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Healthy Foods for Healthy Brains

Written by Carol Ann Brannon MS, RD, LD

Recent research hitting the news has parents asking, “What’s food got to do with my child’s attention, behavior, and learning?” The answer is, “A great deal.”

Inadequate food intake can alter brain neurochemistry and impair development of the nervous system. Likewise, neurotoxin exposure can have detrimental effects on a child’s neurodevelopment including behavior and learning. Neurotoxins include lead, mercury, nicotine, pesticides, and a multitude of other environmental chemicals.

Children are the most vulnerable to neurotoxins since they eat, drink, and breathe pound-for-pound more than adults. Compared with adults, children retain a greater percentage of neurotoxins in their bodies. Children are more vulnerable to neurotoxins because they have immature immune systems and less ability to detoxify naturally. This potential for harm exists into late adolescence as the brain continues to develop.

A recent study published in *Pediatrics* (May 2010) by Bouchard, Bellinger, Wright, and Weisskopf at the University of Montreal and Harvard University caught the media’s attention and was considered “breaking news.” This large study examined the health data from 2000 to 2004 for 1,139 children ages 8 to 15 years and representative of the US population. It showed that children with higher urinary levels of certain pesticides were more likely to meet the diagnostic criteria for ADHD. These

particular pesticides are commonly used on fruits and vegetables and are also present in water. This study could not and does not prove that pesticides *cause* ADHD, it demonstrates a possible *association or link* between pesticides and the risk of developing childhood ADHD. Experts do agree that this research is persuasive and that more prospective studies be conducted to clarify the effect of pesticides on children. This study was unique because it demonstrated that even in the smallest amounts pesticides may affect the developing brain, neurotransmitters (brain regulatory chemicals) and behavior (inattention, impulsivity, hyperactivity).

Should parents avoid purchasing conventionally grown produce? There is no clear, evidence-based answer to this question; not yet anyway. However, we do know that infants and young children, up to at least age 11, are the most susceptible to neurotoxins and that the brain continues developing into the early twenties. While there is not enough conclusive, definitive evidence to support an “official” dietary recommendation regarding produce treated with pesticides, it may be prudent to err on the side of caution and choose organic and/or locally grown produce whenever possible, with special attention given to avoiding those fruits and vegetables known to be highest in pesticide residue. For a list of the produce highest in pesticide residue visit the Environmental Working Group website at www.ewg.org. The US Pesticide Residue Program Report in 2008 indicates 28% of frozen blueberries, 25% of strawberry samples, and 19% of celery samples had detectable concentrations of pesticides.

Practical Tips for Incorporating Organic Foods into Your Food Budget

- Plan the family menu around seasonal and less expensive produce; freeze seasonal produce for later use.
- Make a grocery list and stick to the list! Eliminate impulse buying.
- Shop the perimeter of the grocery store; focus on whole foods, not processed foods.

- Purchase frozen organic foods as these are generally less expensive. Many large member-only clubs and super-center stores are carrying organic frozen foods, too.

Whether you buy organic or conventional foods you should:

- Buy local produce whenever possible. Most produce travels an average of 1,500 miles to get to your store. Check out www.fieldtoplate.com and/or www.georgiaorganics.org to learn about local produce and farmer markets.
- Get to know your local farmer! Becoming a certified organic farmer is expensive. Some farmers simply cannot afford the cost of organic certification, but their produce may be free of pesticides and other chemicals. When in doubt, ask questions.
- Reduce pesticide residues and other contaminants by:
 - Washing and scrubbing all produce (even produce with inedible skin) under streaming water; do not use soap.
 - Remove the peel from fruits and vegetables.
 - Remove the outer leaves of leafy vegetables.
 - Discard cut produce if it has been out of the refrigerator for four hours or more.
 - Trim visible fat and skin from meat and poultry as pesticide residues can collect in fat.
- Eat a variety of foods from different sources.

Parents need not feel overwhelmed when incorporating organic foods to the family diet. Taken one food at a time, transitioning the family diet to healthy and tasty can be a positive experience for all.