

## Nutrition and Foods for Children with ADHD

It is reasonable to hope that avoiding or adding certain foods or nutrition supplements may have an impact on ADHD symptoms. Since the 1970s scientific studies have been conducted with the intent to show an association between improvement of ADHD symptoms by avoiding specific foods or food additives or by adding foods or nutrient supplements. Most recent analysis of these studies conclude that although the evidence is insufficient to make wide reaching clinical recommendations for changing the behavior of children with ADHD, some promising results are worth exploration. [Diet in the treatment of ADHD in Children – A systematic review of the literature](#)

ADHD nutrition specialist Laura Stevens outlines a few ways that nutrition may impact ADHD symptoms. The strongest associations appear to include avoiding preservatives and food dyes, ruling out food sensitivities, ensuring adequate intake of foods or supplements high in omega 3 fatty acids and Vitamin D, meeting B vitamin needs, and providing strategies to help children with sensory perception issues learn to accept more foods.

[5 Ways Nutrition Can Impact ADHD Symptoms](#), Children and Adults with Attention-Deficit Hyperactivity Disorder (CHADD) National Resource Center on ADHD

### Avoid preservatives and artificial food colors

Avoid foods with artificial food coloring including in soda pop (tartrazine). Evidence is accumulating that points to increased hyperactive behaviors of children with and without ADHD and intake of food dyes. It is estimated that AFCs may impact up to 10% of children with ADHD. It is best to avoid and strive to eliminate processed foods and add more whole foods prepared at home without additives. Check the ingredient lists when purchasing packaged foods avoid foods with the AFCs in the list below.

### Rule Out Food Sensitivities

Some children with ADHD may have sensitivities to foods other children do not. An Elimination Diet can help determine food sensitivities and allergies which may be associated with ADHD symptoms. This involves eliminating specific foods such as dairy, legumes, peanuts and foods containing preservatives for a short of period of time and then adding them back one at a time to observe behavior changes. A child's health care provider may advise trying this type of eating pattern but should be administered only by a health professional. Strict adherence to an elimination diet is the best way to determine whether a food is associated with a behavior.

Table 6. Foods Child Should Avoid and Foods Child May Eat on Elimination Diet<sup>a</sup>

	Avoid	Serve
Additives	All artificial colors, flavors, all preservatives	
Milk	Dairy: cows' milk, cheese, yogurt, ice cream	Rice milk <sup>b</sup>
Chocolate	Chocolate	
Grains	Wheat, rye, barley	Oats, rice, rice cakes, rice crackers, rice noodles
Meats, poultry, fish, eggs	Eggs, processed meats	Unprocessed meats, poultry, fish
Fruits	Citrus	All others <sup>c</sup>
Vegetables	Legumes (peanuts, beans, peas, etc), soy, peanut oils, corn, corn oil, or corn syrup	All others
Nuts	Peanuts	Walnuts, pecans, almonds, and so on <sup>d</sup>

<sup>a</sup>Do not extend elimination diet past 2 weeks.

<sup>b</sup>Child may need an age-appropriate calcium supplement.

<sup>c</sup>To get enough vitamin C, include these vitamin C-rich fruits: strawberries, blueberries, raspberries, cantaloupe, watermelon, papaya, mango, and kiwi. Other sources include broccoli, tomatoes, and peppers.

<sup>d</sup>Do not buy nuts that are processed with peanut or soy oil.

This table outlines the foods that are most likely to be eliminated for short periods during an Elimination Diet.

Table 5. Artificial Food Colors Allowed in the US and Canadian Diets by the Food and Drug Administration and Health Canada<sup>a</sup>

FD & C Number	Common Name	Type of Chemical	Shade	Foods Containing Colors
Blue #1 <sup>b</sup>	Brilliant blue	Triphenylmethane	Blue	Beverages, candy, baked goods, ice cream, cereals
Blue #2	Indigotine	Sulfonated indigo	Dark blue	Beverages, candy
Green #3	Fast green	Triphenylmethane	Blue-green	Beverages, candy, gelatin, jellies
Yellow #5 <sup>b</sup>	Tartrazine	Azo dye	Yellow	Gelatin, candy, chips, ice cream, cereals, baked goods, pickles
Yellow #6 <sup>b</sup>	Sunset yellow	Azo	Orange	Beverages, jam, sausages, baked goods, candy, gelatin
Citrus Red #2	Citrus red	Azo	Orange	May only be used on skins of some Florida oranges
Red #3	Erythrosine	Xanthene dye	Pink	Candy, baked goods, popsicles, cereals
Red #40 <sup>b</sup>	Allura red	Azo	Red	Candy, beverages, gelatin, pastries, sausages, cereals
Orange B <sup>c</sup>		Azo		Hot dog and sausage casings only

<sup>a</sup>Other dyes are allowed in drugs and cosmetics.

<sup>b</sup>Voluntary phase-out by 2009 in the United Kingdom.

<sup>c</sup>Not allowed in Canada.

This table outlines the artificial food colors (AFC) that have shown some association to ADHD behaviors in children.

## Ensure adequate levels of the essential Omega-3 fatty acids from foods and maybe supplements

Diets with enough essential fatty acids and lower levels of saturated fats are healthy for all children because these fatty acids are not made in the body and yet are a major component of brain cells in children. Essential fatty acids tend to be low in diets of children because they are mostly found in canola and walnut oils, fatty fish, pumpkin and sunflower seeds, nuts and leafy green vegetables. Low amounts are found in whole milk and is the reason why pediatricians recommend whole milk for children between 12 – 24 months. Foods containing omega-3 fatty acids, Eicosapentaenoic (EPA) in particular have been shown to slightly modify ADHD symptoms and may enhance medications for some children. Fish and seafood as well as fish oil supplements will have the highest concentration of the EPA fatty acids. Two other types of essential fatty acids have . Add canola and walnut oil, ground flax and chia seeds to foods that children will eat: pancakes, muffins, smoothies, eggs, and foods that are sautéed and include oil in the recipe. Offer seed and nut butters, pumpkin and sunflower seed trail mixes, soups and salads with leafy greens and winter squash.



[Omega Supplements](#). Understood for Learning and Attention Issues, ADHD: Alternative Treatments

**Sugar and hyperactive behaviors in children still not strongly connected. Be aware of WHEN children eat excessive amounts of sugar.**

Although sugar intake and hyperactivity have been extensively studied they do not show a clear, direct cause and effect connection between intake and behavior. However; foods high in simple sugar such as cake, donuts, candy, and sugary snacks tend to be associated with times and events in children's lives that are loud, noisy, festive, crowded and full of unstructured activities which may stimulate children more intensely sensitive to environmental circumstances associated with hyperactive behavior. Since processed foods tend to be high in sugar, eliminating them will decrease risk of sugar related hyperactivity if suspected. Breakfast cereals with less than 7 grams of added sugar, a variety of whole grains, fresh, plain frozen or canned fruits and vegetables, and avoiding grain based desserts will naturally limit food additives as well as added sugar.

## Get enough Vitamins and Minerals (...but not too much!)

Some evidence suggests that children with low levels of a number of B vitamins and some minerals may impact behavior more for ADHD children. Offering a few servings of whole and enriched grains, and a variety of fruits, vegetables and legumes every day helps to ensure adequate supplies of these micronutrients. Because children with ADHD may experience taste and texture sensitivities to a wide range of foods or need to eliminate whole food groups due to food sensitivities it may be advised to provide a one-a-day supplement to ensure adequate intake levels of micronutrients but mega doses of any vitamin or mineral have been found to be toxic for children. Advice from a health care provider is necessary.

## Get enough Vitamin D and get outside

The fat soluble Vitamin D [has been shown to be low in some children with ADHD](#). Vitamin D is important for calcium absorption and also involved in a number of neurotransmitter functions in the brain. Vit. D is fortified in cow's milk and naturally occurring in eggs and fishy but may not be fortified in soy, rice, or coconut beverages commonly used as a cow's milk alternative. Getting 20 - 30 minutes of outdoor time is one way to acquire Vit. D because it is absorbed through the skin. A Vit. D supplement can help to increase levels in the blood and has been shown to be effective in decreasing hyperactivity symptoms in some children. A child's health care provider may prescribe a Vit. D supplement in adequate dosage levels when indicated.

## Be aware of taste and texture sensitivity issues

Children with ADHD may also show signs of sensory processing issues or disorders. These would include taste, smell and texture sensitivities. A child may notice smells that others won't sense or show an intense reaction to the taste and texture of foods. These sensitivities may result in the refusal to try new foods and limited food preferences.

Because taste and smell are connected it may be helpful to avoid preparing and serving foods with strong odors, i.e. smelly cheeses, spicy dishes, steamed cruciferous (broccoli, cabbage, cauliflower, Brussels sprouts) vegetables, or peanut butter. Offer foods with more neutral odors and tastes such as lightly sautéed or blanched root vegetables (carrots, beets, potatoes), winter squash; fresh or frozen fruit, milk cheeses, bland single foods rather than combinations.

Taste and texture of foods go together so using different forms of the same type of food may increase tolerance for trying it. Fruit may feel slimy, cold or wet. A crunchy banana chip may be more readily accepted than sliced or whole banana. Try mashed fruit instead of cut up pieces or make fruit smoothies. Cut vegetables or meat and chicken into sticks instead of serving whole pieces. Serve foods at room temperature.

It is most important to be patient as children with sensory issues may need extra time to explore a new food before expecting them to even try a bite. They may do well to "play" with a new food first using their hands, smelling, licking and even putting into their mouths and being able to spit it out.

Review the [7 Ways to Help Your Child Cope with Taste Sensitivity](#) for more guidance on addressing food related sensory issues with children who may experience sensory processing issues.

## Make some Slime!



Making "slime", the cold, slippery mass goo made from natural ingredients and water, is an enjoyable sensory activity for all children and may be especially appealing to children with ADHD who seek sensory input. Playing with slime may be a calming activity and provide a way for children to stay focused and channel their energy as they manipulate the various ways slime moves around in their hands. Check out the easy to make, toxic-free recipes from the [Understood Website for Learning and Attention Issues](#).

## References:

[Diet in the treatment of ADHD in Children – A systematic review of the literature](#), Nord J. Psychiatry, 2014

[5 Ways Nutrition Can Impact ADHD Symptoms](#), Laura Stevens, Children and Adults with Attention-Deficit Hyperactivity Disorder (CHADD) National Resource Center on ADHD

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[Omega Supplements](#), Understood for Learning and Attention Issues, ADHD: Alternative Treatments, 2014

[Is high prevalence of vitamin D deficiency a correlate for attention deficit hyperactivity disorder?](#), Attention Deficit Hyperactivity Disorder. Epub 2014 Mar 9

[7 Ways to Help Your Child Cope with Taste Sensitivity](#), [Understanding Sensory Processing Issues](#), The Understood Team, 2014

[How to Make Slime](#), Understood Website for Learning and Attention Issues, 2014

