



"I've been stripped of my identity," says Cara Ferber, shown here in a painting class. "But my soul hasn't changed one bit."

boot camp for the brain

BY THOMAS RANIERI

Capitalizing on the plasticity of the human brain and the resilience of the human spirit, a pioneering program at NYU's Rusk Institute helps victims of brain injuries regain their lives.

The last thing Cara Ferber remembers about that day—March 24, 2002—is saying goodbye to her father. Having just spent Spring Break visiting her friends and her parents, she was on her way back to Ithaca, New York, where she was a first-year student at Cornell University Law School. Cara had chosen Cornell, in part, for its remote location. Without the distractions of New York City, she felt she would be better able to excel—as she had done at Georgetown University and the London School of Economics—and better able to fulfill her dream of practicing international law.

But fate would hand Cara a different kind of isolation. At 6:10 p.m. that

evening, her Honda Civic collided head-on with a van, less than five minutes from her off-campus apartment. The car's seat belt and air bag saved her life, but she sustained numerous internal injuries and broken bones that would require multiple surgeries. The least apparent injury was to her brain. The physical trauma of the accident, compounded by a temporary decrease in oxygen supply to the brain, left Cara with a "closed head injury." While the skull is not fractured or penetrated, the rapid acceleration and deceleration forces the brain to move violently within its vault, pulling apart nerve fibers and causing diffuse damage that affects multiple areas of function.

As Cara slipped into a coma, the doctor offered her parents, Jack and Debbie, little hope—save for one mercifully unscientific sentence. "She's young," he said of their only child, "and we once had a girl named Cara who made it."

Twelve days later, Cara emerged from her coma. Opening her eyes for the first time since the accident, she looked up at her mother and brought her lips together to form the word "Mommy." After three weeks in the ICU and an additional 15 months at an acute rehabilitation center in New Jersey, Cara arrived at NYU's Rusk Institute of Rehabilitation Medicine in

September 2003 to continue her cognitive therapy—in other words, to mend her mind.

The nature of Cara's injury, and her now favorable odds for improvement, made her a prime candidate for Rusk's Brain Injury Day Treatment Program, a pioneering project designed to help relatively high-functioning adults cope with the harsh realities of life after a brain injury. The program was established in 1978 as a kind of behavioral training shop, but its origins date back to the Arab-Israeli War of 1973. In the aftermath of the war, Israel's Department of Defense turned to the father of comprehensive rehabilitation medicine, Dr. Howard A. Rusk, for help in treating some 250 brain-injured veterans. The assignment went to one of his associates, Yehuda Ben-Yishay, Ph.D. A former Israeli, Dr. Ben-Yishay had trained at the New School under Dr. Kurt Goldstein, the father of modern neuropsychology, which involves the relationship between the brain and behavior.

"These soldiers quickly regained their ability to walk, talk, and chew gum," recalls Dr. Ben-Yishay, Clinical Professor of Rehabilitation Medicine, who has served as Director of the Rusk program for more than 20 years. "But they remained unable to resume productive lives because of their cognitive

limitations, behavioral problems, and lack of awareness of these deficits.” Realizing that rehabilitation for such injuries would require a radically different therapeutic approach, and that no such program existed in the U.S., Dr. Ben-Yishay used the results of his work in Israel to obtain federal funding for a five-year clinical research study at Rusk. In 1983 it became a fully staffed outpatient clinical service, which is now located in a third-floor suite at 660 First Avenue.

The program could not have been born at a better time. During the previous decade, the 1970s, as superhighways proliferated, high-speed vehicular accidents began to account for the largest share of traumatic brain injuries (TBIs). Each year, some 1.5 million Americans sustain such an injury. Now the leading cause of death and disability among persons under 45 years old, TBI is a silent epidemic, costing the healthcare system an estimated \$56 billion annually.

Hundreds of similar programs exist worldwide, and nearly all of them use Rusk as their model. The first and finest program of its kind, it takes a truly holistic approach to rehabilitation. Trainees, as members of the group are called, join a “therapeutic community” composed of a dozen or so brain-injured adults, their family members (a parent, child, or spouse), professional coaches (specially trained psychologists), and peer counselors (veterans of the program).

This communal approach, says Dr. Ben-Yishay, helps trainees draw not only insights, but inspiration, from one another. “The younger ones are watching the older ones and saying to themselves, ‘What am I complaining about? Look how much he or she has lost.’ The older ones are watching the younger ones and saying to themselves, ‘What am I complaining about? I’ve had a rich life and career.’”

“Our philosophy,” explains Dr. Ben-

HUNDREDS OF SIMILAR PROGRAMS EXIST WORLDWIDE, AND NEARLY ALL OF THEM USE RUSK AS THEIR MODEL.

Yishay, “is that you cannot put Humpty Dumpty back together in one fell swoop. What makes this program unique is the way we systematically and gradually restore the individuals’ ability to control their impulsivity; optimize their attention, concentration, and memory; improve their thinking and reasoning abilities; overcome their interpersonal problems; and lead satisfying, productive lives within their limits. In the security of this cocoon, they can slowly regain their lives.”

To be admitted to the program, an individual must have a family member who is willing to participate. “We use them as allies,” explains Dr. Ben-Yishay. “They have the basic trust of their loved one, so if they communicate that we too can be trusted, the trainee will put himself in our hands.”

With one coach for every two trainees, the program charges \$48,000 for one 20-week cycle (usually not covered by insurance), and most trainees require at least two cycles of treatment. Cara Ferber is now in her fourth cycle, and her parents not only had to borrow money, but had to file numerous appeals to their health insurance company to cover the mounting costs. Nevertheless, the results, they say, are priceless.

When Cara came to Rusk, her mother recalls, she was impulsive, irritable, and inattentive. While going to class at the New School, for example, she would get distracted so easily that she would repeatedly have trouble locating the building. Today Cara is far more self-aware, even-tempered, and ambitious. “After my injury I felt estranged from myself,” she explains, “but Rusk clued me in. The staff knows me better than I know myself.”

With growing awareness, however,

comes a growing sense of dread. “I always knew I could count on my intelligence to get me through,” says Cara, “but I’ve lost that feeling of invincibility at a time when I was building my life, and the loss of control is devastating and terrifying.” Dr. Ben-Yishay admits that the rehabilitation process has a cruel irony. “Being unaware has some insulating powers,” he notes. “The more aware you become, the more depressed you become.”

For many victims of a brain injury, there is much to be sad about. Due to their deficits, they often lose not just their identities, but also their friends, spouses, and of course their careers. Some of their most common behavioral problems are adynamia (apathy and passivity), disinhibition (impulsiveness), and flooding (emotional overload). These and other technical terms are used freely with trainees because, as Dr. Ben-Yishay puts it, “We believe in dignifying the process of rehabilitation by not playing on euphemisms.”

“Our job,” he tells the group, “is to teach you that if you think the right way, act the right way, and speak the right way, then you will be perceived and treated the right way. Once brain injured, always brain injured. Successful rehabilitation is all about compensating for deficits. But compensation must be habituated; it must become semiautomatic. The moment you stop practicing a compensatory technique, the problem will reappear.”

If anyone doubts that a brain-injured person can go on to lead a fulfilling life, they should meet Jeff Weissman, a veteran of the program. In 1993 he was a 29-year-old CEO of an investment banking firm when his motorcycle was hit by a truck while he

was idle at a stop sign. Jeff spent four cycles in the program, and recently returned as a peer counselor. A few years ago he married his beautiful wife, Diana, a model from Germany, and their two young daughters are the joy of his life. “I’ll never be the star I once was,” he says, “but the program saved my life.”

Trainees are initiated into this boot camp for the brain with a simple but piercing question posed by Dr. Ben-Yishay: “Who are you, and where are

era keeps rolling, recording every single “Oops, I’m sorry!” moment for the trainee to study again and again.

“All this slowly desensitizes the individual to stress,” explains Dr. Ben-Yishay. “The message is simple: life is a tough place, so learn how to perform—and make it look good.” Even so, the tone remains congenial, compassionate, and supportive, with plenty of lighthearted moments. “Your memory is like Swiss cheese,” Dr. Ben-Yishay explains to one trainee, pausing for the

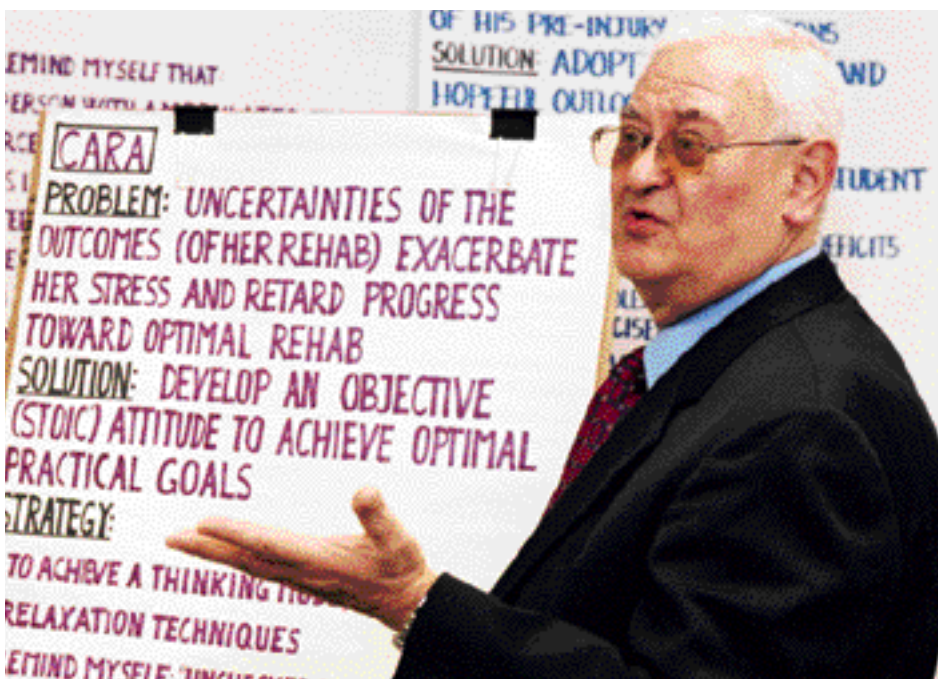
athletes grow older, the symptoms become even subtler because they’re attributed to aging.”

Of the more than 300 trainees who have graduated from the program, about 85 percent of them are leading productive lives: 50 percent are fully competitive, 20 percent work part-time, and 15 percent do volunteer work. “In this business, you have winners and losers,” says Dr. Ben-Yishay. “The winners are the ones who make peace with their limitations. But you never give up. We have been surprised many times.”

Cara, for one, continues to surprise her coaches and herself. After two cycles at Rusk, she enrolled in another class at the New School. Though she earned a B+ for the course, it took a heavy toll on her, intellectually and emotionally. Her coaches recommended that, for now at least, she set aside her dream of resuming law school. By following their advice, she made a genuine breakthrough: such acceptance and critical reasoning would have been impossible two years ago.

On a trial basis, Cara recently moved into an apartment in Manhattan. In her spare time she reads, visits friends, attends lectures, takes yoga and painting classes, and explores new interests. Neither Cara nor her coaches can predict what the future may hold, though this much is certain: the success of her endeavors will only arise from constant self-monitoring. Her mother remains ever hopeful, saying, “Nobody ever expected her to make it this far.”

“I’ve released my fixation on law school,” Cara declares, almost with a sense of relief. “I’ve learned to deal with the unknown and appreciate the beauty of the moment.” She is contemplating a new career path, perhaps healthcare reform or patient advocacy. “I think I need to find some good in all of this, a way to give something back. I want to help people find strength in themselves, as I did.” ■



“This is not a psychotherapy group,” says Dr. Ben-Yishay. “It’s a behaviorial training shop. Visitors often can’t tell the trainees from the staff. This is our greatest compliment.”

you going?” What follows is a series of grueling, tightly scripted training sessions—five hours a day, four days a week, for 20 weeks straight. Each trainee’s deficits, and the strategies for coping with them, are posted on the wall in big block letters and reviewed before the entire group every morning. Intensive exercises are aptly entitled “Face the Music” and “The Hot Seat.” The trainees’ presentations are critiqued by their coaches and peers alike. And through it all a video cam-

room to laugh. “Wonderful Swiss cheese, but Swiss cheese nonetheless.”

“Programs like ours help sensitize physicians to the need for early, accurate diagnosis of brain injury,” notes Mathew H.M. Lee, M.D., Medical Director of the Rusk Institute and Professor and Chairman of the Department of Rehabilitation Medicine. “Many young athletes suffer multiple head injuries from repeated concussions, but they go undiagnosed because the symptoms are so subtle. As the