

HEALTH

Black Patients Less Likely to Get High-Tech Prostate Cancer Therapy?

Use of a high-tech radiation cancer treatment called proton beam therapy (PBT) has increased overall in the United States, but Black patients are getting it less often than white patients, two new studies show.

What is proton beam therapy?

Traditional radiation treatment is photon-based, but PBT uses protons to deliver high-energy beams more precisely to tumors and reduce damage to surrounding healthy tissue.

PBT can be better than traditional radiation therapy for tumors with complex anatomy, tumors surrounded by sensitive tissues and childhood cancers, but PBT can be twice as ex-

pensive, according to the American Cancer Society.

To treat a patient, doctors and physicists work together to focus the proton beam on the exact size and shape of the tumor, according to John Hopkins Medicine.

To assess the use of PBT in the United States, researchers analyzed data on nearly 6 million patients in the National Cancer Database. They found that the overall use of PBT for newly diagnosed cancers rose from 0.4% in 2004 to 1.2% in 2018.

Private coverage was the most common type of insurance among patients treated with PBT for recom-

mended cancers, while Medicare was the most common insurance among patients treated with PBT for cancers for which the treatment's efficacy is still under investigation.

Disparities in PBT use

The study also found that Black patients were less likely to be treated with PBT than white patients (0.3% vs. 0.5%), especially for cancers for which PBT is recommended over traditional radiation therapy.

In fact, this racial disparity widened as the number of facilities offering PBT increased, and the disparity did not disappear after the researchers accounted for socioeconomic status or type of health insurance.

"We found that PBT use increased nationally between 2004 and 2018 for all eligible cancers, especially for cancers for which PBT is the recommended radiation treatment," says Leticia Nogueira, lead author of both studies. She is a senior principal scientist, health services research, at the American Cancer Society.

"Especially concerning, however, was our findings also showed racial disparities increased as availability of PBT increased in the U.S.," Nogueira said in a society news release.

"Our findings, unfortunately, highlight the fact that Black patients continue to benefit less from advances in medicine like PBT, even with increased availability of recommend-

ed treatment modalities," Nogueira adds. "Efforts other than increasing the number of facilities that provide PBT will be needed to eliminate these disparities."

What are the benefits of PBT?

Although regular and proton radiation therapy both damage the DNA of cancer cells, proton therapy has some slight advantages. Proton therapy is more energy-focused on the tumor and has less radiation, which can affect healthy tissue nearby.

Having less healthy tissue affected as a result of radiation can lead to milder side effects.

What's more, damage to delicate structures such as the brain, heart, oral cavity, esophagus and spinal cord might be reduced, John Hopkins Medicine notes.

Is PBT right for you?

Proton therapy isn't considered appropriate for every type of cancer. It is typically used for cancers in sensitive areas, where surrounding healthy cells have the potential to be damaged from treatment.

Discuss whether this is a suitable option for you with your doctor. Because proton therapy can be expensive, it is also important to check with your insurance provider about coverage. Some proton therapy centers have financial counselors to consult. (BlackDoctors.org by Jessica Daniels)

Don't Go Bananas – But Maybe Eat One

Banana trees are actually herbs, and the fruit is technically a berry. A "bunch" refers to the cluster of bananas as harvested. A small cluster of bananas is a "hand," and an individual banana is a "finger."

Good source of potassium

Whatever you call them, bananas are noted for being a good source of potassium, Spees adds. According to the U.S. Department of Agriculture, one medium banana provides 375 milligrams. That's about 11% of the recommended daily potassium for a man and 16% for a woman.

"Potassium is a mineral that is vital for heart health, especially in terms of blood pressure management," Spees shares. (It's true other foods – including lima beans and beet greens – are higher in potassium, she says, "but how many people are eating the greens of beets?") Bananas are also easy to digest and great for people with irritable bowel disorders, like ulcerative colitis, who are often deficient in potassium.

What's more, bananas are also a source of magnesium (32 mg), beneficial phytochemicals and antioxidants.

Filling up on fiber

One medium banana, which contains 113 calories, also has about 5 grams of total dietary fiber, which helps people feel full. And the fiber in bananas has "really interesting" qualities, Spees notes.

Unripe and slightly unripe bananas contain resistant starch, which

serves as prebiotic fiber. These indigestible prebiotics serve as food for probiotics, the "good" microbes that live in the gut. These beneficial gut bacteria are essential for digestion and have been linked to immunity, brain health and more.

As a banana ripens, the resistant starch is broken down into natural sugars, Spees shares. "That's why a riper banana is a little bit sweeter than a slightly unripe banana."

When to use caution

Certain special situations call for caution, she says.

Although bananas, like most fruit, can be part of a healthy dietary pattern for people with uncontrolled diabetes, a medium banana has about 26 grams of carbohydrates, which must be a consideration for people on strict diets.

People with late-stage kidney failure need to closely monitor potassium consumption. Foods high in potassium also can interfere with some medications for high blood pressure and heart failure. It certainly would take more than one banana to raise potassium levels to a dangerous level for the average person, Spees says. But she recommends anyone with medical conditions or concerns check with their primary care physician to see if bananas are safe for them.

What's problematic, though, is to assume slipping them into a banana split or banana bread makes those desserts healthy, she adds. The same can

be said for banana chips.

"Most banana chips are actually dried and fried," Spees notes. "And some of them are coated with either an oil or a syrup that then contributes a significant source of added sugars, calories and fats."

But bananas work well at thickening and sweetening smoothies, Spees adds. "If you're mixing a frozen banana with, say, Greek yogurt, frozen berries and other healthy ingredients, that's great."

Part of the banana's beauty, she says, is its convenience. In the morning, it can be sliced and added to whole-wheat cereal. Later in the day, "it's a great snack." Some people enjoy bananas with nut butters or mixed with yogurt.

So at the end of the day, for most people, her tally firmly favors the banana. Spees supports the idea of eating a rainbow of fruits and vegetables and says "absolutely, bananas fit in that rainbow."

Even though bananas are a healthy, nutrient-dense snack, eating too many could be detrimental. How much you should consume depends on your unique calorie and nutrient needs. However, in most cases, one to two bananas per day would likely be considered a moderate intake for most healthy people. If you are unsure about how bananas may affect you, speak with a doctor or dietician. (By American Heart Association/BlackDoctor.org by Jessica Daniels)

Your Take-Out Coffee Cup May Shed Trillions of Plastic 'Nanoparticles'

Maybe you ask the barista for cream with your coffee, and possibly sugar as well.

But new research shows that paper cup of joe you grab off the coffeehouse counter contains another ingredient, and it's one you might not care for — trillions of tiny plastic particles that leach into your hot java from the cup's plastic lining.

Single-use paper coffee cups are lined with a thin plastic film that helps keep liquids hot and prevent them from leaking through the cardboard. That lining releases more than 5 trillion plastic nanoparticles per liter when hot liquid is poured into a 12-ounce single-use cup, according to lab results published recently in the journal *Environmental Science & Technology*. A liter is about 34 fluid ounces.

"For reference of size of these particles, 1,000 particles with a diameter of 100 nanometers can fit across a human hair," says lead researcher Christopher Zangmeister, a chemist and acting group leader with the Material Measurement Laboratory of the National Institute of Standards and Technology in Gaithersburg, Md. "These are very small particles."

The researchers estimated that by the time you've downed 13 paper cups of hot coffee or tea, you've consumed the equivalent of one nanoplastic particle for every seven cells in your own body.

The liquid doesn't need to be boiling hot to spur this release of plastic nanoparticles, either, the investigators found.

"The number of particles released into water increase rapidly with water temperature from room temperature

up until about 100 degrees Fahrenheit, and then it levels off and stays constant," Zangmeister adds.

Hot beverages typically are served at temperatures between 130 and 160 degrees Fahrenheit, according to a 2019 review in the *Journal of Food Science*.

Are plastic nanoparticles affecting our health?

The researchers were quick to note that the total amount of particles that leached into hot liquid from single-use cups fell well under safe human consumption levels set by the U.S. Food and Drug Administration.

Environmental experts agree — to a point.

"I read that sentence and go, well, is it time for us to re-evaluate the guidelines?" says Christopher Reddy, a senior scientist of marine chemistry and geochemistry with the Woods Hole Oceanographic Institution in Woods Hole, Mass.

According to David Andrews, a senior scientist with the Environmental Working Group, "There is a visible global environmental crisis caused by plastic pollution, but this new research study indicates that invisible plastic nanoparticles released into our food and beverages from common plastics may be insidiously harming health."

Andrews adds that "the Food and Drug Administration should move expeditiously to require more testing and disclosure of the chemicals and nanoparticles being released from plastic food contact materials, and take necessary action to ensure that these materials are not harming health."

These nanoparticles are small enough to slip into your bloodstream



and can wind up lodged in tissues and organs located throughout your body, Rolf Halden, director of the Center for Environmental Health Engineering at Arizona State University notes.

"We really don't know what the impact of these particles is," Halden adds. "Human exposure is increasing, and we lack the tools to even measure what is arriving in our bodies, where it is deposited and what it does there."

Halden says asbestos causes harm because its tiny particles are inhaled and accumulate in lung tissue, causing inflammation that can lead to scarring and cancer.

Coffee Vs. Tea: Is One Better For Your Health?

"Asbestos itself is relatively benign. It's an inorganic material," Halden shares. "What makes it toxic and makes it kill 90,000 people a year is that it has particles that lodges in human tissue."

For this study, Zangmeister and

his colleagues poured ultra-high purity water into nylon slow-cooker bags and polyethylene-lined paper coffee cups, all obtained from different retailers.

Plastic cooking bags are used to keep food moist in the oven and make clean-up easier for slow cookers. A bag in a slow cooker kept hot for an hour leached about 35 trillion plastic nanoparticle per liter of water, the researchers found. Similarly, hot water poured into 12-fluid-ounce cups for 20 minutes and allowed to cool wound up leaching 5.1 trillion plastic nanoparticles per liter.

Reddy and Halden both praised the study, calling it landmark research due to the meticulous way the scientists eliminated all other potential sources of plastic pollution.

People concerned about these levels might consider bringing a metal or ceramic travel mug with them to the coffee shop, Zangmeister says. (BlackDoctor.org by Jason Henderson)