

# A Time to Act on Food Dyes

Most Americans would be shocked to learn that more than half a million children in the United States today are estimated to suffer adverse behavioral reactions after ingesting food dyes.<sup>1</sup> Yet a majority of child-oriented food products sold in supermarkets—and produced by companies such as Kraft, PepsiCo, and General Mills—are artificially colored.

A new report, Seeing Red: Time for Action on Dyes, details the scientific evidence that dyes are linked to behavioral changes in children and calls upon the Food and Drug Administration (FDA) to ban dyes or, at a minimum, require warning labels to put parents and children on notice that dyes may affect behavior. In addition, the report points out that FDA routinely, and incorrectly, dismisses the risks of dyes on its Website and in agency materials, and asks for these to be corrected.

The report also takes a close look at the foods marketed to children, finding that:

- A single cup of Kool-Aid Burst Cherry contains 50 mg of dyes—or nearly twice the amount (26 mg
  or less) demonstrated in studies to trigger behavioral reactions in some children;
- A 16 ounce bottle of Sunny D Orange Strawberry contains nearly 40 mg of dyes;
- A mere two tablespoons of Pillsbury Confetti Funfetti Chocolate Fudge Frosting contains a shocking 41.5 mg of dyes;
- A single cup of Hawaiian Punch (14.1 mg) plus 4 pieces of Twizzlers (15.4 mg) or a Red, White and Blue Popsicle (21.6 mg) would bring a child over the 26 mg-level used in many studies; and
- Some exposures specifically impact susceptible children. Artificial dyes top the list of inactive ingredients in two versions of Ritalin, a drug frequently prescribed for children with attention deficit hyperactivity disorder (ADHD).

Parents have been telling us for years about the chaos food dyes cause in their lives and the lives of their children. They have bravely shared troubling episodes of hyperactivity, inattention, repetitive motions, aggression, and even violence in their kids. Despite the skepticism they often faced from their doctors, they discovered that avoiding colorings produced dramatic improvements in their child's behavior.

A possible link between food ingredients and adverse behaviors such as hyperactivity was first raised in the 1970s.<sup>2</sup> Since then, about 30 double-blind studies have investigated the effects that artificial colorings and other suspect additives and foods have on children's behavior.<sup>3</sup> Indeed, there is a growing consensus among researchers and physicians who treat patients with attention-deficit/hyperactivity disorder (ADHD) or other behavioral problems that excluding food dyes and certain other foods and ingredients, reduces adverse behavior in some children.

In 2008, the British government and the European Union responded to mounting evidence on the risks of dyes and took action to protect the public. Warnings are now required on most dyed foods sold in the EU, and many companies reformulated products without artificial dyes to avoid the warning label. <sup>4</sup>

In contrast, the U.S. Food and Drug Administration (FDA) not done anything to protect, or even inform, the public. Its website contends that dyes are "very safe," despite its conclusion in 2010 that:

"Exposure to food and food components, including artificial food colors and preservatives, may be associated with adverse behaviors, not necessarily related to hyperactivity, in certain susceptible children with ADHD and other problem behaviors, and possibly in susceptible children from the general population." <sup>5</sup>

FDA last examined the issue in 2011 when it convened an advisory committee to review evidence on associations between food dyes and children's behavior, partially in response to a Citizen Petition filed by CSPI. But FDA botched the investigation by requiring a *causal* link be established between dye consumption in the *general* population and adverse behavior—a difficult scientific question to answer, and one that is unnecessary given that color additives must meet a stringent legal test for safety.

Meanwhile, studies published since 2011 convincingly link food dyes to adverse behavior.

Despite a lack of government action, adverse publicity has prompted several major companies—
including Kraft, Campbell Soup, Frito-Lay, General Mills, Kellogg, Chick-fil-A, Panera, Subway, and Taco
Bell—to promise to stop using dyes in at least some of their products. But foods made with dyes are still
commonplace in supermarkets, schools, and restaurants, which puts the burden on families to learn of
dyes' effects and attempt to keep children from eating these foods.

Under the law, FDA has the responsibility for ensuring that dyes are safe for consumption. FDA is also responsible for ensuring that the information it provides to the public about dyes is accurate. Parents, in particular, deserve such information as they seek ways to help children suffering from behavioral problems. FDA's assertions that dyes are "very safe" is both grossly inconsistent with the scientific evidence and irresponsible as a matter of public health and safety.

## To protect children, FDA should:

- ➤ Ban synthetic dyes in foods and beverages, since they do not meet the legal safety standard. Companies that wish to use a synthetic dye in food must submit convincing evidence showing that the dye is safe and does *not* cause adverse behavior, using sensitive studies. FDA must have adequate data on both exposure and the most sensitive health outcomes, and take sensitive subpopulations, such as children, into account when determining whether a dye is safe.
- As an interim measure, require warning labels on dyed foods stating: "WARNING: This food contains synthetic food colorings that may impair the behavior of some children."
- Update information on its website and in other materials to accurately inform the public that food dyes can impair behavior in some children. At a minimum, FDA should prominently include its own determination that "For certain susceptible children with ADHD and other problem behaviors, and perhaps among children in the general population, data suggest their condition may be exacerbated by substances in food, including, but not limited to, synthetic food colors."

## The Human Toll: First-hand Accounts of Parents

Since 2008, CSPI has collected first-hand accounts of parents' struggles with food dyes. The emails illustrate the real-world harm that dyes inflict on children and their families. The following are excerpts. See three videos to learn directly from parents of children who have been helped by avoiding food dyes:

https://www.youtube.com/watch?v=w5vWAurKZy8&feature=youtu.be

https://www.youtube.com/watch?v=nuIXIkYRBi0&feature=youtu.be

https://www.youtube.com/watch?v=9dhqmZYUFGs&feature=youtu.be

#### **Erica Stewart**

## Chicago, Illinois

We spent years battling my middle son's severe emotional and behavioral problems. He was non-verbal, violent to the point of hurting himself and others. He was utterly out of control and would require up to four adults to restrain him. We took him to several doctors who diagnosed ADHD and autism. One doctor wanted him hospitalized and others prescribed heavy dosages of medications such as Zoloft. He was 4 years old at the time, and we decided to log his diet and behavior before resorting to medications. The common link between his behavioral episodes was consumption of Red No. 40.

Two weeks after he stopped eating any food with red dye, he began talking, stopped hurting people, and was a whole new child. The transformation was miraculous considering what we had gone through. For the first four years of his life, we did not know our son. After the food dye was eliminated, we finally got our real child!

To this day he has to be careful about what he eats. Although the behavior isn't as severe, he will still get nervous and agitated if he ingests too much red dye. Red No. 40 affects all three of my sons, but it affects my middle son most dramatically. Although we have had several different doctors over the last 15 years, whenever I list Red No. 40 as an allergy, they always look at me like I'm crazy. This includes school personnel as well, but it only took one class party for the teachers to really believe us.

#### **Lori Schonhorst**

#### Huxley, Iowa

We have almost completely avoided food dyes for the past week as an experiment after noticing that our son's hyperactive and rather bizarre sensory seeking behaviors became more apparent after eating them. We tried this upon recommendation of a chiropractor. I cannot begin to tell you the changes we have noticed in this short period of time. In fact, my five-year-old son told me just this morning that he "feels like a normal kid" now. When someone put chips that contained Red No. 40 on his plate today at a potluck, I mentioned to him that they had Red No. 40 in them. I gave him the option as to whether he wanted to eat them or not to see how he would respond. He didn't touch them. He knows how those foods make him feel and he doesn't want them anymore. That speaks volumes to me.

## **Cynthia Ogea**

## Lake Charles, Louisiana

My child has been out of control since he was 2 years old. We tried every ADHD medication available with little success. After changing his diet to dye-free foods, he's been a completely different person. I want to cry knowing that all we had to do was avoid dyes. The last four years have been full of stress and uncertainty, to the point where I was making myself sick with worry. I breathe easier knowing I figured this out.

#### **Christine Blake**

#### Columbia, South Carolina

We noticed when our child was 2 years old that within 20 minutes of consuming food gummies he was a different person. He couldn't maintain eye contact. He would engage in self-stimulating behaviors like moving his hand really fast in front of his eyes. The effects would wear off within a few hours and by the next day he was back to normal. Also, we consume a very natural diet most of the time, so we really noticed the difference when we added in a food with dyes. Sugar was not the issue, because he would eat other foods made with sugar and no issues. Chocolate caused no problems either. To this day we still see the impact. Today he got a box of organic candies with Yellow No. 6 and we let him eat them. All day he has had a hard time concentrating. We talk and it's like he can't hear us. He keeps asking us to repeat things. He stares off into space and we have a hard time getting his attention. He says his brain feels all scrambled and static-y. Every doctor we have ever told about this has treated us like fanatics.

#### **Krztena Brooks**

#### Kingsport, Tennessee

My daughter is typically very laid-back and happy. She is well-mannered and behaves wonderfully—most people think she is 5 instead of 3. But if she ingests Red No. 40 she is a totally different child. She becomes agitated, has mood swings and difficulties concentrating. She is unable to calm down physically or emotionally and can't go to sleep at night.

When she was younger, we realized that after she was given children's medications with red dye she would get very hyper and irritable. Then we noticed the same effect with certain foods. Our sweet and very smart daughter with no ADHD or behavioral problems became a very out-of-control and agitated little girl who couldn't calm down or be calmed down. Her normal bedtime is 8:30–9:00 p.m., but if she has consumed Red No. 40, she is unable to calm down and can't go to sleep until 11:30 or later, and it is not a restful sleep. Physically, red dye makes her cheeks flush and she also usually gets a stomach ache and diarrhea. After consuming it, the next day it is like she has crashed and doesn't feel well or have any energy.

## **Becky Hall**

#### Atlanta, Georgia

When our daughter consumed artificial dyes, she had uncontrollable fits of rage. Afterwards, she was very apologetic and upset at her behavior, but while she was in the middle of it, there was no stopping her. She yelled, tossed herself on the ground and threw things. She made comments like she hates everyone and hates herself. We've noticed these fits last about 30 minutes—it's almost like you can time it out to know when they will end. (Knowing this helps me get through them.) Since we removed artificial dyes from her diet, she no longer has these fits. Don't get me wrong, she does have temper tantrums every once in a while. However, they are brief and we are able to talk through them. We have found that food dyes are the main problem, especially Yellow No. 5.



#### **Endnotes**

http://www.cdc.gov/ncbddd/adhd/data.html.

<sup>1</sup> Lefferts, L. Seeing red: time for action on food dyes. 2016. Based on Nigg JT, Lewis K, Edinger T, et. al. Meta-analysis of attention-deficit/hyperactivity disorder or attention-deficit/hyperactivity disorder symptoms, restriction diet, and synthetic food color additives. *J Am Acad Child Adolesc Psychiatry*. 2012; 51(1): 86-97.e8. doi: 10.1016/j.jaac.2011.10.015; and CDC. Attention Deficit/Hyperactivity Disorder. July 8, 2015.

<sup>3</sup> FDA lists 33 clinical trials in: FDA/CFSAN March 30-31, 2011 Food Advisory Committee Meeting Materials. Bibliography: all references related to overview assessment of artificial food colors/additives and hyperactivity (ADHD) and problem behaviors in children. See

http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/FoodAdvisoryCommittee/UC M248017.pdf. An in-depth discussion of many of these studies is presented in the 1999 CSPI report "Diet, ADHD and Behavior," by Jacobson MF, Schardt D. The report notes that of 23 double-blind studies, 17 observed adverse behavioral reactions in certain children after they consumed dyes or certain foods.

- <sup>4</sup> UK Food Standards Agency. "Products free from the colours associated with hyperactivity." *See* http://www.food.gov.uk/policy-advice/additivesbranch/foodcolours/colourfree/#.UIL9gRD0hD4; and UK Food Standards Agency. "Food Additives and Children's Behavior." *See* http://www.food.gov.uk/policy-advice/additivesbranch/foodcolours/colourfree/#.UIL9gRD0hD4.
- <sup>5</sup> FDA FAC (Food and Drug Administration Food Advisory Committee). "Overview and evaluation of proposed association between artificial food colors and attention deficit hyperactivity disorders (ADHD) and problem behaviors in children." 2011a. See <a href="http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/FoodAdvisoryCommittee/UCM273033.pdf">http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/FoodAdvisoryCommittee/UCM273033.pdf</a>.

<sup>&</sup>lt;sup>2</sup> Conners CK, Goyette CH, Southwick DA, *et. al.* Food additives and hyperkinesis: a controlled double-blind experiment. *Pediatrics*. 1976; 58(2):154–66. It concluded that at least four of 15 children diagnosed with ADHD improved when artificial colors and flavors were removed from their diets.