Nutritional

"Food additives make no positive contribution to nourishment, and detract from it in most cases." Dr Peter Mansfield, Good HealthKeeping, Kindred Spirits, Issue 4, Summer 1999

The problem in brief

More and more studies are suggesting that the use of artificial additives in food and drink can have a dramatic effect on our children's behaviour. Attention Deficit Hyperactivity Disorder (ADHD), allergies, asthma, and migraines are just some of the problems attributed to food additives. The danger is particularly great if your children are very young, where the long-term effects of taking in additives on their developing bodies can mean anything from serious malnutrition to obesity.

A little and often...

The amount of additives per food item we eat may not, on their own, be harmful but it is the cumulative effect of what we eat over our lifetime that can be problematic. Around 75% of our Western diet is made up of various processed foods, which means that each one of us eats on average 8-10 lbs of food additives every year.

Look behind you!

Some food and drinks are sold with very misleading labels. You have to study them carefully to discover that the food they are advertising on the 'glossy' packaging is mysteriously absent, whether it is the fruit in a fruit juice or other food "flavouring" such as bacon or cheese. Take a good look at the list of ingredients on the back of the product - and see what you are really buying.

So what is a food additive?

A food additive is any substance added to food which will affect its keeping quality, texture, consistency, taste, or colour. Food additives can be divided into three main types: cosmetics, preservatives and processing aids.

Here are just a few of the major food additives:

Cosmetic dyes and colourants include tartrazine (E102) are used in the soft drinks industry and are most frequently implicated in food intolerance studies.

Monosodium glutamate (MSG), a flavour enhancer, used in savoury foods, snacks, soups, sauces and meat products, has been linked with epilepsy-type 'shudder' attacks. MSG's toxicity is thought to be cumulative, so even if an individual doesn't react immediately it could still cause problems over the long term. MSG has been banned from food produced specifically for babies and very young children.

Saccharin - used as sweetening tablets and widely employed by the soft drink and sweet food industry - has been shown to produce cancer when tested on animals. Saccharin has also been found to be growth inhibiting. Aspartame (E951) is an artificial sweetener (sold under brand names such as Equal, Nutrasweet and Canderel) and is used in many "diet" drinks and foods. The debate over the health effects - good and bad - of aspartame continues. If in any doubt, do not give your child products which include aspartame in their ingredients, and avoid regular intake of any additive.

Preservatives and anti-oxidants include benzoates (E210-E219) - used mainly in marinated fish, fruit-based fillings, jam, salad cream, and soft drinks - have been found to provoke asthma and have been directly linked with childhood hyperactivity.

Hard to swallow

Food manufacturers and government representatives claim that without the use of preservatives foods would soon spoil. This is true in some cases but it is also true that a major proportion of additives are used purely for cosmetic reasons and as colouring agents.

The same people argue that because additives are present in such tiny amounts they are completely harmless. When additives have a reversible toxicological action then this is correct, but if they are found to be carcinogenic, for example, the human body will be unable to detoxify itself. Eating minute doses of these additives on an ongoing basis will put an irreversible toxic burden on the individual which could - ultimately - lead to the growth of cancers and foetal damage.

What can be done

There are many steps that can be taken by parents, producers and authorities to limit children's intake of unnecessary food additives:

- Ban all non-essential food additives, particularly all cosmetic agents such as food colourants.

- Ban all food additives from foods which may be consumed by infants and/or young children.
- Clearly label all foods which include additives - such as those with carcinogenic properties - with the appropriate warning.
- Ban TV advertising which encourages children to buy and eat unhealthy junk food.
- Abolish moves towards school snacks and re-introduce free nutritious school meals, preferably using organic food.
- Local Education Authorities should deliver health education lectures stressing the prime importance of good nutrition in both physical and mental health.
- Screen young children diagnosed as hyperactive, including children currently seen by psychiatric services, for evidence of a possible food/chemical intolerance. Even the simplest dietary changes - such as avoiding foods containing food additives such as coloured sweets, fizzy and sugary drinks - can bring about a remarkable improvement in their health and behaviour.
- Pass a law refusing permission for the food industries to add continuously into our everyday foods and beverages demonstrably toxic agents that are for cosmetic purposes only.
- Buy locally produced organic food wherever possible. Avoid processed food. Always check the labels. Farmers' markets often sell eggs, meat, fruit and vegetables at cheaper prices than the supermarkets.
- Sign up to a 'veg box scheme' where organic produce can be delivered by local producers direct to your door.
- Eat 'five a day' - that is, five portions of fruit and vegetables a day, as recommended by the government. This is good advice, but it would be even better if we were advised to eat organic - modern farming methods have resulted in a dramatic depletion of the essential nutrients in vegetables, up to 50% in some instances.
- Be aware of the Acceptable Daily Intake (ADI) for any additive you may take on a regular basis.

“Go on mummy buy me a milkshake!”

If you visit your local burger restaurant with your children and you buy them a strawberry-flavour milkshake it will typically contain:

Amyl acetate, amyl butyrate, amyl valerate, anethol, anisyl formate, benzyl acetate, benzyl isobutyrate, butyric acid, cinnamyl isobutyrate, cinnamyl valerate, cognac essential oil, diacetyl, dipropyl ketone, ethyl acetate, ethyl amyl ketone, ethyl butyrate, ethyl cinnamate, ethyl heptanoate, ethyl heptylate, ethyl lactate, ethyl methylphenylglycidate, ethyl nitrate, ethyl propionate, ethyl valerate, heliotropin, hydroxyphenol-2-butanone (10% solution in alcohol), a-ionone, isobutyl anthranilate, isobutyl butyrate, lemon essential oil, maltol, 4-methylacetophenone, methyl anthranilate, methyl benzoate, methyl cinnamate, methyl heptine carbonate, methyl naphthylketone, methyl salicylate, mint essential oil, neroli essential oil, nerolin, neryl isobutyrate, orris butter, phenethyl alcohol, rose, rum ether, γ -undecalactone, vanillin and solvent.

Well, you want it to taste like strawberries, don't you?

TV programme's dramatic evidence of food additive effects

An experiment involving identical twin brothers (carried out on the British ITV1 programme Tonight With Trevor McDonald) provided dramatic evidence of the effects of additives in food. Christopher and Michael Parker, aged five, were put on separate diets for a fortnight.

Michael's diet was completely free of food additives. After just two weeks Michael had become more assertive and calmer than his brother. He also outperformed him on IQ tests.

During the experiment Michael was banned from eating chocolate and sweets, fizzy drinks, flavoured crisps and caffeine.

He was allowed additive-free goods such as ready salted crisps, fruit, banana chips and some yoghurts.

In IQ tests before the experiment the twins each made the same mistakes and completed them in exactly the same time.

Two weeks later, they conducted the same tests and Christopher had improved 10% but Michael had improved by 25%.

This item is based on edited extracts from a review by Tuula E. Tuormaa for FORESIGHT, the Association for the Promotion of Preconceptual Care. First published in Journal of Orthomolecular Medicine, 16 Florence Avenue, Toronto, Ontario, Canada M2N 1E9, a BBC news website article on additives

experiment on twin children

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