Medical Xpress

Ask the Pediatrician: Is dry scooping of sports supplements dangerous?

November 1 2021, by Dr. Michele Labotz, American Academy Of Pediatrics

Q: My teen son swallows dry scoops of a sports performance powder before working out. Is this a bad idea?

A: Dry scooping is one of the latest trends on social media. Athletes eat scoops (usually several tablespoons) of powdered, pre-workout supplements. These products, which contain caffeine and other ingredients meant to boost athletic performance, are designed to be mixed with liquid to drink.

The idea behind dry scooping is that more concentrated amounts of the pre-workout supplement will have a stronger effect on energy and endurance. However, there is nothing to suggest that's the case. What we do know is that dry scooping can cause choking and breathing trouble, and even heart problems. And there are more effective ways to improve athletic performance than pre-workout supplements, no matter how they're consumed.

Dry scooping may remind you of the "cinnamon challenge" that was popular on social media a few years ago. As with that challenge, dry scooping can cause choking and breathing trouble when powder gets caught in the throat or inhaled. While this is unpleasant, most children recover quickly. However, some have ended up in the emergency room after breathing in powder. Children with asthma or other airway disease may experience more serious problems. Also, pneumonia is always possible when particles get into the lungs.

The bigger issue with dry scooping is that these supplements typically contain caffeine. By consuming the powder without diluting it with water as directed, the caffeine is more concentrated and can cause problems. The amount of caffeine in pre-workout supplements vary widely. But some of the more popular brands have 150-350 milligrams per serving. (Coffee has about 100 milligrams of caffeine per eight-ounce serving.)

It's a good idea to check the label for caffeine content in your teen's supplement and talk with them about possible side effects. This is especially important, considering that many teens also get caffeine from energy drinks and coffee beverages.

Although there is no standard definition of "pre-workout supplements," they most commonly include some combination of the following:

— Creatine: Used by the body as a fuel for short bursts of energy, creatine can provide small gains (3-5%) performance gains during certain activities with short, repeat bursts of effort, such weightlifting. However, these potential gains often in many sports by the several pounds of water retention that is typically seen with creatine use.

— Nitric oxide precursors: These include a variety of substances such as taurine, citrulline and arginine that can increase blood flow throughout the body. They may enhance the sensation of a "muscle pump" during a workout. However, most studies do not show significant performance enhancement in young athletes.

— Beta-alanine: This is supposed to reduce fatigue and increase endurance. But, again, most studies do not show significant performance enhancement in young athletes.

You should be aware that dietary supplements sold on store shelves and

online are not closely regulated by the Food and Drug Administration. So, claims are untested. In addition, multiple studies have found that sports-related supplements may contain impure or missing ingredients.

A more effective pre-workout regimen should include:

— Adequate carbohydrates to fuel the workout and to prevent muscle breakdown. A high-carbohydrate meal three to four hours before working out. Example for a 150-pound athlete: 2 cups pasta with 1 cup sauce, 2 dinner rolls, salad, glass of milk, and an apple.

— A carbohydrate snack one hour before working out. Example for a 150-pound athlete: a banana and half a cup of trail mix.

— Adequate fluid to start the workout well-hydrated. Urine should be very pale yellow, like lemonade.

— A good eight to 10 hours of sleep the night before. This is challenging for many teens, but it is well worth the effort to minimize injury risk and enhance physical and mental recovery and performance.

— Mental preparation to enhance focus and effort.

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