

Targeted Radiation Hits The Mark For Lung Cancer Patient

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Eighty-two year old Larry Sams sits next to his wife Carol in a conference room where sun streams in at the OSF Moeller Cancer Center in Alton, Illinois and declares he feels special and lucky. Those are not exactly the adjectives you would expect to be coming from someone who has lung cancer and who last July finished chemotherapy and immunotherapy for [lymphoma](#).

Sams also has heart complications so he's not a candidate for surgery to remove the cancerous tumor on his lung that was discovered when he was treated for his initial cancer diagnosis. But, his lung cancer is early-stage, making him an excellent candidate for what is known as Stereotactic Body Radio Therapy (SBRT), a form of targeted radiation that's now available through investment in the most current technology to treat early stage cancerous tumors.

Sams had no hesitation about being the first to receive the treatment at the cancer center.

"I was lucky to be the first," he says with a chuckle. "I thought I was special!"

The retired long-time utility worker is also a former Marine who smoked for 37 years. He looks forward to the option of having his treatments compressed and done in less than two weeks' time rather than over 6 to 7 weeks.

James Piephoff, MD, a radiation oncologist at the Moeller Cancer Center says SBRT involves the use of sophisticated image guidance that pinpoints the exact, four-dimensional location of a tumor so that the radiation can be more precisely delivered to cancer cells. The technology was adapted from the central nervous system [stereotactic radiosurgery \(SRS\)](#), a treatment technique that has been used to treat tumors of the brain for more than 50 years. The primary difference is that SBRT is used to treat tumors throughout the rest of the body.

Dr. Piephoff explains, "It allows us to deliver a more effective dose which has a better probability of controlling the cancer compared to the daily radiation treatments that are often given 5 days a week for anywhere from 2 weeks to up to 9 weeks in the past."

Imaging technology and development of a customized immobilization device helps ensure individuals undergoing treatment are in the same position for every session and that the target area does not shift during treatment. Dr. Piephoff says planning takes into account respiration and how the tumor and other surrounding tissue might move as a person breathes. In some cases, the beams will be intermittent, to deliver radiation only when the tumor is in full range.

"So, the radiation beam turns off and on at the precise time to hit the tumor but then turns off when the tumor moves out of the area," according to Dr. Piephoff.

Larry Sams says he felt pretty comfortable as of the third of what will be five sessions, lasting about a half hour to 45 minutes each and given every other week day. No anesthesia is required and Dr. Piephoff says SBRT can lead to better outcomes and fewer side effects than conventional radiation therapy because it is so precise.

“Higher dose to the tumor is obviously better to eradicate the cancer. By being able to be precise, we are able to limit the radiation dose to the uninvolved good, normal healthy tissues.”

With SBRT, the most common side effect is mild fatigue following treatment. Sams says he hasn't had any side effects so far. Larry and Carol Sams both say learning surgery was not an option was a blow. However, the couple found immense hope when they found out the targeted radiation approach was an option and that it had outcomes that were comparable to surgical removal of his tumor.

The Sams felt God guided their journey to OSF HealthCare.

“If you have a fatalistic attitude, they pump you up here and bring your attitude up. ‘This is not going to fail, we’re just gonna go right through it and we’re gonna be fine,’” Carol recalls of their experience. Larry adds, “Well, they’re doing everything they can and that’s all I want.”

Once Larry finishes radiation, he’s scheduled to have a cardiac defibrillator implanted to treat his irregular heartbeat. It has been a journey and it continues, but the Sams envision a future of enjoying each other and the simple pleasures of their life in Kampsville, Illinois – a tiny town nestled along the west bank of the Illinois River in Calhoun County. They look forward to traveling to see family and a return to favorite pastimes of fishing and nature walks.

Here is more information about [SBRT](#) from the OSF Health Library.

If you are a current or former smoker or have a family history of lung cancer and you are between 55 and 80 years old, [consider asking about a low-dose CT lung scan](#) for early detection of lung cancer which is the leading cause of cancer deaths among men and women in the U.S.