

Kentucky family seeks out *proton therapy* in Knoxville

Pediatric cancer patient travels for treatment at Provision

As with all of her children, it was when Linda Ferrell saw the first image of her tiny daughter that it felt like she was really hers.

That initial connection came not through a sonogram but a photograph of her fourth child, Emma, who made her entrance into the family from China a few months later.

"The picture is what's pretty amazing," says Linda Ferrell. "It was love at first sight."

Fifteen-month-old Emma joined a seven-year-old sister, also from China, plus two older brothers, Linda and husband David's biological children, to complete the family. And life was good as Emma excelled in school, played softball, grew up.

Then in the spring of 2014 she got sick. There were headaches. She lost her voice. She lost 10 percent of her body weight. Her pediatrician kept insisting it was a virus.

"That went on almost a month," Linda says.

When Emma was finally admitted to the hospital, an MRI showed a brain tumor encasing her entire left ventricle and making its way toward the right.

"You immediately think of the future — a future possibly without her," Linda says. "But that is so brief. We're a family that wants to find solutions, and we're not going to waste our time crying. We're going to find out how to help her. She didn't deserve anything less than that."

Emma's doctors didn't mention proton therapy, but Linda did her research online and discovered it as a treatment option particularly ideal for pediatric patients. Unlike conventional radiation, protons deposit their energy directly at a tumor target, sparing much of the surrounding, healthy tissue — especially important for a growing, developing brain.

Originally planning to travel to Seattle from Kentucky, she called Provision Proton Therapy Center and spoke with Dr. Matt Ladra about Emma's tumor, which she describes as "relatively rare and very aggressive."

"One of the biggest reasons we chose Provision is that Dr. Ladra



Eleven-year-old Emma Ferrell is looking forward to getting back to her life after receiving chemotherapy, surgery and proton therapy treatments. *Photos by Andrew Tessier*

really did his due diligence," Ferrell says. "He spent a lot of time talking to experts who knew about Emma's cancer." He concluded she was a candidate for proton therapy.

First, there was surgery — which removed a "good portion" of the tumor. Six rounds of chemotherapy, followed with a subsequent high-dose round in an attempt to further reduce the cancer cells remaining in her body. Then there was a stem cell transplant to boost recovery of her white blood cells.

After this physical onslaught, including months spent in and out of the hospital, Emma and her Mom made the five-hour journey to Knoxville where they stayed for seven weeks of proton therapy treatment at Provision Proton Therapy Center. Treatment at Provision provided welcome relief. Emma responded well to proton therapy, experienced only minor fatigue and retained a good appetite most of the time, gaining weight she had lost during chemo.

"It was pretty wonderful," Linda says. "Emma's been through quite a bit over the last year. With the treatment at Provision, it was pretty easy. I'm a huge advocate for proton therapy."

The Hospitality Department at Provision helped the Ferrells arrange their travel plans, suggested activities around town such as the Knoxville Zoo, and was there for them every step of the way during their stay in Knoxville.

"The guidance that we received from everyone at Provision made the

hardship of being away from home a little bit easier," said Linda.

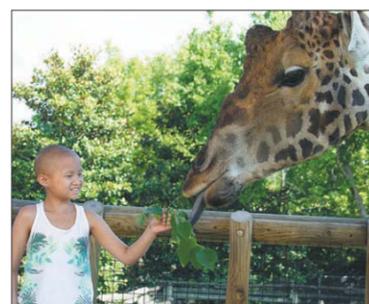
The road to recovery is not over yet. Emma still struggles with her appetite. This year she goes back to school, a process Linda knows will be challenging as she battles the lingering effects of chemo and a year practically lost because of her illness. But she has endured amazingly so far.

"She's stoic, she's stubborn, and that's really what got her through it," Linda says. Unselfconscious over her scar and hair loss, through the surgery, chemo and physical challenges, "she never shed a tear," she says.

The experience has brought the family closer, especially Emma and her older sister, Sarah, now 19 and a



Emma with her sister Sarah.



Emma Ferrell feeds Jumble the giraffe at the Knoxville Zoo.

junior pre-med student. Since Emma got sick, Linda says, Sarah has decided to specialize in pediatric cancer.

With a diagnosis like Emma's, "your whole life changes," says Linda. "It doesn't end once you're treated. We don't know what the future's going to bring.

"But we're so thankful to have her."



Photo by Jack Parker

Emma Ferrell and her family are such advocates of proton therapy that they agreed for Emma to appear in a television commercial and print ad on behalf of Provision Proton Therapy Center. The ads will run in the East Tennessee area with the goal to increase awareness about proton therapy being available right here in Knoxville. A website featuring Emma and other local proton therapy patients was just launched. Visit ProtonStories.com to read about their proton therapy experience.

Provision center perfect destination for doctor and his young patients

When Matt Ladra learned of the opportunity to practice radiation oncology at Provision Healthcare in Knoxville, Tenn., he was a bit skeptical.

"I had been thinking about California," his home state, Ladra said. But the avid outdoorsman, who'd never visited East Tennessee, didn't realize how well it would suit him — both personally and professionally.

"Provision is a pretty unique model for proton centers," says Ladra, who came from a Pediatric Proton fellowship at Massachusetts General Hospital/Harvard Medical School. His experience also includes a master's degree in public health and a research fellowship with St. Jude Children's Research Hospital at a project in Rabat, Morocco. In 2005 he received the Arnold P. Gold Humanism in Medicine Award at Tulane School of Medicine for students who embody ideas and attitudes lending to humanism in medicine.

Provision's innovative approach to cancer care appealed



Dr. Matt Ladra, director of pediatric services and Provision Proton Therapy Center, and Jennifer Holt, RN, with pediatric cancer patient Emma Ferrell. Emma traveled to Knoxville from Kentucky and in order to receive proton therapy. *Photo by Jack Parker*

to Ladra, whose experience includes a number of articles in peer-reviewed medical journals, particularly focusing on pediatric cancers.

Proton therapy is recognized as a uniquely ideal alternative to conventional radiation for pediatric cancer, in which the goal is to spare

as much of the child's growing, developing body as possible from damage caused by the treatment. Protons, unlike x-rays, can be specifically targeted to a tumor, resulting in no exit dose of radiation to the patient and a reduction of the impact on healthy surrounding tissues and organs.

Ladra works with a patient's primary care physician and pertinent specialists to obtain records and learn about the case. Then he takes time with each patient and his or her family to determine the best route of treatment. Ladra was the leading radiation oncologist in the care of Ekhkam Dhanjal, a pediatric patient who traveled from England to Knoxville for proton therapy treatment of his brain tumor. In Dhanjal's case, the consultation was done via Skype to limit the amount of travel time required for his family.

"We walked around the center with the computer so they could see everything," Ladra says.

For pediatric patients in particular, Provision works closely with partner health care providers to ensure that all of their needs are met. Pediatric endocrinologists, medical oncologists, nephrologists and anesthesiologists are among those who become involved in children's care.

"There's a much more multi-disciplined approach with pediatric cases," he says. Depending on the rarity of the cancer, he will consult with experts across the country to determine the best course of treatment for a particular patient.

And, as it turned out, Ladra found Tennessee a pretty nice place to live, too. He enjoys weekends hiking and fly-fishing in the nearby Smoky Mountains, as well as the lifestyle of Knoxville's vibrant downtown.

He says patients appreciate Knoxville as an ideal place to come for treatment. For out-of-towners, it is easy to navigate and offers many options for recreation and relaxation when patients aren't in treatment. When they are, he says, the ambience and friendliness of a smaller health care campus helps patients and their families feel at home.

"Everyone makes them feel like they're part of our family," he says. "You can't beat that."

