Elevating patient care locally through fellowship-trained orthopedic surgeons

Becoming an orthopedic surgeon is one of the most demanding yet rewarding paths in medicine, requiring four years of medical school followed by five years of residency. Many orthopedic surgeons further hone their skills through one or two years of fellowship training, specializing in areas such as sports medicine, total joint replacement, hand surgery, trauma or pediatrics. Today, over 90% of orthopedic surgeons complete a fellowship, significantly enhancing the care patients receive.

Fellowship-trained orthopedic surgeons gain hands-on experience with advanced techniques and focus on specific body parts or injuries, allowing them to handle both simple and complex cases with greater precision and confidence. This additional training leads to safer surgeries, faster recovery, and better outcomes, whether reconstructing a torn ligament, replacing a worn-out hip, or repairing a crushed hand.

Dr. James Slauterbeck
UNC Health Southeastern

In sports medicine, fellowship-trained surgeons specialize in treating injuries like ligament tears and shoulder instability that occur on the field, court or track. Their advanced training enables them to perform procedures such as ACL or rotator cuff reconstructions using the latest techniques, helping athletes return to play safely and confidently. Hand fellowship-trained surgeons focus on the intricate structures of the hand, wrist, and forearm, treating fractures, tendon injuries and nerve damage with precision. Studies show that these surgeons perform more surgeries in their field and achieve better patient outcomes, restoring both strength and function where precision is paramount.

Fellowship-trained podiatric foot and ankle surgeons exhibit higher procedural comfort, greater surgical volume and receive positive patient satisfaction ratings. Although complication rates are closely tied to surgeon experience and case complexity, their expertise ensures a positive patient experience. In total joint replacement, fellowship training provides surgeons with specialized knowledge in advanced surgical techniques, decision-making and recovery planning. Fellows perform nearly twice as many joint replacements in one year as residents do in five, leading to shorter operations, fewer complications, less pain medication and faster recovery times for patients.

Across all subspecialties, fellowship-trained orthopedic surgeons consistently achieve better results, including lower infection rates, shorter hospital stays and improved long-term outcomes. Their deep knowledge and specialized skills make a measurable difference in patient safety and recovery.

UNC Health Southeastern is proud to offer this high level of expertise locally, bringing fellowship-trained specialists in sports medicine, primary care sports medicine, foot and ankle and hand surgery to Robeson County. Local patients now have access to advanced procedures and treatments like shoulder and knee reconstruction and biologic therapies such as platelet-rich plasma (PRP) without needing to travel to major medical centers.

The orthopedic program is designed to cater to the diverse needs of the community, offering personalized and compassionate care for patients of all ages — from young athletes to older adults. By investing in fellowship-trained surgeons, UNC Health Southeastern is establishing a center of expertise that emphasizes safety, efficiency, and improved patient outcomes. This approach ensures that patients receive the highest level of musculoskeletal care without the inconvenience of traveling far from home.

UNC Health Southeastern's orthopedic program is a testament to the hospital's dedication to building a stronger future for healthcare in Robeson County. It reflects a commitment to skill, teamwork, and a shared vision of enhancing health and mobility for all community members. With the availability of such expert care locally, patients can experience the same level of innovation and compassion found at major academic centers, making exceptional orthopedic care accessible right where they live, work and recover.

To learn more about the services offered through UNC Health Orthopedics at Southeastern Health Park, call 910-738-1065 or visit unchealthsoutheastern.org/care-treatment/orthopedics/.

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Cornell Watson | Inside Climate News

Jane Hoppin is an environmental epidemiologist at N.C. State University.

Scientists say this chemical could cause irreversible harm, and it's everywhere in ENC

The discovery of TFA in blood and water samples raises questions about Chemours' role in adding to the pollution burden.

Lisa Sorg
Border Belt Independent

The shipment arrived by FedEx, packed in dry ice. Inside were 119 plastic vials, each containing three drops of blood that had been stored at minus 112 degrees Fahrenheit for as long as a decade.

Jane Hoppin, an environmental epidemiologist at N.C. State University had ordered the blood. From 2010 to 2016, Wilmington residents had donated their serum to a biobank run by the University of North Carolina at Chapel Hill to help scientists better understand how the body works. Now Hoppin wanted to learn if high concentrations of PFAS in the city's drinking water were also present in the donors' blood.

However, Hoppin and her fellow scientists didn't anticipate finding one type of PFAS compound: TFA. The chemical industry has touted its toxicity as being "of lower concern," because it breaks down quickly in the body.

Yet there it was, TFA, in five-year-old water and blood.

"We were surprised," Hoppin said. "No one expected this."

Hoppin was born in northern California and grew up in Cincinnati, about 200 miles west of a DuPont factory that discharged PFOA, a chemical used in non-stick cookware, into the Ohio River.

Even as a very young child she was interested in chemicals and their effects on human health.

When Hoppin was 4, her mother took her to a school psychologist to determine whether she could enter kindergarten a year early. The psychologist asked Hoppin to draw a person. When she finished, the psychologist seemed alarmed and recommended she stay home another year.

The people in her drawings had no nose or mouth.

"My mom said, 'Why didn't you draw a nose or a mouth?'" Hoppin recalled.

It was 1968, two years before Congress established the Clean Air Act, and Hoppin had recently seen television footage of smoggy Los Angeles.

She remembers telling her mom, 'Well, I didn't want them to breathe the air.'"

Now Hoppin feels the same way about people drinking water from the Cape Fear River.

Because many labs were closed during the pandemic, the Wilmington study took five years, but in October Hoppin and her colleagues at N.C. State and UNC released the results. All of the blood samples contained at least one of 34 toxic chemicals known as PFAS, including some used in fluorochemical manufacturing at Chemours, 80 miles upstream in Fayetteville.

More than three-quarters of the Wilmington blood samples contained elevated levels of TFA, whose health and environmental effects aren't fully understood.

The study included archived samples of the Cape Fear River and Wilmington's drinking water. They also contained elevated levels of more than two dozen PFAS, or per- and polyfluoroalkyl substances, including TFA.

There are no federal or state drinking water standards for TFA.

Hoppin knew that It would not be unusual to find certain types of PFAS in the water and blood samples. In particular, PFOA and PFOS, known as "long-chains" because of their molecular structure, are notoriously persistent and linger in the environment for hundreds of years. In the human body, it can take more than a decade to eliminate them.

But TFA is an ultra-short chain compound. That the blood still contained such high levels of TFA suggested that the donors were being exposed to the compound, not just from Chemours, but by a variety of sources that scientists are only becoming aware of.

The troubling results opened a new front in a decades-long battle North Carolina environmentalists have been waging against PFAS in the state's drinking water and air, soil and food.

In 2024, they celebrated when the Environmental Protection Agency under former President Joe Biden finally enacted the first drinking water standards for PFOA, PFOS, GenX, and three other related compounds.

But their victory was short-lived. During President Donald Trump's second term, the EPA has weakened or gutted its few PFAS regulations. The agency has delayed implementation of drinking water standards for PFOA and PFOS by two years, until 2031.

In September it also petitioned the U.S. Court of Appeals in the District of Columbia to rescind drinking water standards for several compounds, including GenX, which Chemours uses to produce non-stick cookware, food packaging, and firefighting foam.

The government shutdown earlier this fall delayed the court case. Lawyers for the agency and opponents of the rollback are scheduled to file additional legal briefs this month.

As the chemical industry applauds the rollbacks, Chemours is planning to expand its Fayetteville Works plant, the source of GenX and dozens of similar compounds, including TFA.

The company doesn't make TFA in Fayetteville, but its presence in the river and the air illustrates a stubborn aspect of the ubiquitous compounds: PFAS precursors.

There are thousands of such precursors, substances that, under certain conditions, transform and break down into a different PFAS compound. Like wood is a precursor to ash, and iron to rust, the compound PAF degrades and becomes TFA.

Chemours told state regulators in February that "based on risk assessment modelling and available toxicological data for similar compounds, TFA is not believed to be harmful to human health or the environment."

The N.C. State study and other research calls into question Chemours' assertions that TFA is benign. The compound is widespread in the environment, and even though it breaks down relatively quickly in the body, people rapidly absorb it from their food, drinking water and air.

Hoppin and Duke University scientists found in a separate study released earlier this year that the compound was present in house dust.

When TFA and other ultra-shortchain compounds accumulate in the body, according to the N.C. State study, they "can reach very high levels," potentially harming human health.

Earlier this year the German government proposed classifying TFA as toxic to reproduction, including impaired fertility and harm to the fetus.

"We're piecing together the past," Hoppin said. "But the real concern is that we continue to measure exposure in people today."

High levels of TFA

N.C. State scientist Detlef Knappe was failing at taking his sabbatical. This fall, between globetrotting trips to Australia, Singapore and beyond, he was proofreading and finalizing the Wilmington blood and drinking water study.

Knappe had played an outsized role in the protests that led to the EPA's drinking water standards for several types of PFAS. He was among the scientists who, in 2015, discovered GenX in the Cape Fear River and Wilmington's drinking water. Those findings launched an environmental movement, with thousands of North Carolinians urging the EPA to regulate GenX and other PFAS in drinking water.

As part of that research, Knappe had stored samples of river water and drinking water in case he wanted to reanalyze them in the future.

In 2024, that time came.

The collection date of the water and blood samples was critical. To fully understand the extent of residents' PFAS exposure, Hoppin and Knappe needed samples taken before June 2017, when state regulators forced Chemours to stop discharging the compounds into the river.

Knappe retrieved samples from one day in late May 2017, when he and his colleagues had collected water from 10 spots in the river: upstream and downstream of Chemours, in Wilmington and at the Cape Fear Public Utility Authority, which provides drinking water for nearly 200,000 people.

The study found that concentrations of TFA in the Cape Fear River immediately downstream of Chemours reached 6 million parts per trillion, "orders of magnitude" higher than in upstream samples. This suggested Chemours was a significant source of the compound at these locations.

By the time the TFA reached Wilmington and passed through the utility's water treatment plant, the levels were still extremely high: 108,000 parts per trillion.

This story, the second in the multi-part series Forever War, is published by Border Belt Independent in partnership with Inside Climate News and WHQR.