

What Do We Really Know About Artificial Food Dyes?

Artificial food dyes have received plenty of attention in recent years. Some headlines suggest they may increase hyperactivity in children, while others argue they're simply unnecessary additives that we don't need in our food. As a caregiver, it's natural to wonder how concerned you should be when your athlete reaches for a sports drink or snack with artificial colors.

Registered dietitian and [TrueSport Expert](#), Stephanie Miezin, MS, RD, CSSD, helps break down what we actually know about food dyes—and how to put that information in perspective when it comes to your child's nutrition.

Why Do We Use Artificial Food Dyes?

“Artificial dyes make food look more appealing, especially to kids, since bright colors catch their attention,” says Miezin. “They're common because they can produce a wider range of colors than natural dyes and are more stable for food manufacturing.”

Because kids are drawn to bright colors, foods like fruit snacks, cereals, candies, and ice cream often contain synthetic dyes to make them more visually appealing.

What Does Research Really Show About Artificial Food Dyes?

The most widely cited research review on this topic is titled [Potential Neurobehavioral Effects of Synthetic Food Dyes in Children](#), published in 2021 by California's Office of Environmental Health Hazard Assessment.

“The review aimed to assess whether artificial food dyes affect children's behavior,” Miezin explains. “It found no strong evidence that they do, though some associations were noted. Since then, questions have been raised about the study methods, which means there are variables to consider—not that the findings are wrong, but that they aren't definitive.”

Scope also matters. “[A 2012 meta-analysis](#) found that 8% of children with ADHD may be affected by food dyes,” says Miezin. “For parents, that's an important piece of context: The impact is on 8% of a subset of the population, not 8% of kids in total.”

Importantly, none of the research establishes a causal link between food dyes and ADHD. “What the data is saying is there might be a link between consumption of food dyes in children with ADHD and increased behavioral issues—but no research shows that food dyes cause ADHD,” Miezin explains.

Miezin notes that while some parents may hope that avoiding certain foods can reduce behavioral issues, nutrition isn't usually the main factor. “There are so many other things that should be addressed, and nutrition can't be the first or only way that we're thinking about supporting kids who have behavioral challenges,” she says.

What's Changing Now?

The 2021 report is several years old, and new research continues to emerge. More recently, the [U.S. Food and Drug Administration \(FDA\) announced a ban on Red No. 3](#)—commonly linked to claims of hyperactivity in children—effective in 2027. The agency also plans to phase out Citrus Red No. 2 and Orange B. Most companies have already begun removing these dyes from their products.

Still, Miezin stresses that the presence of these dyes doesn't automatically make a food product dangerous. "We can respect some of the points of view coming from the 2021 review, but we should also be aware of some of the limitations of it," she says.

In 2025, [the Academy of Nutrition and Dietetics reviewed existing evidence](#) and concluded that while synthetic dyes *may* affect a small number of children, findings remain inconsistent. They also noted that concerns about cancer aren't based on human data.

Perhaps most importantly, the discussion about dyes often overlooks a simple truth: Foods with artificial dyes are typically highly processed and high in sugar or unhealthy fats. Limiting these foods generally improves your child's diet regardless of dye content.

How Should Parents Think About Food Dyes?

If your child generally eats a [balanced diet with mostly unprocessed foods](#), the very small amounts of color additives from snacks and sweets here and there won't come close to levels that could cause harm.

Miezin also cautions parents against assuming that "no artificial coloring" on a label means a snack is healthy. Many of these "natural" products are still high in sugar or refined ingredients. "Fruit gummies are a great example of this," says Miezin. "There are plenty out there now that don't contain artificial dyes, but you're still eating a fruit gummy made with the same sugar. And it's these base ingredients that have the biggest impacts on overall health."

Better Nutrition Focus

Avoiding artificial dyes can be a helpful part of [emphasizing whole, minimally processed foods](#)—fruits, vegetables, [lean proteins](#), beans, grains, and dairy—that are all naturally free of added color. "More importantly, research consistently shows that a diet rich in whole foods—especially fruits and vegetables—supports positive behavior in kids," Miezin adds.

However, around practices and competitions, athletes still need simple carbohydrates to perform. Options like juice, pretzels, bananas, and applesauce are both dye-free and effective. But if your athlete prefers a sports drink or fruit snack with added coloring, those foods are fine in moderation.

"It's important for caregivers to understand that artificial food dyes are a very small part of athlete nutrition," Miezin concludes. "If they have any effect at all, it's minimal compared to the

nutrition factors that truly matter. If a caregiver feels strongly about avoiding artificial dyes, I would urge them to ensure that the foods that are being chosen still provide the essential nutrients and fuel for a young athlete.”

Takeaway

Caregivers likely don’t need to fixate on avoiding artificial food dyes. The bigger priority is ensuring kids eat mostly whole, balanced foods, which naturally reduces exposure to dyes and added sugars as well. Around sports, fueling with simple carbs—even if they come from a sports drink or snack with artificial dyes—remains critical for performance and health. The [TrueSport Nutrition Guide](#) offers additional guidelines that will help any athlete stay healthy, recover, and fuel for peak performance.



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