

Diagnosed with cancer of the blood cells, chemistry professor **Tetsuo Otsuki** prepared to die. Then **Dr. Len Farol '94** made it his mission to save his mentor.

SECOND OPINION

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EVEN ON A CAMPUS WITH ITS share of colorful characters, Tetsuo Otsuki stands out. The Bertha Harton Orr Professor of Chemistry commutes to campus most days wearing a black Oxy football helmet with orange paw prints—a gift from the Class of 2003—and riding an old road bike. He bakes chocolate-chip cookies for his students before every exam. And when he has a bit of free time, he sits in a sunny patch of the Academic Quad and knits.

More than his idiosyncratic habits, though, Otsuki is known for his energy, warmth, and commitment to students. Over his 25 years at Occidental, “Dr. O” (a nickname that dates back to the late 1980s) has always been happy to answer students’ questions, mentor them, and help them in whatever way he can. His office door is always open.

So when Otsuki abruptly took a leave of absence in February 2011 and turned over his teaching load to a colleague, people worried, with good reason. The vibrantly healthy professor had fallen ill—so ill he wasn’t sure he would ever recover.

“I thought I had done everything I could do within my capabilities. I had no regrets,” Otsuki recalls. “I had lived my life.”

IT’S COMMON AFTER THE WINTER FESTIVITIES to feel exhausted from all the holiday cheer. Otsuki chalked up the malaise and dull pain he felt in late December 2010 to too much merrymaking. He had hosted and entertained old friends at his house for a few weeks over the winter break. He’d also taken a recent spill from his bicycle; perhaps that was the cause of the pain he felt in his ribs and pelvis.

But his symptoms worsened over time. Otsuki’s good friend, Carolyn Adams, also noticed. He visited her regularly in her office, where she works as the executive assistant to the College dean, and at the start of the day they often did push-ups and other calisthenics together, Otsuki doubling the number of exercises Adams did. But last January, he didn’t have the strength to manage even one push-up. “I told him to go to the doctor,” she says.



Most days, Otsuki commutes to campus from his Pasadena home on a bicycle he bought more than 20 years ago. **LEFT:** Dr. O poses with the future Dr. Farol for a photo following Occidental’s Commencement ceremony on May 15, 1994.

Otsuki hates doctors. The picture of health for virtually all of his life and blessed with good genes—his mother died at age 99 and his father at 83—he rarely had occasion to see them. At 69 years old, he had not seen the inside of a doctor’s office in years, nor did he take any medications.

His daily habits bordered on the ascetic. Besides riding his bicycle seven miles each day to and from Occidental, Otsuki ate a low-fat diet rich in vitamins, eschewed smoking, and slept a restful seven to eight hours a night. His sole vice, if you could call it that, was a glass of beer or wine with dinner.



Otsuki finally saw a doctor in February. A battery of tests, including liver function and MRI, showed nothing wrong. But one test measuring bone density did. Further testing, including a bone-marrow biopsy, revealed the cause of his pain and exhaustion: Otsuki had multiple myeloma, cancer of the blood plasma cells, which originate in the bone marrow. Plasma cells help protect the body from infection by producing proteins, or antibodies, that fight foreign substances.

In a healthy person, plasma cells make up 1-2 percent of bone marrow. In a person with multiple myeloma, that number sky-

rockets, crowding out “good” platelets and ultimately destroying the bone. Eighty percent of Otsuki’s bone marrow was composed of abnormal antibodies. The five-year survival rate for multiple myeloma is about 40 percent, according to the Leukemia and Lymphoma Society. Otsuki calmly asked his doctor how much time he had to live. Three years, he was told, if he didn’t fight back.

Otsuki tried to accept the diagnosis with equanimity. Though he’s lived in the United States for more than 30 years, his belief system is deeply Japanese. In Japan, the span of one lifetime is traditionally measured at

50 years. Indeed, two of Otsuki’s favorite writers, Soseki Natsume and Tatsuo Hori, died at age 50. Otsuki felt he had been given a 19-year bonus.

Even as he began chemotherapy to combat the disease, he prepared to die. A private man, he told few people of his diagnosis and considered his options. He could stop eating. A trained chemist, he could mix a fatal potion. There were many ways to end life with dignity, he thought.

He did not yet realize that the Oxy community and a certain former student would not let him give up.

LEN FAROL '94 KNEW EARLY ON that he wanted to go into the medical field. He loved science, math, and the nature of scientific inquiry and research. His mother died of cancer, and one of his brothers had open-heart surgery as a child to close an opening in his heart.

The son of a school principal and an elementary-school teacher, Farol was born the youngest of nine children in the Philippine province of Batangas, a region of gently rolling plains and islands south of Manila. His early years were comfortable, and he lived surrounded by his extended family.

That was cut short by the death of his mother when Farol was 6. Soon after, his father moved the family to California for a fresh start. While they settled into a cramped two-bedroom apartment in Los Angeles' Koreatown, Farol went to school in the San

Fernando Valley community of Chatsworth, a 60-mile daily round trip dictated by the court-ordered desegregation of the Los Angeles Unified School District in 1978. Mandatory busing was controversial, and Farol recalls white adults holding picket signs and yelling as his bus pulled in front of the school. "They said, 'We don't want your kids,'" Farol says in a matter-of-fact tone.

The vitriol did not deter him. Farol took as many Advanced Placement and honors courses as he could at Chatsworth High School, graduating in the top 10 percent of his class. He taught himself how the college-admission process worked by assisting his high school guidance counselor, and he counseled his classmates on college academic requirements and financial aid. "Len is very driven," says Chatsworth classmate and friend Sam Patel, now a radiologist in the Bay Area.

"We weren't the smartest people in our class, but we made up for it by working hard."

Farol entered Oxy on a full academic scholarship and majored in biochemistry. He did well in Otsuki's classes and remembers Dr. O as a tough but supportive teacher. The professor was also his adviser, and he helped Farol get an undergraduate research grant for a marine biology/chemistry project. After graduation, Otsuki attended Farol's wedding (to Hanako Yamauchi '95, another advisee), and they exchanged phone calls and met for brunch at least once or twice a year. "Len worked very hard, and he stayed in touch with me," Otsuki says. "Many students I don't see after graduation."

While at Oxy, Farol volunteered at Huntington Hospital as a candy striper. There he saw his first bone marrow biopsy, a painful procedure in which a very large,



An oncologist and bone marrow transplant specialist at Kaiser Permanente, Farol (shown outside City of Hope Cancer Center in Duarte) and his colleagues are the go-to team in Southern California for blood cancer, the "Super Friends" of hematology.

hollow needle is inserted with a corkscrew motion into a patient's bone to extract marrow. "I almost fainted," Farol recalls. "I had to sit down because I was lightheaded."

Nonetheless, he decided in his final year at Occidental to go to medical school, graduating with his M.D. from UC Irvine. After a residency in internal medicine at Northwestern University, Farol traveled east, to New York University, as a hematology/oncology fellow. While at NYU, he was named Hematology Fellow of the Year in 2002 and Oncology Fellow of the Year in 2003.

Another friend from Chatsworth, Arlene Hoang, credits Farol for helping to save her mother-in-law, who came down with leukemia in 2003. He advised that she be given a bone marrow transplant after chemotherapy failed to work. "Her doctor didn't want her to undergo a transplant because she was already 65, but Len really pushed us," says Hoang, a lawyer in the San Fernando Valley. "Frankly, she wouldn't be alive today without that."

MARCH 10, 2011, started out as a normal Wednesday for Farol. An oncologist and bone marrow transplant specialist at Kaiser Permanente, he was at a meeting at City of Hope Cancer Center in Duarte, 16 miles east of Eagle Rock, to discuss patient caseloads with several colleagues. Together, they're the go-to team in Southern California for blood cancer, the "Super Friends" of hematology. In discussing their caseloads, one colleague spoke of a patient named Otsuki with multiple myeloma. Startled, Farol asked if Otsuki was a college professor. His colleague said yes.

"I was devastated," Farol recalls. "This is a horrible disease."

Farol got on the phone immediately with his old professor. Later that day, he visited Otsuki at his home and brought vitamins and packs of Boost, a nutritional drink. "Len's phone call saved me. He changed my psychology all around," Otsuki says. "He said, 'This is treatable. You don't have to die.'"

AS A 3-YEAR-OLD in wartime Japan in 1945, Otsuki watched American B-29 bombers fly overhead before his parents whisked him into an underground shelter. Despite living in the shadow of a devastating war, his childhood was happy. The youngest child of a grade-school principal and a schoolteacher,

Photos courtesy Tetsuo Otsuki



ABOVE: Otsuki's parents, Ki-ichi and Yoriko Otsuki. **ABOVE RIGHT:** As a freshman at Kyoto University in 1961, Otsuki (right) and classmate Akira Tanaka ride a ferry to Hokkaido. **BELOW:** Six-year-old Otsuki stands in front of the Japanese emperor's tomb in Kyoto in 1948, accompanied by his babysitter, Ai Matsubara (behind him) and two of her friends. The photo, he recalls, was snapped by an American soldier stationed in Japan.



ABOVE: Otsuki plays with his nieces in 1964. **BELOW:** On a train days after learning he was accepted to Kyoto University, Otsuki (in 1961) enjoys his first beer. **BOTTOM:** Otsuki's first passport photo, taken in 1977.



Otsuki lived in a small, self-contained community in Kyoto, 300 miles west of Tokyo. Food rationing was the norm, but Otsuki always had enough to eat since his parents had a vegetable garden.

As a kindergartner, he chased after American soldiers, who were part of the Allied occupation in the years after World War II. They gave him chewing gum, chocolate, and even softball bats and balls. "They were nice to kids," Otsuki says.

He studied hard and was accepted into prestigious Kyoto University as a science student. But Otsuki spent much of his first two years reading Japanese, American, and French novels; hiking in the mountains; and relaxing instead of going to class. He didn't buckle down until he had to declare a major in his third year. Physics came easily to him, but his older brother was already a physicist. Biology sounded promising, but he didn't

want to dissect animals. Geology and meteorology didn't hold his interest. "So left over was chemistry," he says with a smile.

As it happens, Otsuki thrived in his studies and received a bachelor's degree, master's degree, and Ph.D in chemistry in quick succession, all from Kyoto University. In 1980, he received a national chemistry research award from Japan's Society of Synthetic Organic Chemistry. But he found the Japanese system of research confining and non-collaborative. Otsuki got a taste of American-style science research as a post-doctoral student at the University of Chicago in the late 1970s, where he met Wayne Bolen, then a young faculty member at Southern Illinois University.

With Bolen's help, Otsuki won a one-year appointment as a visiting associate professor of chemistry and biochemistry at the university. He moved to Carbondale, Ill., with his wife and two young daughters. "It was very unusual for anyone to immigrate to the United States from Japan, as Japan had a very strong educational system," says Bolen, now an emeritus professor at the University of Texas, Galveston. "Tetsuo was very brave to come."

Otsuki went on to teach for two years as an assistant chemistry professor at Penn State Schuylkill, acquiring the university's first nuclear magnetic resonance instrument. "They were very impressed with him because of his emphasis on education and research," Bolen says—even if Otsuki remembers that time a bit differently. He grew up reading and writing English, but communicating solely in English was challenging—and teaching in English for the first time was "very difficult."

Language wasn't the only barrier. In Japan, professors lecture for much of class and write a lot of information on the blackboard, while students copy that information in their notebooks and ask few questions. By the time he landed at Occidental in 1986, Otsuki understood that the Japanese way of teaching didn't translate into the Western classroom.

He adapted by focusing on one concept and talking about it from different angles instead of overwhelming students with too

much information. Instead of covering the blackboard with scribbles, he wrote only the most important points. He also abandoned the "sage on the stage" mentality and encouraged class discussion by asking students questions. And he encouraged students to see him after class if they wanted more help. "You have to make sure they understand the concept," says Otsuki, recipient of Occidental's Graham L. Sterling Award for excellence in teaching, research, and service in 2002. "I have learned a lot from my students on how to teach."

As a biology major at Oxy, Lisa (Ritter) Pickard '91 remembers Otsuki's organic chemistry class "as one of the most difficult classes I've ever taken," she says from her home in Austin, Texas. "But Dr. O made it worth it. He is so dedicated to empowering students. He's more than a teacher; he's a confidant, friend, and mentor."

Some years back, another former student sent Otsuki a photo of the two of them taken at Occidental after his graduation. "Thanks for all your support and encouragement during my years at Oxy," he wrote on the back. "I wouldn't be where I am without all the help you gave me.

"Thanks a million, Len (class '94)"

FAROL WASN'T THE ONLY ONE WHO urged Otsuki to fight. Adams was one of the few people the professor told of his cancer diagnosis. With his permission, she marshaled a small army of Oxy faculty, staff, students, and friends (a disparate group that included Nadine Skotheim, Otsuki's knitting teacher and wife of former Oxy President Robert A. Skotheim, and alumni such as Lisa Rutledge '10, a City of Hope researcher) for support. The list grew from a handful of people to more than 50. "Tetsuo is surrounded by many good friends who care so much," Adams says. "He is genuinely a nice guy. When I took him to his doctors' appointments, everybody gravitated to him."

The support and good wishes were among the weapons needed to combat his multiple myeloma. And Otsuki needed all the help he could get. Even though he didn't start to feel pain and fatigue until last January, Farol says Otsuki had likely been living with the cancer for years.

The professor began several rounds of oral chemotherapy and steroids to kill the



Otsuki starts most mornings with a cup of tea and calisthenics with Carolyn Adams on the third floor—literally—of Arthur G. Coons Administrative Center.

abnormal antibodies. After three months, Otsuki's immunoglobulin (antibody) level had dropped dramatically—a good sign. Still, a bone marrow biopsy showed that Otsuki's bones were still composed of 75 percent myeloma cells. "So we had to attack the cancer in a different way," Farol says.

He and the other doctors prescribed an aggressive three-tiered system of intravenous and oral chemotherapy: Cytoxan, Velcade, and Dexamethasone. Recent studies have shown that this mixture gives better results and fewer side effects, such as numbness and tingling in fingers and toes, compared with other chemotherapy combinations.

Otsuki underwent this second treatment for another two months. Throughout that winter and spring, he was a model patient. He showed up to his many medical appointments on time. He did not drink alcohol or caffeine. He remained cheerful and upbeat despite feeling weak and tired.

The chemo combination worked. A bone marrow biopsy in June showed that less than 1 percent of Otsuki's marrow was composed of "bad" cells. "His marrow was clean," Farol says. "He was officially in remission."

MULTIPLE MYELOMA tends to resurface after several years. Survival rates are higher for myeloma patients who have undergone chemotherapy and a stem cell transplant to blast out as much of the cancer as possible. Farol and Otsuki's other doctors recommended he do the same. "With chemotherapy alone, the doses aren't high enough to do that," Farol says. "The transplant allows us to do much more intensified chemotherapy."



For many years, prospective students to Occidental received admission materials including this photo of Otsuki (shown in the lab with James Ewing '01, center, and Alicia McCarthy '02), taken in 2000.

Otsuki was just under the cut-off age of 70 for such a procedure. But apart from the cancer, he was healthy and thus a relatively good candidate. The stem cell transplant was autologous—meaning he would grow his own healthy white cells, which would get transplanted back into his body. Despite his fear of hospitals and doctors, Otsuki gave his consent for the transplant. “Since I trusted my student so much, I said, ‘Let’s do it.’”

Preparation for the transplant, as well as the procedure itself, is straightforward, but exhausting and trying for the patient. Otsuki was injected with a drug called Neupogen for 10 days to stimulate rapid production of white cells. An intravenous catheter was inserted into his chest to collect his blood, which was sucked through a tube into a centrifuge to separate and harvest the white cells. A second tube shot the processed blood, which still contained red blood cells and platelets, back into Otsuki’s bloodstream.

The professor underwent this harvesting procedure four times. At least 2 million healthy white cells per kilogram of body weight are needed for a stem cell transplant. “I felt like I was a machine for producing white blood cells,” Otsuki jokes.

By early September, Otsuki had produced enough, and the transplant was scheduled soon after. He checked into the City of Hope cancer center for a 2½-week stay. “Len got me star treatment at City of Hope,” Otsuki says with a smile. “He told everyone that I was his teacher, so they treated me very nicely.”

Otsuki underwent a last blast of chemotherapy—Melphalan, a particularly nasty strain whose side effects include nausea and temporary baldness—to nuke any lingering cancer cells. Farol then transplanted the saved white blood cells back into Otsuki’s bloodstream via a flexible tube inserted into the professor’s stomach. The professor was conscious throughout the procedure. Within a few days, his white-blood cell count started rising, from a low of 200 to eventually 4,000—a normal level. Farol checked on him daily and gave updates on his progress to Adams, who notified Otsuki’s support group. But besides him, Otsuki received few visitors.

It wasn’t for lack of trying by the Oxy community. Otsuki received dozens of encouraging email messages from friends,

colleagues, and his daughters, both now grown and living on the East Coast (he and his wife divorced in 1997). But he did not want to see people because he wanted to concentrate on healing. Otsuki walked a quarter-mile each day, up and down the hospital halls, pushing his IV bag, to build endurance.

“He is a very focused person, and he knew what he needed to do,” Bolen says. “He had to focus on his nutrition, his exercise, his sleep, and his medication. And he really turned around quickly after the first week.”

The continuous outpouring of help and good wishes from Farol, Adams, and the Oxy community surprised Otsuki. “Without Len, without Carolyn, I probably wouldn’t be here today,” he says. “I didn’t expect the support from campus. I didn’t expect this happiness.”

Farol remains as busy as ever, caring for patients and conducting stem cell transplants. He regularly checks on his former

professor, who is on medication and is going through another round of chemotherapy as a preventive measure. But overall, Otsuki is feeling good. He’s back to cycling to and from campus, baking cookies for students and colleagues, and spends most days in Norris Hall.

About 70,000 people nationwide live with or are in remission from multiple myeloma. Most, like Otsuki, are men over 65. After 11 months away from the classroom, Dr. O will resume teaching chemistry in late January. “I want to start teaching again, to work in the lab. I miss my students,” he says. “I want to get back to normal.”

A critical need persists for bone marrow donors, especially those of color, between ages 18 and 60. Farol urges everyone to join the National Marrow Donor Program’s Be the Match registry (www.bethematch.org). A simple cheek swab is all that’s needed to become a prospective donor.



“I feel accomplishment when I see my former students established and successful in their careers,” Otsuki says. “I’m very proud of Len.”