BACK ON TRACK: Returning to the track and field team, Lockard accomplished one of her goals after brain surgery. When her routine participation in an imaging sciences study found a small growth in her cerebellum, Lockard had to change her plans as a student and an athlete. But "I think I've made the best of everything in my life since that point," she says.

a Sprinter's MARATHON

A FATEFUL EVENT PRESENTED SCHOLAR–ATHLETE LAURA LOCKARD '17 WITH OBSTACLES SHE'D NEVER ENVISIONED EXPERIENCING—MUCH LESS OVERCOMING.

By Scott Sabocheck
Photographs by Adam Fenster

STUDYING AT THE UNIVERSITY OF BRISTOL last fall, Laura Lockard '17, a microbiology major and an accomplished track and field athlete, found herself with no suitable track to train on. The school's athletic center required her to purchase a six-month membership that would cost her an estimated $1,000. Moreover, the small track there was nothing like the 400-meter standard tracks on which she both trained and competed.

So instead of buying a membership to the athletic center, Lockard decided to complete her workouts on a dirt path at a place called Queen's Square—a small park roughly one mile from the Bristol campus.

The square had a perimeter of about 500 meters. But she made it work, completing workouts that Sam Albert '01, '02W (MS), the director of Rochester's programs in track and field and cross country, would send her to keep her on par with the rest of the team back stateside.

Lockard had been a team leader from the very start. During her freshman year, she won her first collegiate race, indoors, at the RIT Early Season Invitational. Later in the indoor season, at the New York State Collegiate Track Conference Championships, she placed third in the 400 meters. Outdoors, she won the 400 meters in front of a home crowd at the University of Rochester Alumni Invitational. Later, she was a New York State champion on the 4-by-400-meter relay. Overall, she helped set three new school records in her first year on the River Campus.

Now, as a team captain and in her final semester at Rochester, Lockard says she hopes to match those performances. "I'd love to get around the same point, if not a little better, than I was freshman year," she says. And "to maintain my grades."

If those seem like modest goals for a student-athlete with Lockard's record, it's not for a lack of drive. Rather, Lockard has worked through two track seasons and four semesters with a steep and unusual set of challenges.

Spring 2015

It was early February when Lockard, shortly into her second track season at Rochester, decided to earn a little extra money by volunteering for a functional magnetic resonance imaging (fMRI) study in the University's Neuroimaging Center.

About 10 minutes into her scan, Frank Garcea, the graduate student running the procedure, told her there was a problem with the machine. He aborted the scan and told Lockard they would have to reschedule.

Shortly after Lockard returned to her dorm room, she received a phone call. The machine was fixed, she was told. When she returned to the center, however, she discovered the machine hadn't malfunctioned. Instead, Brad Mahon, an assistant professor of brain and cognitive sciences and neurosurgery, and the principal investigator of the study, was there to deliver to her in person some troubling news. The scan revealed a mass—approximately 2.4 cm-by-2.4 cm-by-4.8 cm in size—on the lower part of her brain, near the brain stem.

At first, she panicked. Then, after calling home, she went for a long walk in the chill of February in Rochester. "After hearing the news," she recalls, "I needed the long walk outside to finally breathe."

Within days, she met with Howard Silberstein, the chief of pediatric neurosurgery at the Medical Center.

"The tumor was in a tough location, very deep in the cerebellum and up against the brain stem," says Silberstein. "It had probably been developing slowly over Laura's childhood."

The cerebellum coordinates and regulates muscular activity, aiding in activities such as walking and running, as well as precision muscle movements and timing.

A cerebral angiogram produced no definite diagnosis. Her doctors concluded from the sum total of her tests and scans that the mass was most likely a juvenile pilocytic astrocytoma—a rare childhood brain tumor that is slow growing and can cause symptoms such as headaches, nausea, balance problems, and vision abnormalities. Juvenile pilocytic astrocytomas are usually benign. Regardless, she had a choice: it could be monitored, or it could be removed.

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Lockard kept close counsel with her family, including her father, John Lockard '83, '84 (MS), a medical doctor; her mother, Susan; her older sister, Kim; and her brother, John '16.

Meanwhile, she attempted to have as normal a semester as she could. She was out for the indoor and outdoor track seasons, but participated by attending practices and supporting her teammates. In addition, Lockard says, "I focused a lot of energy towards my studies." In a sense, they were a refuge. "I kind of used my school work as a distraction from everything that was happening. It was one of the few areas of my life that still felt normal to me. I didn't even really tell my professors what was going on. I didn't want any special treatment. I just wanted to feel like a normal student."

"Plenty of people would have just shut down and checked out entirely, grades and all," says Albert. "But Laura stayed calm through it all, took it one day at a time, and did a great job balancing everything."

Summer and Fall 2015

When Lockard returned home to Pennsylvania for the summer, the family sought a second consultation with a specialist at Massachusetts General Hospital. After the consultation, they decided to have the tumor removed.

In late June, Silberstein performed the 10-hour operation at the University's Strong Memorial Hospital.

CAPTAIN: In her final semester at Rochester, Lockard is a team captain, setting her sights on matching the athletic perfomances she had when she first joined the team. "I'd love to get around the same point, if not a little better, than I was freshman year," she says. And "to maintain my grades."

FULL SPEED: Lockard was cleared for full practice just in time to start training for the 2016 indoor and outdoor seasons. "It was incredible that not even after six months following surgery, she was back to full training," says Sam Albert, director of track and field and cross country.

"This was a challenging operation as you don't know exactly how the tumor is connected to surrounding tissues," he says, adding, "Laura's surgery went as well as could be expected." A biopsy confirmed that the mass was a juvenile pilocytic astrocytoma.

Her recovery began in the hospital, with nurses gradually increasing the function of the surgically affected area of her brain. She progressed quickly with the initial rehab—with the help, she notes, of her stuffed Pembroke Welsh Corgi, a reminder of the Lockards' dog, Molly.

After returning home from the hospital, "Molly knew something was wrong," she says. "She practically never left the couch with me all summer."

Lockard's main task for the summer was to regain her strength, balance, and basic motor skills, with the goal of returning to normal college life in the fall—and possibly, if her doctors allowed it, a return to the track team.

"We are always concerned for patients after brain surgery, and this case was no different," says Silberstein. "We didn't want her to trip and fall, possibly damaging the surgical area, or run prior to the cerebellum being healed."

When fall arrived, Lockard stayed right on course, academically. Neither the tumor, nor the surgery, affected her cognitively.

She'd come to Rochester in part to take advantage of the opportunities the University provides for undergraduate research. Following her surgery, she would work as an assistant in the lab of Andrea Sant, a professor in the Medical Center's Department of Microbiology and Immunology. She would offer instruction and support to fellow undergraduates as a workshop leader in introductory microbiology. And she began to prepare for her semester in Bristol, deciding that she would not let her condition prevent her from taking advantage of the opportunity to study overseas.

Athletically, things were looking up as well. Remarkably, she was cleared for full practice just in time to start training for the 2016 indoor and outdoor seasons. "It was incredible that not even after six months following surgery, she was back to full training," says Albert.

Spring 2016

Although she hadn't been on the track for a year, she picked up right where she left off. At the Houghton Highlander Invitational in January, she ran on the second place 4-by-200-meter relay team. The following week, she and three teammates on the 4-by-400-meter relay

To follow Lockard's journey through the remainder of the spring season, visit https://www.tfrrs.org/athletes/4643893/Rochester/Laura_Lockard.html. The progress of the entire women's track team can be found at https://www.tfrrs.org/teams/NY_college_f_Rochester.html.

NORMAL STUDENT: Lockard, a microbiology major, says focusing her energy on her studies helped her recover. "It was one of the few areas of my life that still felt normal to me. I didn't even really tell my professors what was going on. . . . I just wanted to feel like a normal student."

captured first place at the Brockport Golden Eagle Multi & Invitational. She posted indoor personal best times in the 500-meter race at the Ithaca Bomber Invitational in early February and in the 200-meter dash a few weeks later at the Brockport Golden Eagle Invite.

"It was nerve-wracking given everything that happened," Lockard says. "But soon after those first few meets, I realized that I wasn't as far behind as I thought."

Soon she would face another setback that would sideline her for the remainder of the indoor season. Following the second Brockport meet, she started to feel "off." She was lightheaded and lost some sensation in her legs and face. She underwent another round of tests, and came back with normal results. Doctors attributed her symptoms to stress, or possibly a virus of the type that often spread around college campuses in the winter months.

In March, as the outdoor season began, she was back, making her debut at a home meet, the Rochester Spring Invite. She placed fifth of 29 runners in the 200-meter dash. Later in the season, at the New York State meet, Lockard and her teammates in the 4-by-100 meter relay captured the state title in the event, posting a time of 48.91 seconds, less than half a second off the school record.

By the end of the spring semester, Albert professed amazement. "The success Laura had this season given the limited amount of summer training was remarkable," he said in May. "I am really excited about what she can accomplish in her senior season."

Spring 2017

As the 2017 indoor season draws to a close, it just might be that Lockard's workouts on a dirt path in southwest England served her well. If her goal was to match her personal bests—all but one of which occurred in her freshman year, before the discovery of her tumor—she's been coming close. Moreover, in the opening weeks of the indoor season, she posted the top times on the Rochester women's team in five events.

Looking back at her ordeal, Lockard says, "The insignificant decision to participate in this volunteer study changed my whole life." At the most basic level, it means she'll take her medical school entrance exams and apply to schools in the coming year, a year later than she'd planned. The gap year, she notes dryly, "will give me a full year to experience the medical profession as something other than a patient."

More deeply, there are the life lessons. "Thinking about everything I went through and where I am now really fills me with a considerable amount of pride," she says. It was definitely a really rough thing to go through at only 19, 20 years old. But I think I've made the best of everything in my life since that point." Ⓡ

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