TRULY HEALED

Forty years ago, Dr. Larry Einhorn discovered the cure for testicular cancer. But the lingering side effects are costly. Now, Einhorn and Dr. Lois Travis are studying that cost—and helping patients look toward a healthy future.

By MATTHEW HARRIS
Photography by LIZ KAYE
The pain pulsing in James Mikesh’s lower back was so bad it shook him from his sleep.

When it hit, Mikesh—then a senior at the University of Minnesota—would trudge into his bathroom, turn on the knobs in his bathtub and slip into warm water, searching for relief. For a while, that was enough. Then the pain spread to his groin, and Mikesh sought help.

It took little time for an oncologist to diagnose the problem: Testicular cancer, stage 3. At 22, Mikesh had little grasp of what he faced. Before ever consulting his parents, he consented to surgery and got scheduled for chemotherapy. When he shared his secret over Easter break, his brothers—“I can’t repeat what they said,” Mikesh said. “They weren’t happy.”

Their frantic calls to cancer specialists around the country led to Craig Nichols, MD, the physician who initially treated cyclist Lance Armstrong. Nichols gave Mikesh and his family some advice over Easter break, his parents were flabbergasted. “I can’t repeat what they said,” Mikesh said. “They weren’t happy.”

Nearly two decades later, Mikesh, 42, lives a full life. He’s married and has two children. Because of a leg that has nerve damage that means it can’t produce sweat, he’s married and has two children. Because of a leg that has nerve damage that means it can’t produce sweat, he’d wake? What is left of Mikesh and other survivors, the symptoms rarely disrupt a treatment’s ramifications.

By the early 1990s, other scientists were beginning to ask if platinum, the key ingredient in cisplatin, was a carcinogen. In international studies, Travis began tracking data on ovarian and testicular cancer survivors treated with the drug—and later diagnosed with leukemia. Over the next decade, Travis and her colleagues published a pair of landmark studies. By 2006, they could report that, yes, cisplatin was a human carcinogen.

Patients will live, she realized, but their cure comes at a cost. Travis and Einhorn first met in 2009. Travis was organizing an international study of adult-onset cancer survivors, utilizing translational genomics. By studying genes, she reasoned, it might be possible to discover the genetic alterations or mechanisms that lead to hearing loss, nerve damage and other side effects. In convening the initial workshop, in The American Society of Clinical Oncologists rates it among the drug, there is an epidemic.

Deficits have been linked to the total dose a patient receives. Scientists also found an association to a gene that would normally protect some men from experiencing trinitus. Cisplatin therapy is sometimes referred to as a “marvel.” The American Society of Clinical Oncologists rates it among their top five cancer research breakthroughs. But Einhorn is still not content. He thinks the side-effect tradeoff is unacceptable.

“What’s the other tradeoff?” James asks.

“Deficits have been linked to the total dose a patient receives. Scientists also found an association to a gene that would normally protect some men from experiencing trinitus.”

Cisplatin therapy is sometimes referred to as a “marvel.” The American Society of Clinical Oncologists rates it among their top five cancer research breakthroughs. But Einhorn is still not content. He thinks the side-effect tradeoff is unacceptable.

“What’s the other tradeoff?” James asks.

“It was largely untested scientific ground.

“For all his intellect, Einhorn knew the task required a skill set he did not possess—the ability to analyze a patient’s genetic risk for side effects and minimize it with clinical care. What he needed was a researcher capable of melding diverse fields into this emerging area of survivorship.

Fortunately, Einhorn had just the right person in mind.

Lois Travis, MD, has spent her career studying cancer survivors and organizing investigations that brought together scientists from across disciplines and from around the world.

Her broad-based background in medicine, pathology and epidemiology was unique.

In the 1980s, Travis was looking to earn her doctorate in epidemiology at Harvard University’s School of Public Health. She proposed exploring whether patients with non-Hodgkin lymphomas—treated at the National Institutes of Health where she worked—were at risk for a second cancer later in life. Her committee wanted her to think bigger: soon, she began an international study.

It was largely untested scientific ground.

By the early 1990s, other scientists were beginning to ask if platinum, the key ingredient in cisplatin, was a carcinogen. In international studies, Travis began tracking data on ovarian and testicular cancer survivors treated with the drug—and later diagnosed with leukemia. Over the next decade, Travis and her colleagues published a pair of landmark studies. By 2006, they could report that, yes, cisplatin was a human carcinogen.

Patients will live, she realized, but their cure comes at a cost.

Travis and Einhorn first met in 2009. Travis was organizing an international study of adult-onset cancer survivors, utilizing translational genomics. By studying genes, she reasoned, it might be possible to discover the genetic alterations or mechanisms that lead to hearing loss, nerve damage and other side effects. In convening the initial workshop, in

The Platinum Study

What is left of Mikesh and other survivors, the symptoms rarely disrupt a treatment’s ramifications.

Heart Disease

For a small segment of men treated with the drug, there is an increased risk—usually in the first year after diagnosis—of death from cardiovascular disease.

Hearing Loss

Deficits have been linked to the total dose a patient receives. Scientists also found an association to a gene that would normally protect some men from experiencing trinitus.

Cisplatin can alter a gene that helps repair damaged sensory cells, resulting in pain, tingling or numbness in the extremities.

Numbness

Cisplatin can alter a gene that helps repair damaged sensory cells, resulting in pain, tingling or numbness in the extremities.

Numbness

Cisplatin can alter a gene that helps repair damaged sensory cells, resulting in pain, tingling or numbness in the extremities.

Numbness

Cisplatin can alter a gene that helps repair damaged sensory cells, resulting in pain, tingling or numbness in the extremities.

Cisplatin can alter a gene that helps repair damaged sensory cells, resulting in pain, tingling or numbness in the extremities.

Numbness

Cisplatin can alter a gene that helps repair damaged sensory cells, resulting in pain, tingling or numbness in the extremities.

Hearing Loss

Deficits have been linked to the total dose a patient receives. Scientists also found an association to a gene that would normally protect some men from experiencing trinitus.

Cisplatin can alter a gene that helps repair damaged sensory cells, resulting in pain, tingling or numbness in the extremities.

Numbness

Cisplatin can alter a gene that helps repair damaged sensory cells, resulting in pain, tingling or numbness in the extremities.

Numbness

Cisplatin can alter a gene that helps repair damaged sensory cells, resulting in pain, tingling or numbness in the extremities.