



Ling Young has undergone over 30 operations for the burn injuries she suffered on 9/11—the last 16 of them performed by Dr. David T. W. Chiu. “She is a very brave woman,” he says.

A Survivor’s Long Journey Back

IT WAS JUST PAST QUARTER TO NINE on the morning of September 11, 2001, and Ling Young was already well into her workday on the 86th floor of the World Trade Center’s South Tower when she heard the startling news: an aircraft had struck the North Tower next door. Along with her coworkers in the New York State tax and finance office, she quickly descended to the bank of express elevators on the 78th floor. There she paused, torn between going back to her desk—as authorities were urging—or evacuating.

She never had the chance to decide. At 9:02 a.m., a second airliner rammed into the South Tower, the tip of its left wing crashing through the 78th-floor lobby. Knocked across the room by the impact, Ling felt a wave of intense heat wash over her. When she struggled to her feet again, she saw the floor littered with bodies and debris. “I looked around and not many people were moving,” she recalled later. “Now I know they were dead.”

In shock, she and a few other survivors sat down and waited for help. Miraculously, a young man—later

identified as 24-year-old trader and volunteer fireman Welles Crowther—appeared and announced that he’d located an open stairwell. He guided Ling and several others down 17 flights and left them there, explaining that he had to go back up to see if anyone else needed help.

Ling made it down another 10 flights, where she met Supervising Fire Marshal James Devery of the New York City Fire Department coming up the stairs. Devery helped her to the tower’s lone working elevator on the 41st floor, which took them to the street and a waiting ambulance.

Minutes later, the 110-story skyscraper came crashing down.

Of the people on the 78th floor and above in the South Tower that day, only 17 survived. But Ling’s saga was just beginning. When the jet hit, it released a fireball of burning fuel. While Ling was never actually touched by the flames, the 2,000-degree heat left her with third-degree burns—the most severe type—over 20 percent of her body. “It’s a thermal burn,” she explains. “I was cooked from the inside. I got out of the hospital after five weeks and was doing okay at first. But then I started getting complications.”

For some reason, the nature of her burns was causing large pus-filled wounds to form in the skin grafts on Ling’s arms. Doctors where she was being treated removed grafts, treated the wounds, then grafted on more skin—only to see infection pop up again. The systemic effects of the infections also attacked the other grafts on Ling’s face, neck, and hands, resulting in heavy scar tissue that left her unable to move her head or open her hands.

In 2003, frustrated at her lack of progress, Ling sought out David T.W. Chiu, M.D., a specialist in plastic surgery, microsurgery, and hand surgery at NYU Langone. Dr. Chiu’s first step was to

completely rethink her treatment. “She was going backwards. If I did the same thing other doctors had been doing—cleaning the wound and putting on new grafts—I was pretty certain the same thing would happen.”

Dr. Chiu surmised that epithelium—the skin’s outermost layer, which normally grows over a skin graft as it heals—was getting trapped beneath the skin’s surface, forming cysts that were then becoming infected. His suspicion was spurred by the fact that Ling had received mesh skin grafts, in which the graft is first passed through a machine that perforates it with tiny holes. This allows the skin to be stretched, expanding its surface area by three times or more—a valuable advantage in treating large burns.

“After the mesh graft is laid down,” says Dr. Chiu, “small capillary networks called granulation tissue grow up to fill the holes in the mesh. Normally, the granulation tissue stops there.” But in Ling’s case, the granulation tissue may have been growing above the holes, then fusing together and burying the meshwork of epithelium. Since the mesh contained thousands of perforations, this would cause the graft to break into thousands of fragments, producing thousands of infected cysts—thus leading to Ling’s recurring infections.

If his analysis was correct, the solution involved removing the unstable grafts on Ling’s arms plus a layer of cyst-laden scar tissue beneath the grafts, then treating the excised area with antibiotics before regrafting the burned area—this time using full-thickness skin instead of mesh. This also meant finding a patch of donor skin that hadn’t yet been harvested. “Most of Ling’s available skin had been taken,” says Dr. Chiu. “Fortunately, since she had lost weight during treatment, her abdomen had some loose skin that could be used.”

Ling’s first surgery confirmed his hypothesis: when he examined a tissue sample from the excised graft, it was riddled with tiny cysts. Still, the process of removing, cleaning, and regrafting the affected areas on Ling’s arms required a year’s worth of operations. “We could only do part of an arm at a time, since the amount of skin I could harvest from the abdomen at any one time was limited.”

Once the regrafting of Ling’s arms was completed using full-thickness skin, infections ceased being a problem. Now, Dr. Chiu could turn to Ling’s other major issues—the heavy scarring on her

neck and face, and the immobility of her hands. “The scar tissue on her neck was so contracted that her head was pulled to one side,” he recalls. “And she had no use of either hand. One was clenched shut, while the other had been fused open by doctors.”

Dr. Chiu was able to resurface the skin of her neck and both hands—something that had been impossible to do when Ling was still suffering from recurrent infections. Drawing on his expertise, he then worked on restoring the functionality of her hands. In the clenched hand, he made carefully calibrated incisions to release the contracted ligaments. In the hand that was fused open, he replaced the fused joints with artificial joints, then undertook the delicate task of rebuilding the surrounding ligaments. After extensive occupational therapy, Ling regained full function in her right hand and was able to pinch small objects with her left hand—something she could not do prior to Dr. Chiu’s treatment.

Regaining use of her hands brought about a dramatic change. “She was very downcast when I first saw her,” says Dr. Chiu. “She was completely dependent on others, and quite helpless. Once we were done with her hands, her psychological complexion became greatly brightened.”

The last phase of treatment involved pulling back the scar tissue on one side of Ling’s face and rebuilding her badly damaged ear. “Again, everything was done gradually, in stages,” says Dr. Chiu. “When I’m teaching residents, I tell them you have to plan in four dimensions. In this type of treatment, time is my friend.”

When Ling arrived with her husband, Donald, at Tisch Hospital on a recent morning for what she hoped would be her last procedure—some finishing touches on her ear reconstruction—she entered unaided, exuding an air of quiet strength and determination. The surgery began at eight in the morning. By midafternoon, Ling was ready to leave the recovery room, a swath of bandages around her head.

“I’ve had over 30 operations,” she said. “Hopefully, this will be it.”

“I look forward to seeing you on the street,” said one of the nurses, smiling. “Shall I get you a wheelchair?”

“No, thank you,” replied Ling. “I prefer to walk.” ● —ROYCE FLIPPIN

Minding the Body

● IN THE HUSHED INTERIOR OF THE Community Center of Manhattan a dozen people are moving in unison, practicing the slow-motion art of tai chi. These exercisers don’t look unusual, but they all have Parkinson’s disease, a disorder that attacks brain cells responsible for producing dopamine, the neurotransmitter needed for physical movements, sleep, mood, and other essential functions.

“One of the first signs was that I couldn’t write notes in meetings,” recalls Frank D’Andrea, one of the class participants. “It came out as a straight line across the page.” When D’Andrea was diagnosed with Parkinson’s 10 years ago, his neurologist referred him to Alessandro DiRocco, M.D., director of the Parkinson’s and Movement Disorders Program at the Medical Center.

“Parkinson’s is like an unwelcome guest,” says Dr. DiRocco. “It starts subtly. Some patients may first notice a small tremor or slight clumsiness. Over time the disease insinuates itself more into daily life, impairing activities like writing and cutting food. As it progresses further, walking and balance may be affected and other symptoms may appear, including speech problems, anxiety and depression, changes in blood pressure and bowel function, and sometimes impaired cognition.” Treatment with medications alone is not enough, adds Dr. DiRocco: “Since the disease affects not just the patient but family members as well, it’s important to help the entire family” (continued on page 35)



Places in the Heart

(continued from page 11) based in St. Paul, Minn., has awarded the NYU team a large grant to continue its pursuit of better catheters, mapping technologies, and energy sources. Already the partnership has led to a specialized catheter that cools the heart surface even as it heats the deeper muscle, reducing the incidence of char and clot formation. Dr. Chinitz is heartened by the investment. "It's one thing to know the physiology and to understand what has to be done," he says. "But large investments from industry are required in order to make really significant advances in safety and efficacy."

Beyond physical interventions, fellow NYU cardiologist William J. Cole, M.D., contends that doctors still possess a range of options for treating atrial fibrillation. One promising new drug in Phase III clinical trials, dronedarone, is aimed at replacing less-effective and more-toxic antiarrhythmic drugs. But Dr. Cole concedes that even dronedarone will not eliminate the need for warfarin, and that younger patients determined to avoid a lifetime on the blood thinner are driving the push toward catheter ablation.

Meanwhile, for Ronnie Schultz and Robert Conklin, the benefits continue to outpace the inconveniences. A bout of the flu has slowed Conklin's recovery since his ablation, but he can now climb his home's steep cellar stairs without pausing halfway to catch his breath. He acknowledges that his preexisting problems make his case more difficult, and that no one can guarantee his atrial fibrillation has now been cured. Even so, he has high praise for Dr. Chinitz and his "top drawer" staff, and high hopes that he'll be able to fish and do some light clamming this summer. "So far everything seems to be great," he says.

Ronnie Schultz appreciates what the procedure has done for her quality of life. "My feeling was: I was in my late 30s, I'm an active person, I'm not 75 and just going to the supermarket," she says. "I did not want to take these toxic drugs any longer." Nor did she want to return to the days when it was all but impossible to do the job she loves: photographing dogs and children.

It is now several months since Schultz's January scare with her pug provided a real-life stand-in for the intravenous stimulants and physical tests the medical team often uses to locate hidden trigger points set off by stress. The fact that Schultz didn't go into full-blown

Dr. Fowler and Dr. Chinitz.



fibrillation suggests that her last ablation may have neutralized most, if not all, of her triggers.

Dr. Chinitz, she says, did some "extra credit" on the last ablation, cauterizing every problem spot he could find. And so far, her palpitations have been less frequent, and she has felt a definite improvement in quality of life. But she still takes a beta blocker as a heart-slowng precaution, and avoids stimulants and unnecessary stress. "I still think I have a weakness in my heart, but I don't have that chronic atrial fibrillation," she says. She accepts that no one can tell what the shelf life of her last ablation will be, given her history. Even so, she says, "I'm remarkably better."

Dr. Chinitz points to Schultz's story as that of an ever-advancing intervention. "I think she reflects the evolution of our procedure and the theme that in some patients, if you work hard enough, ultimately you can be successful," he says.

More than just "cranking out the procedure," though, he is quick to emphasize his 12-member team's focus on caring for patients during what can be a lengthy process. Nearly a decade into her own healing, Schultz is unequivocal about the importance of that approach. "I think Larry is not only very, very skilled at what he does, he does some of that hand-holding that I as a patient need, and I feel very comforted by him," she says.

And she has drawn support from the entire team. "They don't just treat my heart," she says. "They treat the whole body, and they know me as a person." A person who once again is focusing on her passion for pugs and photography. ●

Minding the Body

(continued from page 29) develop ways of coping with the disease's challenges."

NYU's approach to Parkinson's includes a clinical facility where comprehensive care is delivered by an interdisciplinary team, ongoing research into the disease's causes and potential treatments, psychological counseling for patients and support groups for family members, community outreach to promote Parkinson's awareness, and exercise. Dr. DiRocco once encouraged patients to take regular fitness classes, but he became discouraged by the lack of support they received. One patient, he remembers, was banned from a yoga class because her tremors disturbed the other participants.

In search of a more welcoming environment, NYU recently partnered with the Jewish Community Center of Manhattan to establish the NYU/JCC Parkinson Wellness Program. The program, supported by the Edmond J. Safra Philanthropic Foundation, offers classes in tai chi, yoga, Pilates, the Alexander technique, and Nia, which combines music and movement—all taught by specifically trained instructors—and educational workshops.

For Frank D'Andrea, the weekly classes have been very helpful: "I take tai chi and Pilates," he says. "The tai chi keeps me flexible, while Pilates is great for my midsection strength and my breathing." D'Andrea supplements the classes with long daily walks, even though his legs sometimes freeze when he is walking. He takes several medications for his symptoms—including dopamine, a dopamine agonist (which mimics dopamine's actions), and amantadine (which makes more dopamine available to the brain).

"One of Parkinson's ironies is that someone like Frank may look good on a given day," notes Amy Lemen, LMSW, social worker and coordinator of the wellness program. "We can't tell what's really going on inside. At other times, a person may have very obvious symptoms. The disease can be isolating for both of these reasons. That's an additional advantage of our wellness program, because it gets patients out into a vibrant community hub where people have been educated about Parkinson's. It's one important way to keep them moving and enjoying life." ● —ROYCE FLIPPIN