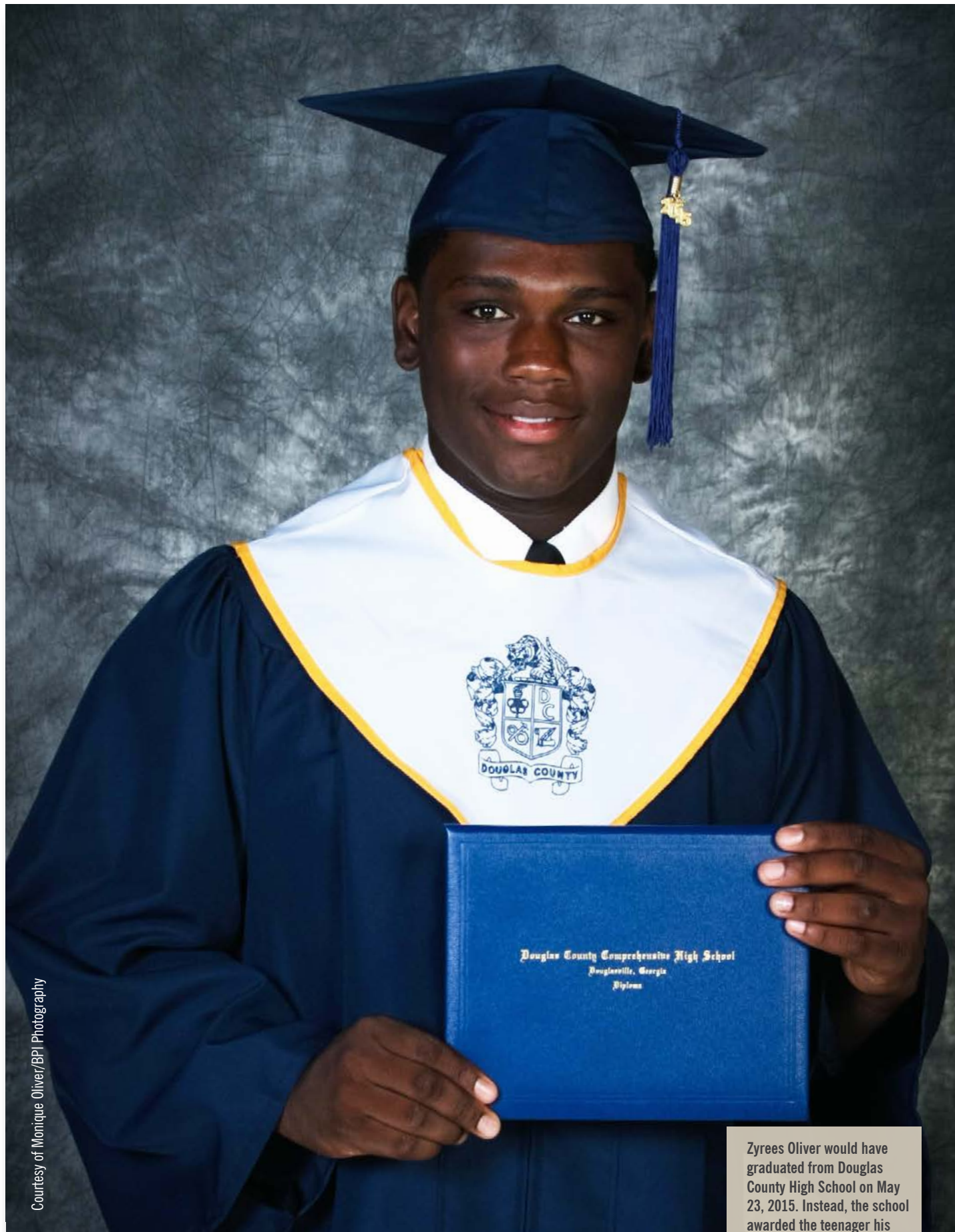


DEADLY MYTH

Smart and athletic, Zyrees Oliver had a bright future washed away when widely accepted hydration advice ended up killing him. Andréa Maria Cecil investigates.

BY ANDRÉA MARIA CECIL





Zyrees Oliver would have graduated from Douglas County High School on May 23, 2015. Instead, the school awarded the teenager his diploma posthumously.

Courtesy of Monique Oliver/BPI Photography

The words hung in the air: brain dead.

Only days earlier he was a strong, healthy, God-fearing 17-year-old who in little more than a year at his high school had become captain of the football team and boasted a 3.8 GPA. He planned to play college football. Then he wanted to go into the NFL—his path plainly divergent from that of his incarcerated father.

Now he lay unresponsive in a bed in the ICU of an Atlanta hospital, his mother struggling to comprehend the neurologist's words.

Brain dead.

“The Best Son”

It was May 2013 when Monique Oliver moved with her four boys to Georgia. They needed a fresh start. And 826 miles south seemed as good a place as any.

New Jersey was home. It also was the place where Hashim Israel Cooper—the father of three of her sons—had been jailed since early 2010 on various drug-related offenses.

Most teenagers would have been anxious about leaving their friends, starting at a new school, being so far from home. Not Zyrees Oliver.

“Zy, are you scared to go to Georgia? Are you scared to go to a new school?” his mother, Monique, remembered asking him.

Not scared at all, he responded.

“He didn't have a problem with making friends,” explained Monique's sister and Zyrees' aunt Tammy Chavis.

Plus, he knew high schools in the South were heavily dedicated to their football programs, giving the 6-foot, 240-lb. offensive lineman an improved opportunity to catch the eye of a Division I recruiter.

Of Monique's four sons, Zyrees was the second oldest and the most mature.

“My oldest is 21. He acted more mature than him. He had a bank account,” Monique remembered before stopping to wipe away tears.

Besides being a star student and a standout athlete, Zyrees worked two jobs—one at a fast-food restaurant, the other at a flower shop. That left little time for much else.

“He was paying us to do his chores,” Zyrees' older brother, Eric Mosley, recalled with a smile. “He was at practice so much, he was tired.”

And if the quality of his siblings' work wasn't up to snuff, Zyrees let them know.

“He would come in and say, ‘You're not cleaning the bathroom right. I'm not paying you if you're not gonna clean the bathroom right,’” Chavis said, laughing.

He also made time for important things.

“He was the best son—giving, caring. He made sure he told me he loved me all the time,” Monique said.

And he would take her out to dinner.

“He never left my side,” Monique continued. “He was a momma's boy, I guess you could say that.”

Within his tightly knit family, Zyrees made certain he demonstrated his affection.

On many a Valentine's Day, he sent Chavis a text message: “Happy Valentine's Day, auntie. I love you.”

“He was that kind of kid, ya know,” Chavis said.

She added: “He was the type of kid that ... you would want for your own, ya know what I mean? And I'm not just saying that because I'm his auntie. I'm saying that because (he was) a real good kid.”

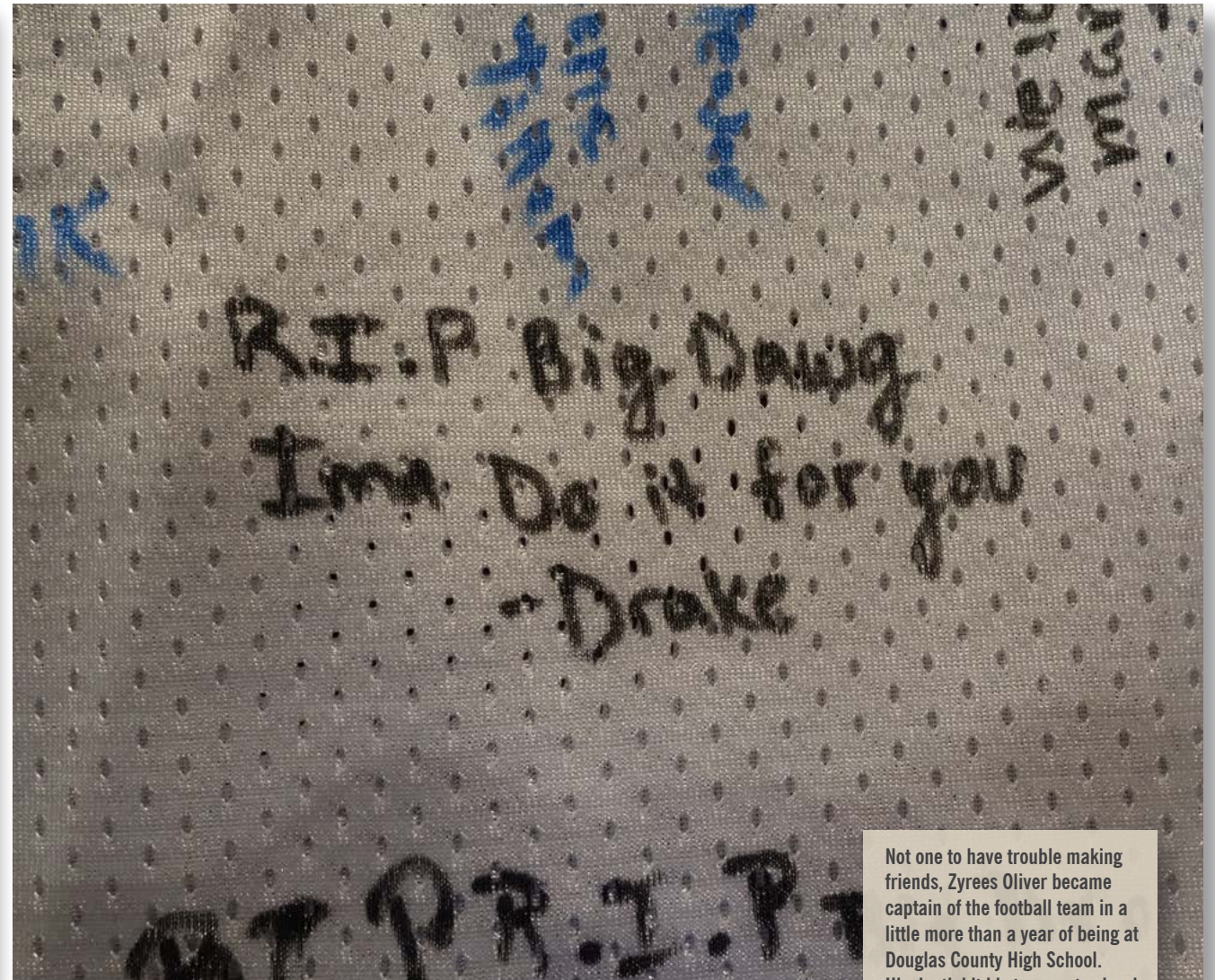
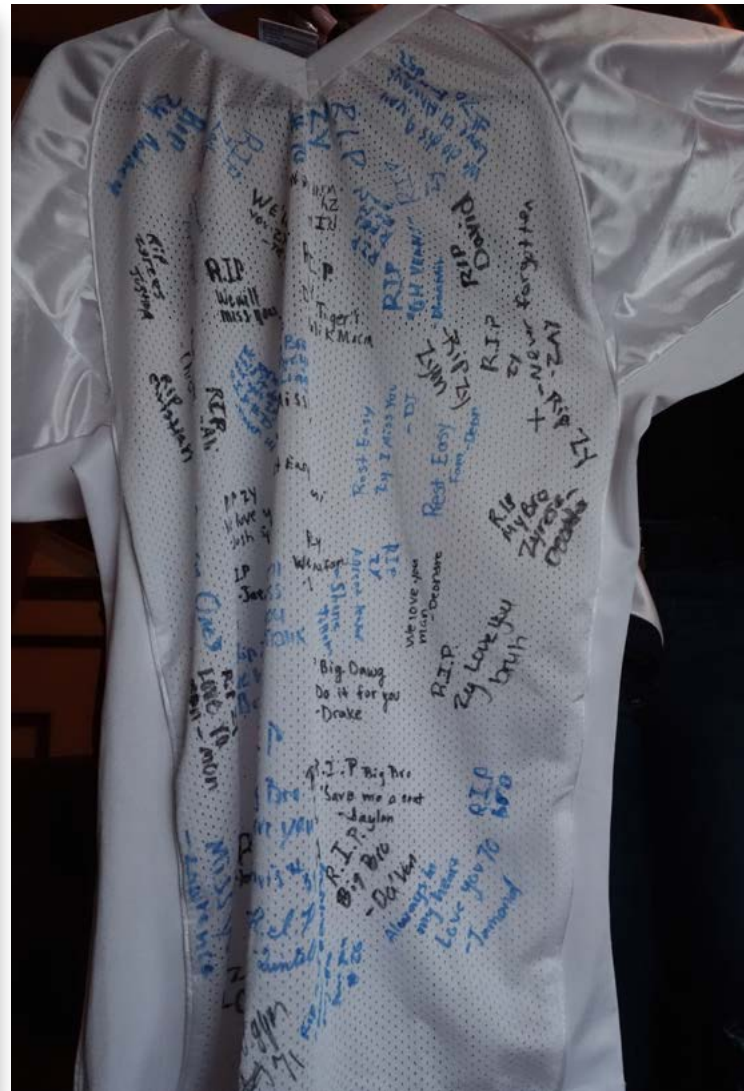
At 8, Zyrees was known to dress himself and walk down the street to church. By himself.

“He went to church every Sunday,” Monique recounted. “He got saved by himself. He loved God. He prayed in the morning. He prayed at night.”

Zyrees was someone people admired, said multiple family members.

“He'd turn a negative situation into a positive one,” said Matt Smith, Chavis' godson and a close friend to the family. “He always had words of encouragement. ... That's how he was able to lead so quickly.”

By the time the teenager was preparing to enter his final year of high school, he was captain of the football team—after only having been at Douglas County High School for little more than a year.



Not one to have trouble making friends, Zyrees Oliver became captain of the football team in a little more than a year of being at Douglas County High School. His death hit his teammates hard.

Andréa Maria Cecil/CrossFit Journal

Chavis' husband, Darrell, said Zyrees was a rarity among his peers.

"Kids that age are selfish. And he wasn't. He was a giving boy."

The teenager attended every single one of his youngest brother Hashim's baseball and football games.

"He treated the 8-year-old like a baby," Chavis said warmly.

More than 500 people attended Zyrees' funeral on Aug. 23 in New Jersey, filling Route 130 for nearly two miles, with three police cars escorting the procession to the burial site in Burlington.

"He touched so many lives in the short time that he was here," Chavis said.

Senior Year

It started as muscle cramping. Intense muscle cramping.

On the evening of July 22, Monique took Zyrees to WellStar Douglas Hospital about 3 miles from their home in Douglasville, according to Zyrees' medical records, which his family shared with the CrossFit Journal.

"He touched so many lives in the short time that he was here."
—Tammy Chavis

The next morning, an ambulance transferred him to Children's Healthcare of Atlanta at Scottish Rite in Atlanta.

The teenager complained of intense full-body cramping that lasted 30 minutes after his first day of preseason football practice. Doctors kept him for two nights, eventually diagnosing him with rhabdomyolysis.

The syndrome is one in which muscle tissue breaks down and releases into the blood. Rhabdomyolysis has myriad causes: severe trauma, burns, heatstroke, seizures, metabolic derangements, viral infections, alcohol, some medications, genetic defects of lipid and carbohydrate metabolism, intense exertion.

When Zyrees was free to go home, the discharge orders read, "recommend drinking liquids frequently."

He responded dutifully to the medical advice, carrying a gallon of water with him everywhere he went. He didn't want to end up in the hospital again. And he certainly didn't want rhabdomyolysis again. Because of his condition, the discharge orders also said, "Would not recommend intense exercise until next week at the earliest." That meant taking it easy at football practice.

But at the time of his admission, the teenager was suffering from more than rhabdomyolysis. When hospital staff measured his blood-sodium level the evening of July 22, it was 133 millimoles per liter (mmol/L), according to Zyrees' medical records. In a healthy person, that number is between 135 and 145 mmol/L. By drinking excessive amounts of fluid, he had become overhydrated and diluted the sodium in his blood. The condition is called hyponatremia, and it can be fatal.

Drinking too much fluid—and not being able to urinate because of an increased production of a hormone regulating the body’s retention of water—can cause the brain and lungs to become flooded. At that point, it can be difficult for doctors to alleviate the swelling, particularly in the brain because the skull does not expand. More specifically, this condition is known as exercise-associated hyponatremic encephalopathy (EAHE).

There was no mention of Zyrees being hyponatremic in his medical records from WellStar Douglas Hospital or Children’s Healthcare of Atlanta. And by the day he was discharged, his blood-sodium level had risen to 139—within the normal range.

During his follow-up visit at Douglas Pediatrics nearly a week later, staff noted he was “consciously (maintaining) hydration.”

Exactly two weeks after his previous hospital visit—on Aug. 5—Zyrees, having been responsibly following the medical advice to hydrate as much as possible, passed out at a late-afternoon football practice, teammates told his family. They took him to the head coach’s office to rest, Chavis said in a written account provided to the CrossFit Journal. At around 9 p.m., the coach called Monique. He told her Zyrees was still at school because he had been cramping during practice, wasn’t feeling well earlier, but was doing a bit better and would drive home as soon as he felt up to it, according to the account. Considering her son’s state, Monique didn’t want Zyrees driving, so she and Mosley went to pick him up. They found him lying on the coach’s office floor, having consumed 2 gallons of Gatorade and 2 gallons of water, according to the account. When the teenager rose from the floor, he vomited.

Monique wanted to take Zyrees to the hospital. But Zyrees—ever the optimist and rarely a complainer—assured her he would be fine. His plan was to drink Gatorade, water and some pickle juice, and rest.

“I’ll be all right. I just need to lie down,” family members said he told his mother.

They were the last words he spoke to her, family members said.

Once back home, Mosley said he monitored Zyrees while his mom left to continue doing the family’s laundry at a friend’s house. As soon as she arrived there, Mosley called her. Zyrees was breathing abnormally.

Several minutes after Monique had left, Zyrees complained to Mosley that he was hot. He had ingested another 3 gallons of fluid at home, bringing his total up to 7 gallons for the evening, his mother estimated.

“He kept throwing up water,” the older sibling remembered.

Then Zyrees’ body “froze up,” Mosley said.

He called 911.

When the ambulance arrived, Zyrees was not talking but was breathing rapidly, Mosley said. Then he stopped breathing.

“I saw his body shut down.”

Zyrees was foaming at the mouth.

“Then the EMTs said they got him breathing again,” Mosley recounted.

Monique, hysterical at this point, was asked to stay outside while the first responders worked on her son.

The ambulance transported Zyrees to a nearby park from where a helicopter flew him roughly 20 miles to WellStar Kennestone Hospital in Marietta.

By the time he was admitted—in the early-morning hours of Aug. 6, the neurological exam gave little hope.

“Patient was unresponsive to pain, pupils were non reactive bilaterally,” read the neurologist’s comments.

Zyrees’ blood-sodium level was 122 mmol/L. He was nearing severe hyponatremia. Hours later, he was to attend his first day of his senior year in high school.

Hoping for a Miracle

Shortly before 6:30 p.m. Aug. 6, a staff chaplain visited Zyrees’ hospital room in the ICU.

Monique was asleep. The chaplain instead spoke to her boyfriend, Robert Jermaine Barney.

“The family is holding up and they have everyone praying,” the chaplain wrote in the hospital records’ progress notes.

Zyrees’ gym bag—which had practically become a permanent fixture on his body—sat in the room.

The chaplain encouraged Barney to “bring anything else that he loved and liked to the room.” Then she “offered words of comfort and blessing.”



Courtesy of Monique Oliver/BPI Photography

Zyrees Oliver was not only captain of the football team but also boasted a 3.8 GPA. He aspired to play football in college and in the NFL.



Andréa Maria Ceci/CrossFit Journal

Tammy Chavis, Zyrees Oliver's aunt, has a collection of her deceased nephew's jerseys and other paraphernalia she hopes to one day display.



Danaesha Chavis, one of Zyrees Oliver's cousins, pays homage to him by donning a custom-made football jersey bearing his photo, name and number.



The next morning, Zyrees failed the day's first brain-function assessment. Another was planned for 2 p.m.

"Family aware however continues to pray for a miracle," wrote one of the doctors in the hospital records' progress notes. "Will continue to assist as needed during this most difficult time."

That afternoon, Zyrees failed the second brain-function assessment.

By Aug. 8—two days after he was admitted to WellStar Kennestone Hospital—the progress notes were unchanged.

"Family remains hopeful for a miracle," wrote a nurse practitioner just after noon.

The following evening, another neurologist exam confirmed what doctors suspected.

"Patient's MRI angiogram of the brain was consistent with brain

death. Apnea test and neurological exam was done followed by repeat neuro exam confirming brain death. Patient was pronounced at 8:45pm," read a doctor's note filed just after 9 p.m. Aug. 9.

The estimated 7 gallons Zyrees drank had flooded his brain and lungs. Despite administering sodium, doctors could not reverse the effects. A ventilator was helping the teenager breath. A miracle seemed out of reach.

"He was never going to be himself again. Even if he had a little bit of activity, he would be like a vegetable laying in the bed. It would just be selfish to," Chavis started.

Doctors told Zyrees' family that his organs would wither.

"He would die eventually anyway. It's just that you would see him go down to nothing," Chavis said.

At around 10 p.m. Aug. 10, Monique had decided when she wanted to end Zyrees' life support.

"Mom said after midnight tonight. That would allow enough time for friends and family to say last goodbyes," a nurse wrote beneath a section titled "significant event" in the hospital records.

Roughly three hours later, the respiratory specialist arrived in Zyrees' room to stop the ventilator.

"I have never experienced a pain like that in my entire life. You know how you're at a place but it's just not really real?"
—Tammy Chavis

"Mom came to bedside and said she was ready to turn off life support at 1am. Life support stopped at 1:11am with family at bedside and everyone in agreement that they were ready. Mom outside of the room during this time per her request," the same nurse wrote.

After the ventilator was stopped, Monique returned to the room, intending to lie in the bed with her dying son as he took his final breaths.

She leaned in. He flatlined. The heart-rate monitor released its prolonged "beep." Monique passed out flat on the hospital-room floor.

"I have never experienced a pain like that in my entire life," Chavis said. "You know how you're at a place but it's just not really real?"

Zyrees Oliver, 17, was pronounced dead at 1:34 a.m. Aug. 11, the fourth day of what was to be his last year in high school.



Zyrees Oliver loved all things Superman. When "Zy" died, older brother Eric Mosley got this memorial tattoo on his arm.

Andréa Maria Cecil/CrossFit Journal

The Aftermath

Today, nearly nine months after Zyrees' death, Monique and her three living sons continue to go to therapy. Her 14-year-old suffers from anxiety attacks, while her 8-year-old searches his imagination for ways to bring his brother back.

"I cry all the time," she said.

She has nightmares and takes Prozac.

Barring inclement weather, she visits Zyrees' grave every single day.

"If I don't go see him, I'd be very upset," she said.

And when she can't, she simply stays home and talks to him out loud.

"I feel numb. ... I'm just here."

"You don't know how good that boy was. He was a great boy. He was absolutely loveable. I say every day, 'Zy, I love you.' It's so hard."

—Rose Oliver

Rose Oliver, Monique's mother, said she's still mad at God for taking away a grandson with whom she had a particularly close bond.

"He was so young. I just don't understand why did he take him from me."

She visits his grave each Saturday.

"Every time I go up there, I write in the dirt, 'Nana love you.'"

Rose continued: "You don't know how good that boy was. He was a great boy. He was absolutely loveable. I say every day, 'Zy, I love you.' It's so hard. ... You couldn't want no better

grandson in this whole wide world. I love him, I love him, I love him. I love my baby."

Mosley remembered his brother as "the perfect 17-year-old."

"I've just been holdin' strong for my mom and little brothers. Every time I go to the grave site, I cry," he said, then paused. "Sometimes I dream about it."

Zyrees loved to work out, sometimes bringing along his older brother and telling him he needed to push himself harder. So when Mosley visits his grave, he gets on the ground and knocks out 10 push-ups.

"It reminds me of the happy times with my brother."

The worst of it all, said Darrell, is no one will ever know what Zyrees' future held.

"The thing we're going to miss about Zyrees is what he could have been. ... We're going to miss the possibility of 'what if, what could he have been?' He could have been a father. He could have been president."

Darrell added: "Everybody is taking it day by day. It's a process. ... When you gotta bury a child, it's really hard."

The Mission

On Zyrees' autopsy, the medical examiner wrote that Zyrees died of "dilutional hyponatremia." Chavis, who has a doctorate in public health, had to spell it for him.

Among scientists who have been studying the condition for decades, it's known as EAHE. And Zyrees wasn't the only high-school football player to die from it.

Two weeks after his death—to the day—Walker Wilbanks, also 17, died of EAHE in Mississippi.

"The only deaths recently have been in American football players," Dr. Tim Noakes, author of the 2012 book "Waterlogged: The Serious Problem of Overhydration in Endurance Sports," told the CrossFit Journal.

"It's very difficult to get the condition if you're a football player."

Unlike marathon runners or triathletes, football players are not met every few hours by medical personnel who wrongly advise them to regularly hydrate lest their performance suffer.

“It wasn’t what he was actually doing on the football field but what he was doing the other ... 22 hours of the day,” Noakes said of Zyrees’ carrying a gallon of water with him everywhere he went.

“You’ve got to drink hard for four or five hours (to get hyponatremia),” he added. “Football practice, I would guess, seldom goes four hours.”

The problem, said Sandra Fowkes Godek, is that many coaches, athletic trainers and even those in sports medicine are misinformed.

“There’s a huge myth ... in the world of football, in particular, that muscle cramping comes from dehydration. That has been so ingrained for so many decades that the majority of athletic trainers say that,” said Fowkes Godek, professor of sports medicine at West Chester University in Pennsylvania and director of the Heat Illness Evaluation Avoidance and Treatment (HEAT) Institute at the institution.

Even collegiate and professional players are led to believe that drinking more fluids—especially sports drinks—will stave off or prevent cramps, as noted in the CrossFit Journal article “[Brain Cramps](#).”

Further exacerbating that problem is the fact many don’t want to hear otherwise, Fowkes Godek added.

“There’s always a push back because this is so ingrained,” she explained.

Athletic trainers, coaches, parents, even family physicians have been led to believe that the advertising is true and the science is sound: Not only will dehydration cause muscle cramps and a performance slump, but it’s dangerous, she explained.

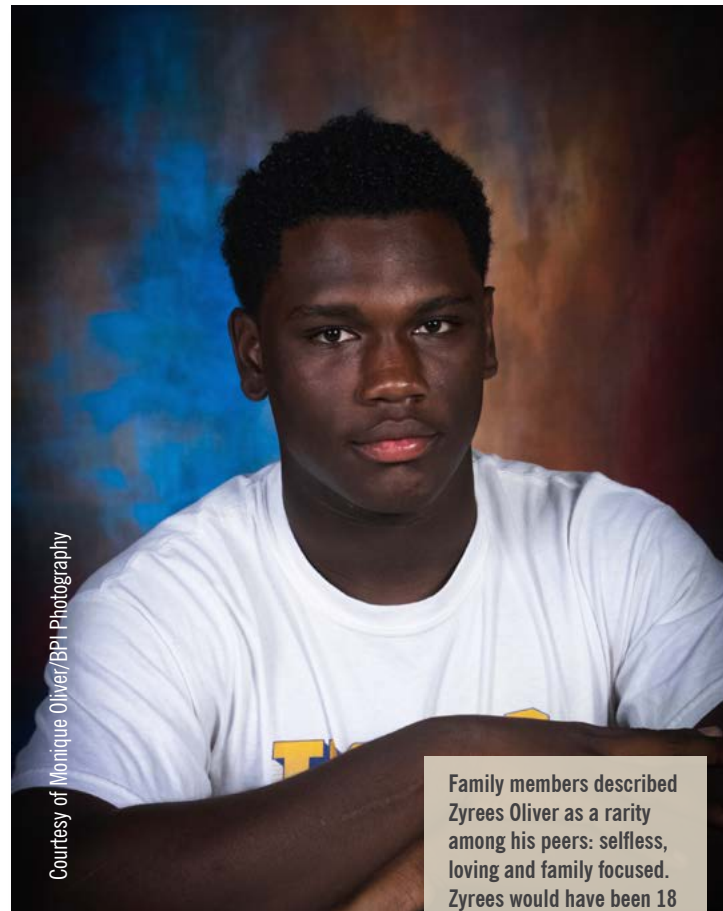
“There’s so much advertising around this topic,” Fowkes Godek added.

Noakes, professor of exercise science and sports medicine at the University of Cape Town in South Africa, echoed her statements.

Awareness, he said, is directly tied to “how strong the sports-drink industry is in your country.”

He continued: “The industry doesn’t want to change. It wants to make sure people overdrink.”

Specifically, Noakes named Gatorade, which has become ubiquitous in college and professional sports through its sponsorships and advertisements declaring its drinks superior



Courtesy of Monique Oliver/BPI Photography

Family members described Zyrees Oliver as a rarity among his peers: selfless, loving and family focused. Zyrees would have been 18 on April 16, 2015.



Andréa Maria Cecil/CrossFit Journal

This collection of photos from Zyrees Oliver’s high-school football days proudly sits on display inside the home of his aunt Tammy Chavis.

to water. All the while Gatorade [promises](#) its drinks improve performance by eradicating dehydration.

“When you let people do what they’ve always done in the right way, they’ll be fine,” Noakes said. “You can’t get hyponatremia if you drink to thirst.”

And there’s no reason to force fluids on someone who’s not thirsty, Fowkes Godek said.

“It’s really pretty simple. ... If you’re thirsty, you drink whatever you want to drink ... drink whatever you like to drink whenever you’re working out. If you’re not thirsty, there’s no reason to drink.”

The human thirst mechanism has been developed over the course of thousands of years, Fowkes Godek emphasized.

“There’s no reason to have to tell yourself to ... do very simple things like this.”

Yet, misinformation continues to dominate amongst athletes—both professional and amateur. Correcting it would be “impossible,” Noakes said.

“Because Gatorade controls them all. Gatorade controls the NFL. It controls all the trainers in the NFL. ... Gatorade pays the pensions of the support teams in the NFL. And so there’s no way it’s ever going to happen.”

In 2014, 100 percent of NFL properties reported Gatorade as a sponsor, [according to IEG](#), a source of sponsorship-information analysis for news media. Meanwhile, [Gatorade boasts](#) it’s the official drink for men’s and women’s intercollegiate sports at 70 Division 1 colleges.

“They control the science as well,” Noakes added, referencing the [Gatorade Sports Science Institute \(GSSI\)](#).

Gatorade has even gone so far as to say athletes need not worry about hyponatremia, according to a video titled “[Preventing Hyponatremia](#)” on its GSSI website.

“Hyponatremia is not very common, so the typical athlete doesn’t have to concern him or herself with hyponatremia too much unless they’ve shown in the past to be particularly sensitive to it,” says Nina Stachenfeld, of Yale University’s School of Public Health, in the video.

But in “Waterlogged,” Noakes documented a dozen deaths from 1981 to 2009 from either exercise-associated hyponatremia or EAHE.

“I just wish someone would take legal action,” he said. “That’s the only way it’s going to change in the U.S.—until the first family does something about it. The evidence is there. We know what causes it. I just get frustrated because these deaths are completely preventable.”

For their part, Zyrees’ family members are on a mission to tell everyone about the dangers of overhydration and the myths perpetuated by the sports-drink industry. Chavis, who has come to be the family’s spokeswoman, is spearheading that effort.

“I made a promise to him in that hospital room: ‘You will not die in vain,’” she said. “When people think ‘hyponatremia,’ I want them to think of Zyrees Oliver.” ■

About the Author

Andréa Maria Cecil is a CrossFit Journal staff writer and editor.