A Journey of Hope

Moving Toward a Brighter Future in Neuroendocrine Tumor (NET) Treatment

Our Stories
Following are the stories of five patients, each with different experiences with Peptide Receptor Radionuclide Therapy (PRRT). These do not represent the entirety of the experiences of PRRT patients, but are meant to offer insight into the lives of these five patients.

Please see full important safety information on pages 20 and 21, or visit www.adacap.com for further information.
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One single moment in life can be filled with many different emotions: joy, fear, regret, despair, frustration, relief, contentment, empowerment, happiness, gratitude. But in a moment, one’s life can completely change. When someone tells you that you have cancer, nothing is ever the same. The fear of facing the end of life, the regrets of the past, and the suddenly limited future all swirl through a clouded, confused mind. The only lifeline is hope.

The journey of a patient with neuroendocrine cancer always has a tumultuous beginning. Many patients can have vague symptoms for many years. They may have some abdominal pain on and off. They may have some flushing, or cough, or diarrhea. Symptoms that are all too easy to ignore. Maybe they see a doctor and get some blood tests, and told they are “fine.” For the patients that persist, many are told they have a psychological disorder and should see a psychiatrist. Others get some antacids or cough medicine. But after years of lingering symptoms without relief, more frustration develops and faith in the medical system wanes. Other patients might have no symptoms at all and present to the physician or emergency department for something completely unrelated. Maybe a slight lab abnormality, or a shadow on an X-ray is the only clue that a silent cancer brews within these patients. Then, when the doctor informs them they have cancer, the fear sets in.

The rocky journey continues when the doctor says, “You have neuroendocrine cancer.” For some, it is a relief to know that something actually is wrong, after years of mysterious sickness. For others, there is confusion, because they didn’t have any symptoms and were the picture of health. But when they ask, “What do we do now?” the confusion only gets worse.

Treating a rare cancer is a difficult journey for both the patient and the medical team. The physician may not know much about this disease. Some think that neuroendocrine tumors are completely benign and aren’t even cancer. Some don’t know where to begin. There are guidelines and clinical studies that help, but they don’t tell doctors what to do with the patient sitting in front of them.
It is never comforting for the patient to hear the physician say, “I don’t know much about this cancer,” or “Oh, let’s just watch and see what happens.” That’s when the patients realize their lives are in their own hands. People do research and discover there’s more known about this disease than they were told. They identify physicians and centers that specialize in this disease. They reach out to support groups. They find they’re not alone. They find hope.

I specialize in neuroendocrine tumors and had the good fortune of studying this misunderstood disease under European physicians who had treated it for decades. But when I meet a new patient, I still see the same emotions. The confusion, the turmoil, the discomfort with their health. When we talk, I tell them about the disease to empower them. We talk about what to expect. And we talk about things we can do. All of these things give them hope.

There are no universal treatment pathways for neuroendocrine tumors (NETs). If we are lucky, each treatment keeps the disease under control and the patient can live a better, longer life. As a specialist, I need as many “tools” as possible. Until now, we have used combinations of surgery, hormone analogues, molecularly targeted therapies, liver embolization, and chemotherapy. Sometimes we have to go back to these therapies more than once. It has served us well. But we need more options.

In this book, you will read real stories from real people fighting this disease. The stories are emotional and captivating, filled with insightful advice about life, and living with cancer. Every NET experience is filled with challenges, and while many are inspirational, not every story has a happy ending. Many NET patients have had the misdiagnosis or the unexpected diagnosis. They’ve struggled with their local physicians who did not have the expertise. They have grappled with every emotion. But now they have new hope. They are grateful for the new treatments available.

Peptide Receptor Radionuclide Therapy (PRRT) and gallium Ga 68 PET are two new tools in our battle against neuroendocrine cancer. It is my hope that PRRT is just one of many new therapies that will offer renewed hope for the future.

The son of a patient once told me, “For people with a terminal illness, hope is like air for you and me.” Every day I try to give them a little bit, and now with PRRT, I can give them a little more.
Doug and his wife, Suzi, have been a team for the past decade, hiking, bike riding, fishing and raising a family. All of these things were easy for the couple before Doug’s diagnosis. Together, they have battled the obstacles that cancer has put in their way. The road to treatment has been long, marked with nine years of uncomfortable symptoms. Despite the challenges they faced, Doug is one of the “lucky ones” who was diagnosed quickly once the severe symptoms kicked in. He attributes his ability to navigate the challenges of this disease to his partnership with Suzi, while she points to his ability to stay calm, strong-willed and focused on finding solutions.

“Battling cancer as a team, as a ‘we’ instead of just ‘me’, has truly helped me through,” said Doug. “I appreciate Suzi so much for all that she has done for me since my diagnosis, from her online research to advocating for me in the hospital and her emotional support.”

In 2006, Doug began to experience frequent acid reflux, which progressed over nine years to include facial flushing and multiple bowel movements after meals and throughout the day.

In 2016, Doug experienced a piercing pain in his side that persisted through the night. In the morning, Suzi and he headed to the emergency room, where
a series of tests determined that he had neuroendocrine tumors in his small intestine that had metastasized to his liver and appendix.

Over the next few months, eager to start treatment, Doug underwent surgery on his appendix and ileum to remove the tumors, which involved a 10-month recovery to his digestive tract. He was prescribed a long acting somatostatin analogue to treat the tumors in the liver. He saw a surgeon and an oncologist, both of whom discounted the connection to cancer, saying NETs are “not really cancer.”

“It was all very confusing, as we were hearing different definitions of NETs, and we needed to understand what was going on,” said Suzi. “I went online and conducted extensive research, investigating respected websites and exploring several online support groups, and showed what I learned to Doug. We learned a great deal from the questions other patients with NETs were asking. Based on what we found, Doug made the decision to see a physician specializing in neuroendocrine tumors.”

The NET specialist ordered a series of tests including an MRI, and an imaging test capable of identifying the hormone receptors in neuroendocrine tumors. Based on the results, he felt that Doug was an ideal candidate for the then-investigational treatment called Peptide Receptor Radionuclide Therapy (PRRT), and Doug became the first PRRT patient at the cancer center, located in Colorado, just less than two months later.

“I didn’t let the diagnosis get me down and I focused on the hope of the treatment. Basically, I fit the treatment into my lifestyle,” said Doug. “My doctor agreed with this approach, noting that I was healthier and more active than many people.”

Doug found the treatment to be tolerable, aside from a little fatigue

LESSON 3: As it is hard to absorb all the information your doctor tells you in an appointment, we would ask if we could record the visit.

LESSON 2: Embrace the life you enjoy, despite the obstacles.
and some nausea from the supportive care that provides kidney protection. This further bolstered Doug’s resilience and desire to simply fit the management of the condition into his life, as opposed to fitting his life in and around his diagnosis. Suzi worked five trips into their schedule while Doug continued working, taking less than six days off for travel and treatments.

“During the treatment, I learned to respect and listen to my body,” shared Doug. He accelerated a career move that allowed him to spend more time at a desk than in the manufacturing facility, he builds in breaks for himself when doing yard work and tinkering around the house, and he and his wife enjoy time relaxing more than they used to.

“NETs has affected us each in different ways,” said Suzi. “For me, trying hard not to be the ‘mom’ and letting him learn his limitations himself was difficult. Respecting his decision to do something even if I didn’t agree was difficult too. Our respect for one another has increased and our bond is closer now than before.”

Now, two months after his last PRRT treatment, Doug is able to do things without getting tired and fatigued so easily. He and Suzi spend as much time as possible with their two grandsons and three granddaughters: fishing, playing cards and yard games. They are looking forward to taking true vacations, unrelated to medical trips and appointments, and are currently planning their retirement, considering the optimal timing and where they want to live.

“You will live with NETs for the rest of your life,” is the statement that empowered Doug, who responded with a spirit of perseverance and courage. “I decided that I was going to fit the management of my condition into the life I loved. I would not change my life because of this disease.”
Resilience is the undertone to every word Eileen speaks and it is immediately obvious that Eileen is someone who gives everything her best shot. A wonder woman who attended Boston College and worked on the Hill in Washington D.C., Eileen is now a Director of Development at Marquette University. Eileen has always been a warrior.

“I was a bride-to-be when I was diagnosed with carcinoid cancer in 2006. It shook our world, but also provided relief, as I finally had a diagnosis to which I could attribute the horribly disruptive symptoms that I had endured for many years. I remember the response of my soon-to-be brother-in-law: ‘I just feel so horrible for you,’ he said. I am not the type of person to be pitied. These words only served to motivate me to be even more aggressive in my pursuit of an answer to my cancer.”

Eileen had experienced bowel and intestinal discomfort throughout her life, and in college she visited many emergency rooms only to be met with the answer: “Nothing is wrong.” Unfortunately, her unknown condition worsened to the point that she could not even
go grocery shopping, enjoy a dinner date, or relax at a movie without several restroom visits.

“Despite having an amazing family, I felt lonely, and sick. Sometimes I felt a little insane, because no one could understand what I was experiencing. I was listening to my body and knew I was not well, but no one else could hear what my body was telling me. I desperately wanted to figure out what was wrong and I prayed for answers. I never thought the answer to my prayer would be such a significant diagnosis, but receiving the diagnosis empowered me to get answers.”

Finally, after years of searching for answers, and just months before her upcoming wedding, a gastroenterologist, offered to see her. After a colonoscopy and a biopsy, Eileen received an answer. While it was not the answer she wanted, she was relieved to have a diagnosis. She learned that she had neuroendocrine carcinoid cancer of the ileum, and needed to see a team of doctors. Eileen was stunned to learn that she needed two surgeries, one to remove the cancer and the second to remove scar tissue. Like the fighter she is, and with the support of her family, Eileen flew through the procedures with grace and resilience, feeling cured.

In fact, despite being told by her oncologist that it would be difficult to get pregnant, Eileen conceived a beautiful baby girl. One of the “bright spots” in her journey. However, just two years later, her previous symptoms returned, accompanied by heart palpitations and a flushing sensation that would intermittently turn her torso and limbs shades of red. “I knew there was something else going on with my body and kept begging
my oncologist, month after month, to help me. He consistently told me there was nothing wrong with me, treating me as if I was a bit neurotic, which was almost worse than my symptoms,” said Eileen.

After experiencing a miscarriage and worsening symptoms, Eileen escalated her demands for answers and her oncologist conducted additional tests. When the results came in, her physician shared them by phone and the news was not good. “He told me it was the worst news he had ever given to a patient. He said my cancer had come back and metastasized to my liver. I couldn’t believe it. Here I was, finally getting confirmation that there really was something wrong and I wasn’t going crazy. But now, I was genuinely worried that the help would come too late.”

After a second confirmatory biopsy, she decided to get more support and explored several institutions across the US looking for an expert who specialized in managing neuroendocrine cancer. Under the care of a clinic in Minnesota, she had a right hepatectomy, two ablation procedures, and tried several different oral medications.

However, as her liver regenerated, so did the tumors. Her physicians suggested she undergo a then-investigational treatment in the US called Peptide Receptor Radionuclide Therapy (PRRT). This approach to managing NETs uses small amounts of targeted radiation and was pioneered in Europe over 15 years ago. Her doctors suggested she make her decision within a week, which didn’t give her much time to think. However, she was excited about the hope offered by PRRT and found the decision easy to make. When offered a choice of US hospitals in which to receive her care, she chose a facility in southern California. She started her first treatment in October 2016, took a ski vacation on her way to the second treatment in November, and finished her fourth and final treatment in April 2017. She found the treatments manageable, and even though she was tired and nauseous.
for about 10 days after each treatment, Eileen never stopped working. “The hardest part for me, was not being able to cuddle and comfort my worried daughter for a few days following therapy. The support of my large network of family, friends, doctors and nurses made it easier.”

Eileen’s story is one of resilience, perseverance and fight. “Hind sight is 20/20,” explains Eileen. “While my symptoms clearly pointed to NET, it was a tough road getting to the diagnosis. You have to trust your knowledge of your body. It’s okay to insist on a CT scan, even if your doctor says you just need an antacid.”

“I’m not one to complain and I am not one to give in. I am usually a very private person, but I was encouraged to share my story. It is critically important for others to learn from my experience. There is hope and there are treatments out there. You just have to keep on fighting and believe in yourself. Today, I am working and enjoying a great life with my husband, our daughter and our family and friends. The treatment has helped to control my symptoms and I am grateful for the life I am living.”
"You have cancer."

“How I reacted to hearing those words taught me a lot about myself,” said Jennifer. Like many other cancer patients, Jennifer never thought of herself as “strong.” Boy, was she wrong. Nine years ago, Jennifer was diagnosed with carcinoid cancer, but her “strength” started years earlier.

Jennifer’s symptoms began in 2004, as she was going through what she thought was a difficult pregnancy. “I was exhausted, uncomfortable and had difficulty breathing,” explained Jennifer. After the birth of her son, Jennifer returned to work as a kindergarten teacher. She felt achy and overly tired, but her doctors weren’t surprised. After all, she had two kids and was teaching a classroom full of 5-year-olds. Who wouldn’t be tired?! It wasn’t until several years later that she found out she felt wiped out because she was fighting cancer.

Her cancer diagnosis was surprising to say the least. The journey to a proper diagnosis started when she experienced several back-to-back cases of bronchitis and pneumonia in 2009. As the x-rays and scans showed nothing more than

Strength

Until the very end, Jennifer tapped strength that she didn’t know she had

Lesson 8:
Family, friends and faith can offer invaluable emotional support.
these infections, her physician referred her to a lung specialist who conducted a procedure intended to drain her lung and remove infected tissue. During the procedure, he unexpectedly discovered a fist-sized tumor blocking her airway. “The doctor knew it was cancer, but had to bring in other specialists to determine an exact diagnosis – it took several days and at least two misdiagnoses before I was told that I had a very rare carcinoid cancer,” stated Jennifer.

Unsure how to handle her case, doctors transported her three hours away to a medical center in Charleston for a range of additional tests, and treatment. She began five rounds of aggressive radiation and monthly shots of a somatostatin analogue, which was designed to reduce the hormones produced by her cancer. Those treatments seemed to help manage her symptoms, so she continued to work. Unfortunately, relief was only temporary.

In 2011, Jennifer’s persistent cough returned, and she had trouble breathing again. She could barely speak two or three words together, which made teaching impossible. She had to stop working. Jennifer loved her job, and was devastated to have to give up those wonderful 5-year-olds, but she looked to the positive ... Now she could get rest during school hours, so she could spend time with her own children when they were home.

“When I was ready to start radiation therapy again, my oncologist sent me to a thoracic surgeon, who recommended removing my left lung. I couldn’t believe it! I had such a hard time making sense of it. I knew I had to embrace the idea of living with one lung,” said Jennifer. Her friends and family supported her through her entire journey, standing by her side and helping in any way they could. The surgery was such a success, and Jennifer was so strong-minded that she was able to join her friends on their annual shopping trip just two weeks later.
Over the next several months, her journey of strength and perseverance continued, but she then learned the devastating news that she had tumors on her liver, spine, thyroid and skull. “I was feeling discouraged and hopeless, but was lucky enough to have an amazing nurse who reminded me that there are new treatments all the time. I remembered that to stay positive.”

It was not long before Jennifer started a new type of treatment called PRRT. She initially felt exhausted, but it got better each day. “I am hopeful this treatment will make a difference in my life. I love being a mom and a teacher and I’m waiting to see what the future holds. I am blessed to have so many family members around me providing lots of love and support,” she said.

Jennifer was eventually able to drive her kids to school and attend sporting events, and she and her kids even went on their annual beach trip! Her family credits the nurses, doctors and PRRT treatment for the extra 11 months she was given. Jennifer achieved many of the goals she set for herself. Seeing her daughter graduate high school and begin college, and witnessing her son develop into a fine young man, were the highlights.

Jennifer’s strength was evident until the very end. She passed away peacefully surrounded by her family and friends in September 2017.

“Three thousand one hundred and two days. That’s how long Mom fought, and she fought to the very end. Cancer thinks it won, but it didn’t. Mom took this rare form of cancer and blessed everyone around her with her strength.”

-Josie, Jennifer’s daughter

**LESSON 9:** Live life to its fullest.
The summer of 2010 was a memorable one for Terry, as she faced two life-changing events. First, she retired after teaching for almost 35 years, primarily because her digestive issues made it too difficult to continue. The other event was a joyous one, her daughter’s wedding. The mother of the bride was ready for the big day, except for 20 pounds around her waist that she just couldn’t lose!

It was also time for Terry’s annual checkup. “Blood tests came back fine. Overweight – yes, but still fine. Digestive problems – same as always, irritable bowel syndrome. I hadn’t had an echocardiogram in a while, so my doctor recommended I have one, and I agreed without question.” While Terry was joking with the technician, he began the test, but his face fell almost as soon as he looked at the monitor. “He told me he couldn’t proceed and sent me back to my doctor immediately. As my doctor felt around what I thought was a stubborn twenty pounds of fat, he expressed concern. That’s when the joking stopped. I needed a biopsy.”

Terry was home alone when she received the call that the biopsy was positive. “Positive. How can having cancer be positive?” she thought. Trying to keep her raging emotions in check, she alerted her husband and three daughters. Within hours, her battalion chief firefighter daughter was in tiger mode and had an appointment scheduled with a local cancer doctor.
“We sat there silently. My husband, three daughters and one of my sisters were with me while the doctor read from a post-it note, ‘it’s neuroendocrine carcinoma and it has spread to so many places that surgery is not possible.’ He told me my abdomen would look like swiss cheese if they operated. Then he went on to say that this cancer is rare, that it is spreading quickly, and that it had probably been there for six to nine months. The only option, in his opinion, was two consecutive rounds of chemotherapy for 36 weeks in total, beginning immediately. At that point, I stopped listening.”

Terry didn’t think she would survive long enough to make it through two rounds of chemo, so she didn’t want to bother trying any treatment. With tears all around, her family wouldn’t hear of that. They wanted her to start as soon as possible, so she obliged. Luckily, just days before her first treatment, Terry received a life-changing phone call from a doctor-friend telling her about a specialist she should see.

However, there were no appointments available for three weeks. “For the entire three weeks, all I could picture was the cancer swirling around my body like aliens in a science fiction movie, and my thoughts were frightening.” The appointment finally came, offering Terry and her family much hope and contradicting nearly everything she had been told initially. The doctor explained that the cancer had probably been there for six to nine years, not months, and recommended surgery, predicting that Terry would be around for several more years.

After a 13 hour surgery, the extra twenty pounds of tumors were removed, and Terry began a new life. She was taking medication that kept the remaining tumors “quiet,” and participated in clinical trials for two different investigational treatments.

LESSON 10:
Getting to the right doctor and the right treatment takes time and patience, but it’s worth it.
However, five years later, in 2016, doctors told Terry the tumors were growing again, and recommended another clinical trial for a potential treatment called PRRT. While she didn’t want to have to leave the Los Angeles area for the treatment, going to NY seemed like the only option.

As luck would have it, Terry soon learned that a medical center in LA would be offering the treatment, making the decision easier. Her surgeon gave her the thumbs up. Terry was hopeful through each of the PRRT treatments.

Approximately five months after her final PRRT treatment, however, Terry was discouraged, as her Gallium 68 scan showed many more tumors. She began a list of things that needed to get done in her last few months of life. Her doctor, on the other hand, was optimistic that a six-month scan would show improvement, and it did! There were fewer tumors and the ones still there were smaller. The PRRT was working! “My little guardian angel was doing a tap dance,” said Terry.

“There have been many ups and downs in this journey. I’m not thankful I have cancer, but I was thankful that my neuroendocrine tumors grew slowly. What’s the bad thing about this particular cancer? Too many oncologists don’t know about it, which means too many patients go undiagnosed. I hope someday soon, that isn’t the case.”

Terry is grateful she is still here to indulge her grandchildren. She is also grateful for the humor in her life. She grew up in a family where everyone tried to be the funniest, and gas and diarrhea are good for lots of laughs.

“This experience has given me a new and better perspective about what’s important in life. Family. I know that dark lion is waiting behind me somewhere and sometimes I feel him breathing down my neck, but I have to cage him and keep him at bay with laughter for as long as I can.”

LESSON 11:
Being able to laugh at the challenges makes things feel better.
It was 2010, when Mark received the news. “Hearing the words, ‘you have cancer,’ was the most difficult part of my diagnosis.” I was shocked. I had only a slight pain in my side. The nurse practitioner ruled out appendicitis, and suggested a CT scan. Given my limited symptoms, I didn’t think it was necessary, but went anyway. The scan showed tumors on my liver and elsewhere. I remember the oncologist describing carcinoid cancer as winning the lottery of cancers, since it is slow growing.

Within a couple of months, Mark was feeling overwhelmed. He had an active 2-year-old son, a demanding job and was about to undergo surgery. All of this took a toll on his marriage. With the whirlwind of emotions and physical pain that Mark was experiencing, overcoming communication issues with his wife was difficult, and his marriage ultimately ended. Mark knew, however, he had to keep going. He picked up the pieces and began to build a new life. He focused on his son and his recovery, as the surgery appeared to be a success.

Then the bombshell news hit two years after his surgery. The cancer was back.

“I was willing to try anything,” he shared. He participated in several clinical...
trials for oral chemotherapy treatments, but nothing worked well. The tumors started to progress once more, and his enthusiasm and hope waned to the point that he decided to not seek any further treatment. “I had given up.” Thankfully, the feeling of hopelessness was temporary. When he stopped chemo treatments and gave himself some time to think clearly, he decided to keep fighting. That is when he contacted his surgeon and requested to try PRRT.

Too young to fully understand the diagnosis, his 9-year-old son does not know Mark has “cancer,” just that Mark is sick. And, Mark’s inability to participate in physical activities has been frustrating for his son, but they are both hopeful the new treatments will continue to improve his quality of life.

Finishing his third round of treatment at a cancer center in Palo Alto, CA, Mark hasn’t experienced negative side effects so far, and progression of the tumors has slowed down significantly.

“My son is excited every time I head to Palo Alto because he recognizes I’m getting better and we can do more together.”

Feeling a bit like his old self again, Mark recently started dating. He is happy in a new relationship and feels more equipped to handle the stress of cancer. Things are looking up. “I’m extremely grateful for my family, friends and support group. No one should fight a cancer battle alone,” said Mark. He encourages patients to rely on loved ones and find the right medical team. Support group meetings have also been especially meaningful, particularly because carcinoid is rare.

LESSON 12:
Consider what and how to share information about your disease with your kids. Every kid is different and requires a different level of knowledge. It’s hard for kids to understand carcinoid cancer when professionals don’t always get it.
“One of the gifts of being diagnosed with cancer is that mortality becomes a concrete concept and thinking about making my time here more meaningful has become very important,” said Mark. He encourages others to find what is meaningful for them. For Mark, it is volunteering in his community.

Mark is optimistic about the future of cancer treatment and thinks a cure isn’t too far away. In the meantime, he wants to live a normal life with the people he loves. “Life is precious. Having cancer has made me more aware of others and inspired me to seek out opportunities to help them. I see cancer as part of my journey now. I’m looking forward to devoting more time to help those in need, right in my backyard, and I expect to remain very busy in the next phase of life. And, yes! I expect another phase of life - living with cancer instead of focusing on it.”

LESSON 13: Find positive, meaningful ways to direct your energy, such as hobbies and volunteer work.
APPROVED USE:

LUTATHERA® (lutetium Lu 177 dotatate) is a prescription medicine used to treat adults with a type of cancer known as gastroenteropancreatic neuroendocrine tumors (GEP-NETs) that are positive for the hormone receptor somatostatin, including GEP-NETs in the foregut, midgut, and hindgut.

IMPORTANT SAFETY INFORMATION:

LUTATHERA® can cause serious side effects. If you experience these side effects, your health care provider may need to adjust or stop your treatment. You should always follow your health care provider’s instructions. Serious side effects may include:

**Radiation exposure:** Treatment with LUTATHERA® will expose you to radiation which can contribute to your long-term radiation exposure. Overall radiation exposure is associated with an increased risk for cancer. The radiation in LUTATHERA® will be detectable in your urine for up to 30 days. You should stay well hydrated before, during, and after your treatment and urinate frequently.

**Bone marrow problems:** Treatment with LUTATHERA® may cause a drop in the number of your blood cells. You may experience blood-related side effects such as low red blood cells (anemia), low numbers of cells that are responsible for blood clotting (thrombocytopenia), and low numbers of a type of white blood cells (neutropenia). People with low blood counts can develop serious infections. Other conditions that you may develop as a direct result of treatment with LUTATHERA® is a bone marrow disorder called myelosuppression, as well as blood and bone marrow cancers known as secondary myelodysplastic syndrome and leukemia. Your health care provider will routinely check your blood counts and tell you if they are too low. Speak with your health care provider if you experience any signs or symptoms of myelosuppression or infection, such as fever, chills, dizziness, shortness of breath or increased bleeding or bruising. Your health care provider may need to adjust or stop your treatment accordingly.

**Kidney problems:** Treatment with LUTATHERA® will expose your kidneys to radiation and may impair their ability to work as normal. You may be at an increased risk for kidney problems after LUTATHERA® treatment if you already have kidney impairment before treatment. In some cases, patients have experienced kidney failure after treatment with LUTATHERA®. Your health care provider will monitor changes and provide you with a medication to help protect your kidneys.

**Liver problems:** In the clinical studies of LUTATHERA®, less than 1% of patients were reported to have tumor bleeding (hemorrhage), swelling (edema) or tissue injury (necrosis) to the liver. If you have tumors in your liver, you may be more likely to experience these side-effects. Signs that you may be experiencing liver damage include increases in blood markers called ALT, AST and GGT. Your health care provider will monitor your liver using blood tests and may need to adjust or stop your LUTATHERA® treatment accordingly.
Hormonal gland problems (carcinoid crisis): During your treatment you may experience certain symptoms that are related to hormones released from your cancer. These symptoms may include flushing, diarrhea, difficulty breathing (bronchospasm), and low blood pressure (hypotension), and may occur 24 hours after your first LUTATHERA® treatment. Your health care provider will monitor you closely. Speak with your health care provider if you experience any of these signs or symptoms.

Pregnancy warning: Tell your health care provider if you are pregnant or you or your partner plan to become pregnant. LUTATHERA® can harm your unborn baby. Use an effective method of birth control during treatment and for 7 months (for females) and 4 months (for males) after the final treatment with LUTATHERA®. You should not breastfeed during treatment with LUTATHERA® and for 2.5 months after your final LUTATHERA® infusion.

Fertility problems: Treatment with LUTATHERA® may cause infertility. This is because radiation absorbed by your testis and ovaries over the treatment period falls in the range of exposure where temporary or permanent infertility may be expected.

Tell your health care provider if you are taking any other medications, including somatostatin analogs. Somatostatin analogs may affect how your LUTATHERA® treatment works. Your health care provider may ask you to stop taking your long-acting somatostatin analogs 4 weeks before LUTATHERA® treatment. You may continue taking short-acting somatostatin analogs up to 24 hours before your LUTATHERA® treatment.

The most common and most serious side effects of LUTATHERA® include: vomiting, nausea, decreased blood cell counts, increased liver enzymes, decreased blood potassium levels, and increased glucose in the bloodstream.

The risk information provided here is not comprehensive. To learn more, talk about LUTATHERA® with your health care provider. The FDA-approved product labeling can be found at www.lutathera.com.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www.fda.gov/medwatch or call 1-800-FDA-1088. Please see full Prescribing Information for LUTATHERA®

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