

## Kids and Food

*Per Paleo Leap, Mark's Daily Apple, and Robb Wolf*

If you look at most of the studies supporting Paleo, the vast majority of them were done on adults. That makes sense, because Paleo really started as a diet to combat chronic diet-and-lifestyle diseases like type 2 diabetes and fatty liver disease. Up until recently, the vast majority of people who got those diseases were middle-aged adults. If only adults get type 2 diabetes, then all your studies on type 2 diabetes have to be done on adults.

But today, those lifestyle diseases are showing up in younger and younger patients, including kids. Childhood obesity is the obvious case in point, but kids today are also getting diseases like type 2 diabetes and fatty liver disease. The root problems are basically the same: lousy food, too much stress, not enough sleep, and sedentary lifestyles. The only difference is that today, kids can eat *so much* sugar and junk that they're getting diseases that used to take decades. Efficiency!

The point is that kids can suffer from eating junk food just like adults do. But there's a diet specifically designed to heal those problems – or better yet, to prevent them before they ever start.

There is no one “perfect diet” for kids any more than there is for adults. But the evidence suggests that a Paleo diet absolutely can be safe and healthy for kids. It's easy to meet any special nutritional needs of childhood with Paleo food, and yes, it's possible to get kids to eat broccoli.

However much I identify with the fatigue and frustration – and respect parents' needs to make independent compromises based on their given situations, the actual science is less understanding. Research suggests early nutrition impacts cognitive functioning in the adult years and even by the age of eight appears to reduce IQ. In terms of overall health, we know how nutrition sets us up for epigenetic changes – positive or negative. We know how even the roots of diabetes, heart disease, and obesity can begin in childhood.

In other words, good nutrition matters even more to them than it does to us. Though we might be motivated to stave off mortality or aging – i.e. maintain what we have longer, their bodies' and brains' very ability to reach their basic potential is on the line. What they eat today will determine what they're capable of for the rest of their lives. Likewise, the habits they begin early on can cement pretty quickly. The older they are, the more the window closes on making dramatic change in diet and exercise. Unfortunately, there's no way to sugar coat that point.

I don't mean to throw those points out there in the interest of inciting a massive guilt trip. I didn't feed my kids 100% perfectly all the time. It's not passing judgment, but it is about passing on information. Doing so, with support and strategies, can help us individually brainstorm and prioritize. The fact is, I think there's major stress in our culture – now more than ever – to be the perfect parent in dozens of ways that weren't even on the radar screen when most of us were growing up. I'm sure we could go on for days talking about all the things we used to do that we'd never let our kids try today (e.g. lay on the floor during car trips, bike across town alone, etc.). I'd say the vast majority of today's pushes toward perfection should be chucked, repudiated, scorned and named the worthless wastes of time and energy (and often hindrances to personal development) that they are. Nonetheless, one of the few genuine priorities worth having, I think, is nutrition. When it comes to kids' food, fighting the good fight matters – as early and as often as you can.

### **Creating Strategic Versions/Substitutions**

Many people find focusing on strategic substitutions allows them to preserve their sanity while making sure their kids are fed decently. Grass-fed organic hot dogs, sans buns can win over most kids. Homemade jerky or nut butter offers a healthier version of less desirable packaged foods. Parents learn to make gluten free versions of chicken fingers. They make their own sweet potato fries. They figure out how to make better fish sticks. They bake root veggie chips with healthier oil options and sea salt. I can't tell you how many parents I've heard from already – on the boards and in emails – who say *Primal Cravings* has been a godsend (their words) for this very reason. The recipes look like food their kids

would recognize and want to eat. There's a mind to texture and simplicity that will work well with kids' palates. Most children I know want uncomplicated food.

### **Using Copious Varieties (or Quantities) of Desired Condiments**

There's the assumption that most kids will eat a lot of things if they can put ketchup on them. Why not? I'd suggest making your own, but why limit it? Kids love the concept of dips and sauces, and I think I've got a good book somewhere for that, too.

### **Planting Forbidden Fruit**

This defies reason, but sometimes the best strategy is to prepare a healthy (but kid-friendly) Primal dish and put it aside, tantalizingly almost – almost out of reach, in a place or position that makes the child suspect it's "for the adults" (for guests, even better) or not ready to be brought to the table. There's something in children's impish (or reptilian) little brains that makes forbidden food – even when healthy – seem that much more appealing. A friend's daughter was so anti-meat that she wouldn't even eat bacon. (Collective gasp.) One day, the husband was cooking a second batch of bacon for dinner and had put the plate with the first on a far counter to keep himself from eating it. His little girl ran in, saw the slightly obscured plate, gleefully grabbed a piece and absconded with it while he teasingly called after her to get back there and help, police. Within 10 minutes, she'd repeated the same move a few times and eaten half the batch. Since then, they've used the same technique to get her to eat other meats. For the "harder sells," they go all out in making the platter look more enticing and forbidden looking (e.g. on the fancy china, in behind one of their wine glasses). Of course, it means she ends up eating most of her dinner on the run instead of at the table (so much for family dinner), but their perspective is this: at least she's eating well!

### **Bartering Food for Freedom**

This introduces another strategy – one we used with our children. Make certain foods or meals "roaming" approved. In other words, the parent grants freedom to skip sitting at the table if the kid will eat the healthy fare. Lay it out in a fun, festive, or otherwise eye-catching buffet style. Put on music. Teach and practice conventional manners at easier meals.

Some people might cringe at the idea of a toddler run amok and family dinner down the tubes – especially if there are other, older children. It highlights another important point. We all have our personal priorities, our chosen compromises, our sacred cows, our deal breakers as parents. This goes far beyond issues of decorum to the food itself. As I've said often, don't let the perfect be the enemy of the good. Getting your kids to eat better isn't an all or nothing proposition. It's your call. Maybe you're a solid no-GMO above all else. Maybe you're first and foremost anti-gluten or grains. Perhaps your main goal is promoting veggie intake. Whatever goal you commit to, you're making a positive difference in your children's health and opening your mind – and theirs – to the idea that food choices matter.

There are no known nutrients found only in grains or legumes. Nobody ever developed a nutrient deficiency from avoiding those foods, unless they were also eating an imbalanced diet in other ways. Want fiber and antioxidants? Get them from fruits and vegetables. B vitamins? Eat meat or fish. A child eating a balanced Paleo diet won't somehow be in danger from avoiding grains or legumes.

### **Special Nutritional Considerations for Children**

Children aren't just adults on a smaller scale, and they do have some special nutritional needs. But it's easily possible to fill all of those with Paleo.

#### *Calcium*

Calcium is particularly important for children, especially girls (who are more likely to develop osteoporosis or other bone problems later in life). Dairy is a Paleo gray area and some kids do just fine with it. But if yours don't, calcium from bones (bone-in salmon and sardines) and leafy green vegetables is more absorbable than calcium from dairy.

## *Iron*

Iron deficiency is especially likely among children who are overweight or obese. On average, these children eat as much iron as anyone else, but the low-grade inflammation in their body prevents them from absorbing and using the iron. The solution isn't more dietary iron; it's healing the inflammation.

## *Vitamin D*

Low Vitamin D status is a problem for anyone who spends most of their time indoors. A child may be Vitamin D deficient even if his weight is normal. The best source of Vitamin D is sunlight: send your kids outside to play!

## **...OK, but How do I Get Them to Eat It?**

Completely aside from nutritional concerns, another big issue with kids is the age-old problem of getting them to eat their vegetables in the first place. And what about food they get at school? Food they get at their friends' houses? Nobody wants their kid to be known as the weirdo Paleo kid who's never any fun because she can't have candy. Every kid is different, and every parent has a different set of cultural preferences and strictness and discipline choices. Research so far supports...

Parental modeling. Eat good food in front of your kids and make it clear that you enjoy it. Don't treat vegetables as something gross that they have to eat to "earn" dessert.

Involving kids in the cooking process. Let them get their hands dirty.

Early and repeated exposure to new foods. Often a food has to be offered to a child several times before the child will try it. Offering vegetables early, right when solid foods are being introduced, increases a child's willingness to try them later.

Flexible rules. Making sugar an absolutely forbidden treat just makes it more attractive, and you can't control your kids' diet forever. This study found that prohibiting a food just made kids eat more of it when they finally got their hands on it. And kids (especially boys) who grow up in ultra-strict food households are more likely to develop eating disorders later on. Barring life-threatening allergies, it's totally fine and normal for kids to have flexibility to enjoy social events. Let them find out for themselves how food affects their bodies and talk about it together.

- Some eaters—big or small—enjoy variety, while others like the same thing every day. But no matter what, make sure to pack real, nourishing foods: some protein, vegetables, healthy fats, and fruit. When I'm prepping lunches for the kiddos, I try to remember the Golden Rule of Lunches: Don't pack anything in the kids' lunchboxes that I wouldn't happily eat myself.
- At the same time, don't be paralyzed by high-falutin' notions of crafting a perfectly precious bento. Each year, Jackie Linder (my friend and creator of LunchBots) and I spend an entire afternoon preparing these boxes to look as tempting as possible—our aim is to inspire readers to make awesome lunches!—but let's get real: our kids' lunchboxes aren't nearly so photogenic in real life. When I'm rushing to get the kids out the door in the morning, garnishes and visual flourishes are the last thing on my mind. (Here's an example of what Big-O typically brings to school.)
- Lastly: Get your kids involved in picking foods and packing their own lunches! If they have a say in selecting items from your real-food pantry, their food is more likely to end up in their bellies rather than the garbage can or trade box.

## **www.lunchbots is a wonderful place to get lunch boxes for kids!**

### **Kids - ADHD and Nutrition**

In one of my classes we were discussing the use of Ritalin medication as a performance enhancer in sports. You know a medication is widely prescribed when its use in high school and college sports becomes debatable. According to an article on CNN Health, 6% of the school aged population in the United States has been diagnosed with ADHD and 90% of those students have been prescribed Ritalin. As far as I can see in the literature, ADHD is not a Ritalin deficiency. Instead of getting to the root causes of this disorder, medications are prescribed in increasing numbers each year, making pharmaceutical companies rich and altering the neurochemistry of our children.

According to Novartis Pharmaceutical, the mechanisms of action of Ritalin in man are not fully understood. It is a mild central nervous system stimulant that presumably activates the areas of the brain to produce a stimulant like effect (much like cocaine). So what the pharmaceutical company is saying is that this drug does something to your brain, but we are not entirely sure what, but let us prescribe it in great number to our children and see if it helps. This is some scary stuff.

There are other ways to treat ADHD without the potential long term side effects of a drug such as Ritalin. For one, nutrient deficiencies are relevant in the ADHD group. According to the research, patients with ADHD tend to be deficient in minerals, B vitamins, Omega 3 fatty acids, Omega 6 fatty acids, flavonoids, and phospholipid phosphatidylserine (PS) (Kidd, 2000).

Glucose metabolism issues have strong ties to ADHD as well.

Langseth and Dowd in 1978 showed that 74% of children with hyperactivity disorders displayed improper glucose tolerance in response to a sucrose meal (Langseth and Dowd, 1978). Other studies have shown that people with ADHD have reductions in both global and regional glucose metabolism when compared with healthy individuals (Zametkin, 1990). This could be caused from the pancreas over creating insulin in response to high sugar meals. Insulin has been shown to have effects on dopamine, our neurotransmitter responsible for our memory and focus.

In fact, Ritalin blocks the reuptake of dopamine receptors allowing for an increase in the amount of the neurotransmitter around the synapse of the neuron. This works very similar to the class of anti-depressants known as SSRIs including their ability to deplete dopamine over time, making use of the medication more and more necessary. Much like in the case of SSRIs, there are natural treatments to increase the levels of dopamine.

For one, we need to control insulin levels. Eating a high sugar diet can lead to an overproduction of insulin, and leave the glucose necessary for brain function stored as fat instead of used as fuel. The amino acid L-tyrosine is the precursor for dopamine. Eating a diet rich in animal products and if necessary extra L-tyrosine as a supplement can help give the brain the tools to build more dopamine. Nutrients such as iron, zinc, omega 3 fats, and the B vitamins are also important to help turn that tyrosine into dopamine and excess insulin can actually sweep up the amino acids before they get to the brain. This means sticking to a nutrient dense diet rich in amino acids, and low in sugar. Sound familiar?

Food plans and nutrition can make a significant difference in the lives of both children and adults who have been diagnosed with attention deficit disorder (ADHD or ADD). I have used nutritional interventions for hundreds of patients with ADHD during the past 24 years. In many cases, changes have not only improved the symptoms of hyperactivity, concentration, and impulsivity, but also calmed oppositional behavior.

Many adults and parents of children with ADHD are eager to try foods and supplements to help manage symptoms, but they often don't know where to start. Below, learn how to fine-tune an ADHD eating plan for kids and adults alike—foods to add to your family's daily meals, things to eliminate — in order to deliver significant symptom relief.

### **Stop Blood Sugar Spikes**

Foods rich in protein — lean beef, pork, poultry, fish, eggs, beans, nuts, soy, and low-fat dairy products — may have beneficial effects on ADD symptoms.

Protein-rich foods are used by the brain to make neurotransmitters, the chemicals released by brain cells to communicate with each other. Protein can prevent surges in blood sugar, which increase hyperactivity. Eating protein for breakfast will help the body produce brain-awakening neurotransmitters.

Combining protein with complex carbs that are high in fiber and low in sugar will help you or your child manage ADHD symptoms better during the day, whether you're taking ADD medication or not. The single most important thing I recommend to patients — especially parents of children with ADHD — is to decrease the amount of sugar consumed daily.

What many people don't know is that eating simple processed carbohydrates, like white bread or waffles, is almost the same as eating sugar! Your body digests these processed carbs into glucose (sugar) so quickly that the effect is virtually the same as eating sugar from a spoon.

A breakfast consisting of a Pop-Tart and a glass of juice, or a waffle with syrup, causes blood sugar to rise quickly. The body responds by producing insulin and other hormones that drive sugar down to too-low levels, causing the release of stress hormones. The result? By mid-morning, you and your child are hypoglycemic, irritable, and stressed out. This can worsen ADHD symptoms or make some children who don't have ADHD act like they have the condition. Having a simple-carb, low-protein lunch will cause the same symptoms in the afternoon.

Instead, try breakfasts and lunches high in protein, complex carbs, and fiber — like oatmeal and a glass of milk, or peanut butter on a piece of whole grain bread. The sugars from these carbohydrates are digested more slowly, because protein, fiber, and fat eaten together result in a more gradual and sustained blood sugar release. The result? A child can concentrate and behave better at school, and an adult can make it through that long morning meeting.

### **Go for the Fish Oil**

Omega-3's can improve several aspects of ADHD behavior: hyperactivity, impulsivity and concentration. As a result, I recommend that all children with ADHD take omega-3 fatty acids.

Omega-3s are essential fats important for normal brain function. They are called "essential" fats because the body must get them from the foods we consume; our bodies cannot make them. Research suggests that children with ADHD have lower blood levels of omega-3's than kids without ADHD. So, unless your child is a dedicated fish eater, you'll have to supplement, usually with fish oil, to achieve healthy levels.

A number of studies on omega-3s and ADHD have shown a positive effect. In a 2009 study<sup>1</sup>, from Sweden, 25 percent of children who had daily doses of omega-3s had a significant decrease in symptoms after three months; by six months, almost 50 percent experienced better symptom management. This is an impressive result for a safe nutritional supplement with few side effects.

How much omega-3 should your child get and in what form? It's a little complicated. The two main omega-3 fatty acids contained in supplements are eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). It appears that most benefits are derived from omega-3 products that contain more EPA than DHA. I recommend a total dose of 700 to 1,000 mg a day for younger children, and 1,500 to 2,000 mg for older children.

Omega-3s come in capsule, liquid, and chewable form. The gummies and chewables, unfortunately, don't have much fish oil in them, so it is expensive and time-consuming to give your child the proper dose. Most kids who are too young to swallow capsules can take the liquid, although you'll have to be creative about getting them to take it. It is OK to mix liquid omega-3s in just about anything. Orange juice and smoothies are a couple of favorites.

I've seen some children improve within a few days, while others didn't show improvement for a few months. My advice to parents is always to be patient, and not to give up on an omega-3 regimen too soon.

### **Maintain Iron Levels**

Many parents and professionals are unaware of the important role iron plays in controlling ADHD symptoms.

A study done in 2004 showed that the average iron level of children with ADHD (measured as ferritin) was 22, compared with 44 in children who did not have ADHD. Another study showed that increasing iron levels in children with ADHD improved their symptoms almost as much as taking a stimulant.

The children in these studies were not anemic. The fact that your child has a normal "blood count" does not mean that his ferritin levels are normal. Because too much iron is dangerous, I do not recommend giving iron without first checking the ferritin level. Ask your pediatrician to test it.

If iron levels are low, below 35, say, talk with your doctor about starting your child on an iron supplement and/or increasing consumption of iron-rich foods, which include lean red meat, turkey and chicken, shellfish, and beans. The ferritin level should be rechecked in a few months.

### **Check Zinc and Magnesium Levels**

Zinc and magnesium are two other minerals that may play an important role in controlling ADHD symptoms. Both are essential to normal health, and a surprising number of children and adults, with and without ADHD, don't get enough of them. Zinc regulates the neurotransmitter dopamine, and it may make methylphenidate more effective by improving the brain's response to dopamine.

Magnesium is also used to make neurotransmitters involved in attention and concentration, and it has a calming effect on the brain. Have your doctor check your or your child's magnesium and zinc levels when you test ferritin levels. I find that at least 25 percent of the children I see are low in zinc.

While studies have been done on both minerals' effects on ADHD, the results are not as clear-cut as in studies done on omega-3s and iron.

### **Cut Back on Chemicals**

Several studies suggest that artificial additives make children without ADHD more hyperactive, and make hyperactive children worse. The European Union requires a warning label on food packaging that contains additives: "This food may have an adverse effect on activity and attention in children." Gatorade, cheese puffs, and candy are typical examples of foods containing artificial colors and preservatives, but additives and colors can be found in other foods.

The first step in avoiding additives is to read food ingredient labels until you've found a wide range of foods that are additive-free. In most cases, fresh, unprocessed foods are your best bet, as they contain few additives.

However, these days you can find bread, cereal, cookies, pizza, and just about anything else made without additives. Avoid colorful cereals, like Fruit Loops and Lucky Charms. Cheerios are better, and lower in sugar. Substitute 100-percent fruit juice for soft drinks and fruit punches, most of which are artificially colored and flavored.

### **Watch for Food Sensitivities**

A number of research studies have shown that many children with ADHD are sensitive to certain common foods in the diet. These sensitivities make their ADHD symptoms significantly worse. In one recent study 50 children were placed on a restricted diet for five weeks, and 78 percent of them had significant improvements in ADHD symptoms!

In my practice, I have seen improvements in many children when they stopped eating foods they were sensitive to. The most common culprits are dairy, wheat, and soy.

It's important to know that children with ADHD do not necessarily have "food allergies" in the strict, medical sense.

Results when testing for food allergies are usually negative in these kids. The only way to know whether food sensitivities affect your child is to remove certain foods from daily consumption and observe his reaction. A child might have food sensitivities if he displays allergy symptoms, like hay fever, asthma, eczema, or GI problems. But I have seen children with none of these problems respond well to a change in what they eat.

If there are one or two foods you suspect might be exacerbating your child's ADHD symptoms, eliminate one for two or three weeks. Observe your child's ADHD symptoms during that time. If you are thinking about starting a restrictive plan, find a professional to guide you. I know changes are tough to engineer in a child with ADHD, but many families have done it successfully and are happy with the results.

### **Try Helpful Herbs**

Several herbs have been recommended for managing ADHD symptoms, including ginkgo, St. John's Wort, rhodiola, and ginseng. Most have been poorly researched, with two exceptions.

In a large European study on hyperactivity and sleep problems, a combination of valerian and lemon balm helped to relax children with ADHD by reducing anxiety. I use these herbs regularly for kids who deal with these problems. Consult a naturopathic doctor to find the appropriate dose for your child.

To improve attention, a new herbal product, called Nurture & Clarity, was developed, and carefully tested, by a team of practitioners in Israel. The children taking it demonstrated significant improvement, as measured by their performance on the Test of Variables Attention, a computerized measurement of attention. I would not make definitive recommendations based on one study, but this product is worth looking into. You can read about it at [adhd-clarity.com](http://adhd-clarity.com). Finally, pycnogenol, an extract made from French maritime pine bark, has been shown to improve ADHD symptoms in a limited amount of research. I have found that the herb helps improve concentration in some children. One last thought: Herbal products vary greatly in quality, and some contain contaminants. You should find a knowledgeable professional to help you identify reliable sources of pure, standardized herbs.