

Health Benefits of Play: Physical Health and Nutrition

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Play has a central role in helping children reach their true potential. Taking part in play not only helps to promote children's physical wellbeing but also assists their development in four major areas:

1. Cognitively
2. Emotionally
3. Socially
4. Nutritionally

From a nutritional stance, the correct balance of nutrients helps to support children with their playing activities and can provide an opportunity for adults and children to enjoy food together in a fun environment. Key nutrients needed to support play are:

1. Energy – for the body to run efficiently, grow and move
2. Carbohydrate – to aid the recovery of normal muscle function after long lasting physical exercise leading to muscle fatigue and the depletion of glycogen stores in skeletal muscle
3. Protein – for normal growth and development of muscle and bone in children
4. Docosahexaenoic acid – for the maintenance of normal brain function and vision
5. Vitamin B2, B6 – contribute to reduction of tiredness and fatigue
6. Vitamin D – supports growth and development, particularly bone health and muscle strength. Adequate Vitamin D is not provided through a healthy, balanced diet. Sufficient intake must be supported through supplementation of 10mcg/day
7. Calcium – contributes to normal energy-yielding metabolism, normal muscle function and bone development
8. Iodine – contributes to normal energy-yielding metabolism and cognitive function
9. Iron – contributes to normal energy-yielding metabolism and the reduction of sickness and fatigue
10. Magnesium – contributes to normal energy-yielding metabolism and the reduction of tiredness and fatigue

11. Zinc- contributes to normal cognitive function and protein synthesis
12. Selenium- contributes to the protection of cells from oxidative stress
13. Water – contributes to the maintenance of normal physical and cognitive function and regulation of body temperature (*British Nutrition Foundation, 2015 'Energy and Energy Balance' <http://www.nutrition.org.uk/nutritionscience/energy.html>*)

A diet supplying an appropriate balance of energy, protein, micronutrients and fatty acids is central to child development and helps to provide the tools needed to get the most out of play. The five food groups are:

1. Bread, rice, potatoes, pasta and other starchy foods
2. Fruit and vegetables
3. Milk, cheese and yoghurt
4. Meat, fish, eggs, nuts and pulses
5. Foods high in fat and sugar

The Infant and Toddler Forum's resources on Portion Size provide information about a balanced diet and the amounts to give (http://www.infantandtoddlerforum.org/media/upload/pdf-downloads/1.3_Portion_Sizes_for_Children_1-4_years.pdf)

With 20% of children presenting as overweight or obese before even starting at primary school, a considerable number will have difficulty in fully participating in play activities not only near the home but in the school playground. These children may be subject to weight stigma. Recent evidence confirms that obesity reduces all types of beneficial physical activity and creates a vicious circle of increasing body fatness and a lifestyle that is increasingly reliant upon sedentary pursuits. (*WHO 2015, Interim Report of the Commission on Ending Childhood Obesity. Geneva*). Also, comfort eating and eating to increase pleasure and happiness exacerbates obesity and is a substitute for the happiness and pleasure that play can provide.

The play activities of children make an essential contribution to preventing and reducing obesity. Encouraging children to play and combining this with their introduction to truly nutritious foods is acquiring credence as an approach that makes sense. In the 24-hour food environment surrounding the UK, children and their families are being encouraged to associate food products with active pursuits – but not in accordance with the principles of sound nutrition as outlined above. Milk, fruit and vegetables are being replaced by 'sports' drinks, fruit juice, cakes, sweets and biscuits (*Piernas, C and Popkin, B.2010 'Trends in Snacking Amongst US children, Health Affairs*).

Some of these drinks can contain as much as 20 teaspoons of sugar, namely Rockstar, Monster and Red Devil. They are active agents in children 'piling on the pounds', serve no purpose and can contribute to dental decay which may lead to pain and infection; however, children and their families may associate them directly with outdoor play and activity. This beverage link to children's playful and sporting engagement needs more detailed consideration, funded research, publicity and action. The perversity of sugary beverage sponsorship to support play/ movement/ exercise activity in order to sell more products leading directly to obesity and dental disease; ultimately preventing the health benefits of playful activity needs to be addressed.

At the same time, policy-makers should aim to change the culture by advertising the merits of combined play/healthy nutrition approaches some of which are listed below:

1. The HENRY (Health, Exercise, Nutrition for the Really Young) programme, commended by the British Dietetic Association, which has trained 10,000 practitioners and combines healthy eating with active play ideas
2. Infant and Toddler Forum resources on growth, and measurement of toddlers, physical activity and play and the development of healthy eating habits. (<https://www.infantandtoddlerforum.org/toddlers-to-preschool/growth-and-development-of-toddlers>)
3. MEND (Mind, Exercise, Nutrition, Do It) had courses in 350 UK locations but as tenders from primary care trusts for child obesity programmes dropped from 12 in 2011 to just 3 in 2012, it was adopted by My Time Active; a 10-weeks course to re-educate whole families about their eating habits, teach them about nutrition, cooking and food labels and encourage them to exercise
4. EatSleep Play initiative in the Children's Museum in Manhattan (CMOM), endorsed by Michelle Obama; arts and literacy health-based project using creative and fun ways to engage children and their parents to make simple changes in the area of nutrition, sleep and active play ('EatSleepPay' Health Initiative 2013, a Children's Museum of Manhattan (CMOM) Initiative in partnership with National Institutes of Health (NIH) We Can! Curriculum).

Play, considered from all perspectives, is essential to the wellbeing of children. Combined with good nutrition, it promotes their physical health and can increase feelings of self-reliance and self-esteem. What is urgently needed now is a 'combined evidence' approach to play and nutrition and the development of pilot schemes to build awareness. Parenting classes at all stages should be instituted to emphasise the unity of play and good nutrition in promoting child health and the Government should fund research into the linking of beverages promotion to children's activity/ play programmes.

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