



# After Flames

# With 95 percent of his body surface burned, Manoj Rana survived through sheer determination and the dedication of his skilled Medical Center team.

By Susan Chandler and Philippe Tapon

**O**n the night of July 1, 2005, Steven Craig Allen and his wife were drinking in their ground-floor apartment on Tanglewood Drive in Hammond, Ind. Allen was reportedly upset because he couldn't go to Florida with his girlfriend who was heading south the next day, and he was ready for a break. He had been saddled with childcare duties for his three-month-old daughter since his wife had returned to work a month earlier. Around 4 a.m. on July 2, Allen walked around the apartment spreading gasoline. Then he ignited the fuel and ran outside to watch the blaze.

Three floors above, Manoj Rana and his roommate Prabhat Singhal were asleep. Both were engineering students. Rana was from Noida, a suburb south of Delhi, and Singhal was from Aligarh, 82 miles from Delhi. Both were finishing their degrees at Purdue University Calumet in Hammond. As tourists, they had seen the skyscrapers and the Cloud Gate sculpture in Millennium Park, and were told about how the grid pattern of the city had been made possible by the Chicago Fire.

Rana and Singhal had gone to bed late, having returned from a birthday party that had started at midnight in accordance with Indian tradition. Singhal was sleeping on a couch next to the balcony window. The heat of the flames woke Singhal and he woke Rana and called 911. By then, black suffocating smoke had engulfed the staircases, and the balcony outside their sliding-glass door was on fire.

The apartment was getting hotter and smokier, making it difficult to breathe. Singhal had already made two 911 calls and realized that it was going to be a while before the fire department would arrive. He called a close friend and begged him to please come soon and save him and Rana: "We are going to die.

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"We are going to die," Singhal repeated into the phone. Rana ran for it, charging bare-footed down a staircase poised above the fire. The staircase collapsed, and Rana was stuck in the fire for about 10 minutes.

A lot can happen in 10 minutes. An egg, for example, can be cooked in about three minutes. It can be hard-boiled in about seven minutes. The temperature in the downstairs apartment was at least 1,100 degrees Fahrenheit, because the aluminum in the kitchen pots melted. Where Rana lay, the temperature was much cooler, perhaps somewhere between 300 and 600 degrees.

*Left: Manoj Rana, 26, four years after the fire that burned 95 percent of his body surface. Photo by Dan Dry. Right: Rana in the operating room being treated while warmed with lights.*

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Rana remembers being put onto a gurney. He remembers the paramedic saying, "This guy doesn't have a chance." The paramedic could have said that about Singhal, who wouldn't survive the blaze. Singhal was dead—wet in the bathtub, where he had taken refuge from the heat and smoke. Rana was first taken to St. Margaret Mercy where physicians determined he had been burned over 95 percent of his body surface, not counting the burn in his lungs. He needed to be transferred to a burn center.

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There are three burn centers in the Chicago area: Stroger Hospital, Loyola University Medical Center, and the University of Chicago Medical Center. In Illinois, the Medical Center and Loyola are the only two facilities that have been verified by the American Burn Association as providing optimal care for burn victims from injury through rehabilitation.

At the Medical Center, the Burn Center Director is Lawrence J. Gottlieb, MD, a plastic surgeon. Plastic surgery, in the days of "nip/tuck," has a somewhat mercenary reputation. But Gottlieb is uninterested in patients who want facelifts, tummy tucks, and Botox. He prefers to see the patients who have no faces, or no throats, or no hands, or who have been hurt so grievously no one else will take them—the patient who "doesn't have a chance."





**Burn Center Director Lawrence J. Gottlieb, MD, pictured above in the burn unit, was Rana's surgeon. In all, Rana had 35 operations at the Medical Center. Photo by Bart Harris**

The emergency doctors at St. Margaret's called Gottlieb. They explained that this guy was a "John Doe . . . inhalation injury . . . house fire . . . 95 percent." Gottlieb said: "Yes. We have a bed. We'll take him."

The helicopter ride aboard the university's UCAN helicopter, took nearly 12 minutes but it cost roughly \$8,000. Rana had student insurance, excellent for vaccinations, check-ups or even broken bones. The maximum expense was an impressive-sounding \$100,000. But Rana's care went through that money in a matter of days.

He was admitted to room D-201 in the University of Chicago Burn Center. Rana's skin was coming off in shreds, like a costume coming apart at the seams. Machines were breathing for him, collecting his urine, watching his heart. Working closely with Gottlieb, anesthesiologist and intensive care specialist Avery Tung, MD, along with anesthesia resident Rishi Taneja, MD, and surgery resident Ariel Spencer, MD, guided Rana through those first harrowing 16 days, which included eight trips to the operating room. Assisting them was a multidisciplinary team of nurses, nutritionists and therapists.

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***"God has put some wonderful people in Rana's path up there at the University of Chicago Medical Center." John Burke,  
Lake County Deputy Prosecutor***

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Burn wounds look simple, but burn patients suffer in ways that seem quite mysterious. As the burned lie in their beds, they consume vast amounts of calories while they rebuild tissue—5,000 a day—comparable to what long-distance cyclists expend. And yet they do nothing but breathe. The patients can starve without moving a muscle.

Because burn patients leak huge volumes of fluids from their wounds, they need tremendous amounts of intravenous fluids. But pumping in all that liquid can kill if it builds up in a patient's lungs, causing them to essentially drown in their own fluids.

Given the extent of Rana's burns, Tung and Gottlieb knew that managing his fluid levels was going to be crucial. They decided to try something controversial—infusing Rana right away with albumin, a protein solution derived from blood, which leaks out slower than simple saline solution. Most burn patients aren't treated with albumin until later for fear that leaking protein would worsen fluid buildup in the lungs and tissues. But Tung and Gottlieb sensed that slowing fluid leakage in Rana was the top priority.

"It was so successful we now routinely resuscitate this way for major burns," Tung said.

As the team worked frantically, some good news emerged. Under ashes and blood, physicians found that 10 percent of Rana's skin had been spared, mostly near his groin, on his scalp and also a little on his back. The skin from the few places that had not been burned was allowed to regrow, and was then harvested again, and again. Burned skin was cut off and replaced with temporary grafts of pig or cadaver skin, each lasting for only a few weeks.

During Rana's first month, he needed dressing changes twice a day and dozens of surgeries. Not surgery to make him look pretty—surgery to save his life by removing dead skin before it could become infected and cause sepsis. Each surgery was a tremendous challenge, requiring careful choreography just to transport Rana to the operating room, which had to be heated to 85 degrees to keep him warm. In all, Rana had 35 operations at the Medical Center.

While the physicians and nurses were fighting to save Rana's life, a hospital social worker, Pamela Oberlie, was battling for him on other fronts. She worked to extend Rana's student visa and helped him successfully appeal his initial Medicaid denial. That effort was critical because without a successful appeal, Rana would have been repatriated to India after he was stabilized and likely wouldn't have survived.

Eventually, a Medicaid reimbursement came in for about \$1.3 million, but Rana's care at the Medical Center totaled nearly \$5 million. An additional \$700,000 in physician charges were written off.

Rana's brother Deepak requested leave from his university in India and flew over to keep vigil in his older brother's room. Deepak could speak no English. Rana could not speak at all because he was in a coma and remained unconscious for four months. Ronald McDonald House, set up to provide free lodging to parents of children who were ill, graciously offered Deepak a place to stay.

There is an old burn unit yarn that around Christmas patients act up. And although Rana was Hindu, at the winter solstice, he had his darkest days. After five months of keeping mostly clear of infections, he became septic as bacteria moved into his bloodstream. The bacteria seemed to resist everything, and Rana came even closer to dying than he had been the night of the fire. For a few tense days it looked like all the months of work had been for nothing. But, again, he made a hair's breadth escape. Some drugs finally kicked in, bacteria was killed and his blood became clean. That was the turning point. From December onward, it was clear to the medical team he was going to live.

In 2006, Rana got better, stronger. He opened his eyes, he started to move. He made what physicians call in their restrained language "a remarkable recovery."

With 95 percent of his skin grown back, he was transferred not to India—there would be no hospital to take him there—but to the acute rehabilitation program at Wishard Memorial Hospital in Indianapolis. There, he met Shannon Hendricks, an occupational therapist, who could see that under his scars was a man who wanted to be rehabilitated. Eventually, Rana was discharged to a nursing home where he lived day by day, sharing rooms with people who were dying or suffering from dementia. Under the influence of daily morphine to control pain, he learned again how to stand and walk. After a year, he was able to start bringing a spoon to his mouth.

At the time of the fire, Rana was one course shy of completing a degree in computer engineering at Purdue University. The last requirement was waived, and Rana was able to put on a gown, stand up, walk, and receive his engineering degree. His mom flew in for his graduation.

Rana suffered a fourth-degree burn to his heel, down to his tendons and bones, and had several toes amputated on his left foot. These were his only amputations: Gottlieb and his medical team had spared every other digit. Hendricks, who had seen



**Rana completed a half-marathon May 3, 2008 in Indianapolis, just a week after a surgery that left incisions in both shoulders. His occupational therapist, Shannon Hendricks, is running next to him. Photo provided by Manoj Rana**

many tough scrapes, but nothing as tough as this, coached him to walk faster and faster—and then to run. With Hendricks running and sometimes walking alongside him every step of the way, Rana completed a half marathon in the summer heat of Indianapolis in 2008. He managed to run 13.1 miles, even though his grafted skin had no sweat glands. He did this a week after a surgery that left eight-inch incisions on both his shoulders. He returned to a nursing home that he increasingly was outgrowing, and was discharged to live on his own.

Rana is now working on his MBA from the Kelley School of Business at Indiana University in Indianapolis. In his most recent accounting course, he got the top grade in his class.

In March, Steven Allen was found guilty of three counts of murder and two counts of arson. On June 25, 2009, Rana and Hendricks went to Allen's court sentencing. Before he handed down his sentence, Lake County Superior Court Judge Clarence Murray said that Rana was an inspiration and a "testament to

the ability of the human spirit to persevere in the face of great adversity." Then he pronounced Allen's sentence: 220 years—60 years each for the murder of Allen's wife, daughter and Singhal, plus 40 years for the aggravated arson that left Rana so severely injured.

Lake County Deputy Prosecutor John Burke, who handled the Allen case and has gotten to know Rana over the past few years, called him "a great kid" and in an ironic way, a lucky one. "God has put some wonderful people in Rana's path up there at the University of Chicago Medical Center," Burke said.

Allen is appealing his conviction. In April, Judge Murray approved Allen's request to marry the girlfriend whose Florida trip set the stage for the tragedy. The marriage has since taken place.

Rana has decided to remain in America. He is currently here under a U visa, which grants temporary legal status and work eligibility to victims of crimes. Eventually, he would like to obtain a green card, which would make him a permanent legal resident. He has stated, "I came to America to have a better education and a better life so I could provide for my family." With the surgeries behind him, Rana can at last begin reconstructing, not the better life he had imagined, but the best life he can have.