



Diet, Behaviour and Learning in Children



Reports in the media often tell us that changing a child's diet can improve their behaviour, improve their concentration, and even make them more intelligent.

Unfortunately there are no magic nutritional pills to take, but the evidence suggests that enjoying regular meals and a healthy balanced diet helps a child to have the best chance at optimal mental and behavioural performance. Regular physical activity or exercise is equally important - aim for at least an hour a day.

The basics of a healthy diet for children:

- ♦ 3 meals a day - breakfast, lunch and dinner with 1 or 2 snacks as well, if needed
- ♦ A variety of fruit and vegetables - offer at least 5 portions a day (a child's portion of fresh fruit or vegetables is about the size of their fist)
- ♦ For calcium - 3 servings a day of dairy foods such as milk, cheese or yogurt. Other calcium-rich foods include calcium-fortified soya milk, sesame seeds, kidney beans, haricot beans, almonds, brazil nuts, canned sardines or pilchards, figs and spinach
- ♦ Starchy carbohydrate foods at each meal (cereals, potatoes, rice, bread, pasta, noodles, yam, etc) - and offering wholegrain varieties sometimes
- ♦ For protein and iron, eat some meat, fish, poultry, beans, lentils, eggs or soya every day
- ♦ Limit sugary and fatty foods such as soft drinks, sweets, chocolate, crisps, biscuits and fried food
- ♦ Keep well hydrated by drinking plenty of fluids - ideally about 6-8 cups a day - water or milk are best for the teeth

What about fish, fish oils and omega-3 fatty acids?

For their bodies to get enough of the healthy fats called omega-3 fatty acids, it is recommended that children eat 2 portions of fish a week including one serving of oily fish such as mackerel, kippers, pilchards, trout, salmon, sardines, herring or fresh tuna (omega 3 fatty acids are extracted from canned tuna during processing in the UK). Other sources of omega-3 fatty acids are:

- ♦ Breast milk and most infant formulas
- ♦ Dark green leafy vegetables
- ♦ Wholegrain cereal products such as granary bread

- ♦ Some nuts and seeds - linseeds/flax, walnuts, pecans, peanuts and almonds (to avoid choking in under fives give chopped rather than whole nuts)
- ♦ Some brands of eggs, margarines, milks and bread which are specifically enriched with omega 3 fatty acids
- ♦ Some vegetable oils - rapeseed/canola oil, linseed/flax oil, walnut oil and soya oil

Researchers are investigating whether taking omega-3 fatty acid supplements could help with concentration, and learning problems such as dyslexia and autistic spectrum disorders (ASD). The results of the research to date are inconclusive.

If giving omega-3 fatty acid supplements to a child consider:

- ♦ Whether they are suitable for the age of your child (check on the packaging)
- ♦ Whether the amount of vitamin A in them (combined with any other supplements given) is safe - the safe upper limits for infants is 0.3mg/day, for 1-3 years 0.6mg/day, for 4-6 years 0.9mg/day, 6-12 years 1.4mg/day and 12-18 years 1.8mg/day
- ♦ If they are safe to take if the child is on medication or has a medical condition such as epilepsy or haemophilia - consult a doctor
- ♦ Whether they been purified to reduce the harmful pollutants sometimes found in fish oils
- ♦ Some researchers think that high doses of supplements need to be taken daily for 3 months for their effects, if any, to be seen

How about other vitamins and minerals?

If a child is eating a balanced diet as described above, there is not usually any need to take additional vitamin or mineral supplements.

However, for under-fives, a daily supplement of vitamins A, C and D is recommended - these are available under the 'Healthy Start programme.

Iron-deficiency is common in children and young



people, causing tiredness and therefore affecting concentration and mood. Iron-deficiency can be prevented by eating plenty of iron-rich foods such as red meat, fish, eggs, nuts, seeds, beans, green vegetables, dried fruit and fortified breakfast cereals. A family doctor can test blood for iron-deficiency, and prescribe a short course of iron supplements if necessary.

What about food allergies and intolerances?

Some children find that particular foods or drinks make them 'hyperactive', disruptive or irritable. For some it is a particular food, for others, stimulants such as caffeine which is found in energy drinks and chocolate, or others a particular food additive or E-number.

One research study found that giving a large group of healthy preschool children a drink containing a number of additives (the colourings sunset yellow (E110), tartrazine (E102), carmoisine (E122), and ponceau 4R (E124) and the preservative sodium benzoate (E211)) caused an increase in 'hyperactive behaviour' in some children compared to when given they were given a drink without these additives in, although this study was not conclusive and research is ongoing.



Unfortunately there are no tests available on the NHS or privately that reliably indicate which foods or additives an individual may be 'intolerant' to in this way.

The most reliable way to investigate whether a child has a food intolerance is first to follow a healthy diet as

described above, then to keep a diary of the foods and drinks the child has eaten, plus a diary of their behaviour throughout the day. Looking back on this diary over a period of weeks can highlight if there are particular foods or drinks regularly eaten or drunk just before times when behaviour is worse, or indeed if the behaviour is related to anything else.

The next step is to remove from the diet, any food suspected to be causing problems. After a couple of weeks give the child the food to eat regularly again. Suspect an intolerance if there was both an improvement in their behaviour or symptoms while the food was avoided, and the symptoms reappeared after they ate the food again.

Before cutting a nutritious food or food group out of a child's diet in the long-term, it is best to weigh up the benefits of avoiding a food with the impact avoiding a food would have on the child's lifestyle and nutritional intake. It is advisable to seek support from a registered dietitian, who can advise on maintaining a varied and nutritionally balanced diet.

Finding a Dietitian...

Registered Dietitians can provide tailored, holistic advice and support on achieving a optimally healthy, balanced diet including the use of vitamins and minerals to supplement a diet if needed, Registered Dietitians work in the NHS and privately, liaising with health and education professionals where needed. To be referred to an NHS dietitian, contact your family doctor.

**To find a private dietitian visit:
www.dietitiansunlimited.co.uk**

For further information on healthy eating at all ages visit www.eatwell.gov.uk