SABR for Lung Cancer: What Every Patient Should Know About Stereotactic Radiation
Transcript

Dr. Drew Moghanaki (00:00):

Yeah. So radiation historically has actually given over 20, 30, sometimes even 40 sessions. But SBRT is all about five or less.

Ava (00:08):

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James Hiter (00:28):

This is Living with Lung Cancer: Ask me anything. I'm James Hiter. On this podcast, we are having the conversations that I wished I'd been able to have when I was diagnosed. We'll be sharing practical strategies as well as talking about the emotional impacts, advances in science, how we build community, our challenges, and how we're cultivating joy all while living with lung cancer. If you're a patient caregiver or just someone searching for answers, you belong here. Welcome.

Dr. Drew Moghanaki (01:00):

I'm Drew Moghanaki. I'm a lung cancer specialist board certified in radiation oncology. I have two jobs. One is, as you mentioned, at UCLA, where I'm a professor and chief of thoracic oncology. I'm also an endowed chair of a lung cancer research program, and I also am a staff physician at the VA medical system where I, uh, co-lead a lung precision oncology program at the Greater Los Angeles, uh, healthcare system, and also lead, uh, several, uh, nationwide studies in the VA.

James Hiter (01:30):

That's awesome. Well, I, I've really enjoyed getting to know a little bit more about an area that you have a lot of passion around, and that is this SABR. Um, and I, I just wonder if you could explain to us a little bit about how it works, uh, first of all, and, and maybe what it is and how it works.

Dr. Drew Moghanaki (01:47):

Yeah. So SABR, we call it saver, is actually, uh, called, uh, for stents for stereotactic ablative radiation. They stuck this ablative term in there just to emphasize that it can't actually kill, uh, cancers. We can actually kill any cancer recreation therapy if we can get enough radiation in. And SABRE is also known as SBRT, um, uh, actually possibly more commonly, which is stereotactic body radiation therapy. And it, it's a distinction from itself from stereotactic radiosurgery, which is for the brain. And so the stereotactic body is anything outside the brain. It's an extraordinarily, uh, advanced technology that's, uh, utilizing

standard radiation therapy equipment that's used for all sorts of cancers. And dating back in the 1990s. I think we're, uh, 30 years in, we're entering our fourth decade of using this globally. Uh, we've been able to use advanced high precision imaging and treatment delivery devices to really ramp up the amount of high precision x-rays of the tumor, such that in just one, three or five ablate the tumor. Um, often with no side effects at all. And it's really advanced this as a great option for patients with lung cancer in particular, uh, whether, uh, they're stage one or even sometimes we use it in patients with stage four lung cancer. So, uh, Jim, when did you first learn about SABRE or sta SBRT?

James Hiter (03:22):

So, I've known about, uh, SBRT for some time, but I can say that this week I learned the most about it. So, uh, hanging out with you and learning more, uh, about the precision aspect of it is something that, um, I, I think I probably would've learned more about it. But my lung cancer was a, a cystic presentation, and as we discussed

Dr. Drew Moghanaki (03:46):

Multicystic

James Hiter (03:47):

Multicystic, right. So, uh, I was not a candidate for any type of SBRT

Dr. Drew Moghanaki (03:55):

Yeah

James Hiter (03:56):

In my situation.

Dr. Drew Moghanaki (03:57):

And I, I think I know why you probably haven't heard about it. Well, most radiation oncology departments are in the basement

(04:03):

And unless you are referred there for some reason, there's probably no reason for you to know about it. It's a smaller specialty, but all cancer centers have a radiation oncology department. We're actually quite busy down there in that basement. There's exceptions, of course. There's some places where it's above, um, you know, ground where it sees light. For example, Ohio State University has an incredible radiation oncology department. I think it's the only one in the world where it's on the second floor. And so it actually has natural light. Yeah, right. It's, it's envious. Now, um, you and I have talked about your lung cancer. And so you had multicystic, you had too many targets. And I think it's important for us to remember that surgery will always have a role for, uh, lung cancer. Uh, stereotactic radiation is a great tool. In fact, we're starting to wonder when we can do that first before surgery. But, in many situations, you know, surgery's a clear choice. And when you were being offered local therapy, I think it was pretty, probably pretty clear that it was just surgery, right?

James Hiter (05:04):

Yeah. We went to, um, a multi multidisciplinary, um, second opinion clinic where we got to see all of the different disciplines, and right away the radiologist was like, I'm out. This is not the case for me.

Dr. Drew Moghanaki (05:17):

So a radio oncologist did review

James Hiter (05:19):

Yes. As part of a second opinion that we had at Johns Hopkins.

Dr. Drew Moghanaki (05:23):

And I think it's great for all patients to have at least allowed a radio oncologist to put their eyes on it. Yeah. And have a conversation. And good, healthy multidisciplinary teams really have a seat dedicated for the radio oncologist to weigh in. It's just that as a patient, I guess if it's not an option, you're never gonna hear about it, but your surgeon and your medical oncologist will very likely talk to that racial oncologist. And maybe you can just make sure, ask your doctor. Did you, are you sure the radio oncologist looked at

James Hiter (05:50):

This? I, I mean, I think it's a great thing when we are talking to, uh, especially newly diagnosed people or people who have experienced progression to encourage them on those second opinions. And I think now, after spending time with you, I think also making sure that the radiation oncologist is part of that equation or part of that conversation.

Dr. Drew Moghanaki (06:07):

Earlier today, I was talking to my colleagues about some of our patients where, you know, they had relapsed and we brought the relapse back to the MDT. So the patients start their journey after the MDT made a recommendation, they did well, and then unfortunately, they relapse and they come back to the MDT. And I think that makes everyone more comfortable, including the patient, I would presume, but definitely us, because we know that if things don't go right, well, I didn't make that decision by myself. Our team made it, and it was just a bad situation. And then what's really nice is when patients do good because they had another treatment, we can still be a part of that celebration, even though we didn't deliver that treatment.

James Hiter (06:47):

Absolutely. Well, maybe we talked about just a little bit, but, um, I think it would be helpful to understand how this is different than maybe what people think of as radiation and how the precision aspect of this is just so amazing to me. As I've learned more about it,

Dr. Drew Moghanaki (07:05):

I think we just have to step, take a step back and think, well, how does the average person think about radiation? To me, when I was younger, it evoked feelings of concern, fear, and I'm worried about pollution, poison. You have to stay away from radiation. And of course, uncontrolled radiation leaking out of a nuclear reactor is a bad thing, right?

James Hiter (07:26):

Right.

Dr. Drew Moghanaki (07:27):

But we've been using medical radiation for well over a century. You get, you get a scan, it's radiation, x-ray, ct, we use it in all sorts of other parts of the department. It helps us figure out what's going on. And it's also used therapeutically for many different conditions. It must be used safely, and there are lots of regulatory bodies that make sure that it's safe. Um, but even if a person might know something about medical radiation, they might not know anything about SABRE or stereotactic body radiation therapy, SBRT for lung cancer. Um, and they just may know, well, I know someone who had radiation therapy and for their breast cancer. Right. Radio therapy for breast cancer is pretty tough. Uh, you, you're actually treating the whole breast and the target includes the skin. So the skin will often get red and blister. And so a person may be thinking, well, my sister had this horrible, you know, recovery period. Yes, that's true. We're not denying that. But when it comes to lung cancer, we can really dial and aim that x-ray treatment right. To the target inside the lungs, um, and avoid skin. In fact, most of my patients have no redness of their skin at all.

James Hiter (08:39):

Oh, that's fantastic.

Dr. Drew Moghanaki (08:40):

So it all depends on how small the tumor is and where you're aiming the radiation. And radiation is used for almost every cancer from brain tumors all the way to, you know, pediatric sarcomas.

James Hiter (08:49):

Earlier you mentioned when you're treating a patient, it may be one, uh, dose of, uh, SBRT would work, uh, could be three or five. Is that dependent on the size of the tumor, or what would, what would dictate the number of rounds that would need?

Dr. Drew Moghanaki (09:05):

Yeah, so radiation historically has actually given over 20, 30, sometimes even 40 sessions. But SBRT is all about five or less

James Hiter (09:13):

Mm-hmm

Dr. Drew Moghanaki (09:13):

And the five or less, most, the most common use in the country right now is five treatments. The three we think are a little bit stronger if we're worried about the tumor being pesky. And then the one, ironically is, actually seems to be just as effective but gentler. Unfortunately right now, there's not that many centers. Only about a third of the larger centers are actually even offering it. And in the general community, around one or 2% are giving the one fraction. We're still studying it. For me, it's my standard of care. I always try to give the one fraction, and if it's in an area, I do, if it's closer to the heart or the esophagus, I kind of cool things down and not try to deliver it all in one session. And the one session is literally only 10 minutes of mm-hmm. Beam time. Um, we'll break it into three, four, or even five treatments. But the name of the game is fibro.

James Hiter (10:05):

Gotcha.

Dr. Drew Moghanaki (10:06):

Yeah.

James Hiter (10:06):

Um, we talked a little bit about surgery versus SBRT. So, um, how, how other than making sure that a person talks to a radiologist and has the opportunity to even put this on the table, what are some of the other factors that somebody might want to take into consideration about that?

Dr. Drew Moghanaki (10:26):

Well, the right way to practice medicine is to follow the evidence-based guidelines. And the evidence-based guidelines do its best to find the evidence. And unfortunately, a lot of times, even when there's no evidence, THEIL puts out a guideline. I just wanna clarify the ambiguity of guidelines. The guidelines today do recommend at, uh, by all means try to do surgery if you can, if it's safe. And this is based on really old data. When radiation therapy, when you gave it so slowly over months, wasn't strong enough. And surgery was clearly better than radiation. Today the outcomes are extraordinary. In fact, they're so good. We're really scratching our heads. Try to justify when we should do surgery. Um, it becomes a complicated conversation because if you bypass surgery and do SBRT first, you know, it really should be discussed with a surgeon, at least a surgical opinion having been presented. Because it's appropriate, but it's a great option for patients in whom surgery might be risky.

James Hiter (11:31):

Mm-hmm

Dr. Drew Moghanaki (11:31):

Uh, no one today with stereotactic integration being so good for small early stage tumors, no one should have a major complication after surgery, or god forbid, die as a fatal complication from surgery. In the past, we used to have a lot of those sorts of complications. And what we're seeing in good news is surgical teams, multidisciplinary teams are being much more careful. We're operating on the fit patients who can get through. And anyone who we have questions about who feel like there's gonna be complications, just send 'em to the radiation oncology department. We'll take care of business. The good news is that it's leading to improved survival for the entire group. The surgical group is doing better because they're better selected, and the radiation group is doing better because healthier patients are coming over and getting radiation instead of surgery.

James Hiter (12:16):

Yeah, that makes a lot of sense. So, um, what, well, you mentioned the misconception that people have about the number of sessions it would take or the scar, the her, the burning of the skin. What are some other misconceptions that people have about sabor?

Dr. Drew Moghanaki (12:33):

Yeah, so a lot of people don't think that it can be cured. They, and I don't know where this is, I do here sometimes, you know, a surgical team may say, well, I can cut it out, or you can go get it treated with radiation. Well, nobody wants their cancer treated. They want to cured,

(12:48):

Right? Right.

(12:48):

So, um, the teams that I work with, we say, look, we can eradicate it with surgery, or we can eradicate it with stereotactic radiation. There's about a 2% chance that it may regrow within the nodule, depending if it's one of these smaller ones. If it's a little bit bigger, maybe around 5%. Um, but guess what, after surgery, there are many times where, you know, the scalpel doesn't get around the tumor and it leaves a little bit behind because it's invisible. So it's a tough situation. So there's no clear winner of a better treatment. If there was, we wouldn't be doing a large study in the VA to compare the two together. And, um, yeah, you know, there's, there's some situations where it looks like, you know what? We really should just get this thing out. I don't know if radiation therapy can actually eradicate it like we want it to.

James Hiter (13:32):

So how does neo adjuvant treatment, you know, treatment, other treatment, chemotherapy immunotherapy provided beforehand, typically before surgery? Does that play a role at all with, um, with Sabre?

Dr. Drew Moghanaki (13:44):

Yeah. So this whole concept of neoadjuvant therapy has been around since the 1980s. We've been trying, it's, it's been a way to try to make surgical outcomes better. Back in the days, and even to today, if you have a stage two or stage three patient and you operate on 'em, your risk of recurrence is around 30 to 50%, sometimes 60%. It's unacceptable. And we know we need to give them drug therapy in addition to surgery. So for a long time, it was only certain centers that would give the drugs before. And so that was neoadjuvant chemotherapy. And in the last several years, we realized if you're gonna give neoadjuvant anything, you shouldn't just give neoadjuvant chemo. You should give neoadjuvant chemo and immunotherapy. It ends up being a three drug regimen. There's two chemotherapies and an immunotherapy. And it's, and it's really improved outcomes for, so those of those who are undergoing a surgical management pathway for those undergoing a radiation pathway right now for quite a while, we're getting close to a decade now, the standard of care, you're still getting your chemotherapy and immunotherapy, so you don't lose that on those drugs.

(14:49):

But we just sequence it differently. During the radiation part, you're just getting the chemo with radiation, and after that ends and you stop and kind of recover from that, then they start you on just immunotherapy. It's a gentler regimen. For a frailer population, again, we often try to take the f or younger patients to surgery, and for them, we treat 'em a little harder. Mm-hmm <affirmative>. And then on the, on the radiation side, we do it, uh, this other way. We have tried to give neoadjuvant therapy before the radiation. And, uh, there's only one major randomized trial. It didn't show a benefit. And that was just with chemotherapy before chemo radiotherapy. But that same team outta the University of Chicago is thinking about designing a trial. And there are others as well of seeing can we give that same triplet therapy that's helping the surgical patients help the radiation patients do as well. It's not yet ready for prime time. We would not give neoadjuvant before radiation for locally advanced lung cancers today.

James Hiter (15:47):

That's gonna be interesting to see how that works out, because of course we know neoadjuvant chemo alone also, there's minimal increase in, in outcome versus this triplet kind of approach with the two chemos in the immuno. So that's, uh, I'll be very interested to see how that works out. And do you see a time coming where, um, or are there trials happening where fitter, if that's even a word, patients are having an opportunity to have a first line treatment of, uh, Sabre versus you dealing with these frailer patients, as you said?

Dr. Drew Moghanaki (16:23):

Yeah, so going back to stage one, you know, uh, non-metastatic lung cancer, so not even any lymph node metastasis, we're seeing a gradual decline in the utilization of surgery. Our data that we presented at the World Lung Conference last week shows we're now down to only about 40% of stage one patients who are actually getting surgery. What are they getting instead? Well, a lot, a lot of 'em are now getting stereotactic radiation instead, um, they're getting regular radiation even to avoid surgery. And the good news is, as a whole, there's less and less patients getting no treatment at all. Mm-hmm. At least they're getting something, but the rates of surgery are going down. What's happening? Well, I just saw a patient recently who has stereotactic radiation and now they have a second lung cancer. So I got to learn about why they, three years ago at another medical center, get stereotactic radiation?

(17:13):

Were you not fit for surgery? No, they said I was. Did you talk to a surgeon? No, they told me I didn't need to. So I think that the referral patterns are changing. I personally think that's inappropriate. I think, and we actually wrote this in our manuscript, which is that, as exciting as SBRT is, you should still at least present surgery to the patient and let them decide, because they both seem to be, uh, good treatments. And then ultimately there's still a lot of centers where they just won't even let the patient see the radiation oncologist and the guidelines actually say, that's okay. I personally have ethical issues with that. I think a patient should be given an opportunity to learn about all options, even if one is clearly inferior, let them decide. Right. Uh, because otherwise you're really, you know, you're violating a patient's autonomy. Um, but with that said, we're trying, we need better evidence so that it can be clear that patients should learn about the two. And I'm very happy to say that the VA's Office of Research Developments funded a very large phase three randomized trial. We're enrolling close to about 700 patients in total. We're nearing around 500 enrolled so far. We actually might be done, we're gonna be estim the power, uh, needed here pretty soon.

James Hiter (18:23):

Every week on Living With Lung Cancer: Ask Me Anything podcast, we explore the questions that matter most to people living with lung cancer. We talk about new treatments, everyday challenges, breakthroughs in research, and the stories of patients and caregivers finding strength and hope. If you want these insights delivered straight to you, subscribe on any podcast platform or go to lcfamerica.org. And if you know someone who could benefit from understanding and encouragement, share the show with them. And don't forget to subscribe. Now, let's get back to our conversation. So people that are starting out early, let's just say that a low back to me is an appropriate outcome. In my case, we didn't do a biopsy ahead of time because we knew we were taking the lobe anyway. Um, and so the thought was why bother? We'll just biopsy it after the fact. Um, if I had been a surgical candidate, can you explain how we would've been able to learn potentially, um, uh, driver mutations or other things if we're gonna ablate it? Um, this was news to me about how I was educated today about how we would do that. But I,

I just wanted to find out from you how, how, um, we would make sure that people have the tissue that they would need, to be able to have future treatments potentially that would be targeted.

Dr. Drew Moghanaki (19:48):

Well, that is definitely important, but there's additional benefits to getting tissue. First of all, no one should be having their lobe taken out if they don't have cancer. A lobectomy for benign disease, we really think is an inappropriate thing. So at our institution, uh, we don't like to also book them, or just to get a biopsy. We get a biopsy before we take up our time, right. A biopsy can be done pretty simply these days with robotic bronchoscopy, you can sample lymph nodes and you can get now a cryobiopsy where they put a needle into the tumor, they press in the pedal and paint a little ice ball around it, and then they pull this ice ball of a lot of tissue that comes out. And this can now go and get all of your NGS testing that you needed. You can also find out those, you know, 10% or situations, or you thought it was stage one, you thought it hadn't spread, but you identified, oops, there's more cancer and now you can do things the proper way, which would very likely be if it's gonna go down surgical to do a neoadjuvant approach.

(20:47):

So biopsy, uh, uh, NGS uh, testing, biomarker testing is crucial, I think in all stages. Today really shouldn't be optional anymore. We sit around and wait for treatment before the PET scans are available. We need to wait until the biomarkers are available. And also it allows for both surgery and radiation to be on the table. Now you have all the information as opposed to, well, I'll let you know how it is after the surgery. Yeah. One thing I'd like to do is make SBRT available to more patients. And the way to do that is to stop diagnosing this cancer at stage three and stage four and, and get them at stage one. And you know how best to diagnose stage one. Right.

James Hiter (21:28):

Gotta get 'em screened.

Dr. Drew Moghanaki (21:29):

You gotta get screened. That's why one of the best things about screening, you catch these cancers early, you can zap 'em, you can cut 'em out, and people can go on with their lives, uh, and be free of cancer.

James Hiter (21:39):

So obviously this is something you have a lot of passion around. This is your, your, uh, most of your, uh, career work. Um, can you give us some insight about where you think the future of SBAR is going and, uh, you know, what we might expect to say in the next three to five years?

Dr. Drew Moghanaki (21:57):

Yeah. Well, this is, thanks for that question. My answer would apply to people who don't have lung cancer yet, and also people who have lung cancer, because we know that people, once they get lung cancer, they can get more lung cancers. I'm talking about after they cure the first lung cancer. So as we're doing more screening, we're finding patients with multiple sites of disease. Um, we call this multifocal early stage. So they may have three, five, or even seven lung cancers. They're all curable. They haven't spread to the lymph nodes or anywhere else. And the question is, how are you gonna cure seven lung cancers? Well, once we get more and more comfortable with stereotactic radiation, we'll stop doing lobectomies in patients like this and maybe even not have to do any surgery at all. And now we are also

doing other ablative technologies like percutaneous ablation where we puncture the lung, stick a needle into the tumor, like a biopsy, and then we just freeze it.

(22:51):

And these smaller tumors extraordinarily, they don't grow back again. The bigger tumor is a little more difficult. You probably wanna hit them a little bit harder with radiation. My surgical, uh, co-chair for the valor study, which is the VA lung Cancer Surgery radiation study, um, is extraordinary and is forward horizon, uh, thinking on this, which is that on the heels of this study, it's just gonna add another important local therapy to the toolbox so we can match the right treatment for each patient. So I think that in the future, let's just say hypothetically, there's no measurable difference between surgery and radiation. If you've got a large, if you've got a small tumor and a lobe and it's in the middle of it, and the surgeon says, I'm sorry, technically I gotta remove the whole lobe. We're not gonna do a lobectomy on that patient.

(23:34):

We're just gonna zap the middle of that lobe, leave the lobe intact again, if there's no difference between the two, if you've got a tumor on the edge of the lobe, we can just kind of cut it out. We can do surgery on that. So we're gonna be doing a better job of removing less lung tissue so that patients with multifocal lung cancers today, or God forbid they get a second or a third lung cancer 5, 10, 15 years later, will continue to have local therapy options. Because a lot of these patients who have no metastatic disease, they actually don't need any systemic therapy. They don't need any chemo, they don't need any immunotherapy, they just need some local therapy. And now, I think, so I think the future is we'll have three very good local therapies. We'll have surgery, we'll have SBRT, and we'll have ablation. I think it's gonna be great that we're just gonna be able to save more lung tissue so people can live better longer lives. And then we're not doing it because we want to, we're doing these lobectomies because we think we need to, and studies like the valor trial are helping us learn that maybe you don't need to always remove the whole lobe.

James Hiter (24:32):

Right. And I, I mean, I think we're learning more and more too about the role of the lymph system as it relates to, um, immune response. And so the more we can preserve healthy lymph nodes, the better response we may have in the future to IO therapy or other things.

Dr. Drew Moghanaki (24:51):

Yeah. I'd be curious to know, uh, do you think Penn patients in general want more lung tissue removed? or irradiated, or they want less treatment?

James Hiter (25:00):

Yeah, I can speak from, uh, from my experience, uh, the more lung tissue you can leave behind them the better. Um, I struggle along running as best I can with the,

Dr. Drew Moghanaki (25:12):

How much lung have you had removed?

James Hiter (25:13):

So I estimate that I'm down to about 55% of my original lung capacity. So I've had my entire lower lowest lobe on the right side, the middle lobe, and about half of my upper lobe. Um,

Dr. Drew Moghanaki (25:24):

So they took segments of your right upper lobe?

James Hiter (25:26):

That's right. So I had, I didn't know at the time, that I had a segmentectomy that's a $5 word.

Dr. Drew Moghanaki (25:31):

That's

James Hiter (25:32):

Sure. Right, exactly. I had it back in 2000 and had no idea that that's what it was until I was at World Lung. And that's, uh, apparently what, what they did,

Dr. Drew Moghanaki (25:40):

you had to go to a conference to find out what procedure was done.

James Hiter (25:42):

Exactly. At least the name of it.

Dr. Drew Moghanaki (25:45):

But yeah, so we, we, we talk, we think a lot about real estate because, um, you know, for the first time in history, we have so many people who are alive and living long lives. And again, if your lungs were so damaged enough that lung cancer was able to grow, it's probably gonna happen again. So let's, let's not take any more than we need to.

James Hiter (26:02):

Yeah, exactly. Plus, uh, the more you can leave behind, the more guys like me can still climb a flight of steps. Um, so, and run.

Dr. Drew Moghanaki (26:09):

Aren't you still running?

James Hiter (26:11):

I do run. I run every day, but today we were running and there was a group of us and it was about a 1% incline.

Dr. Drew Moghanaki (26:20):

And you felt it

James Hiter (26:21):

And I can I, yeah, I can only go a short distance before I have to take a break even with a 1% incline.

Dr. Drew Moghanaki (26:27):

Well, you and I talked about this the other day. Uh, you know, I think you, you had the right surgery. We had to get all those little multicystic cancers out.

James Hiter (26:34):

Yeah. I feel good about that. But I'm actually very excited about people who are, are as they are being diagnosed, or finding nodules that this now is such a really viable and kind of interesting. And, and I, I hope someday, a less invasive way to be able to treat lung cancer without having to look, I've been through three surgeries and they're no joke. The recovery is no joke. Now that's not to scare anybody who has to have lung surgery. You get through it. But it's, even two vat surgeries, that they're, you know, that it's no joke.

Dr. Drew Moghanaki (27:11):

Yeah. We have to support science. We have to support research to go forward today when you have an upset stomach and you may have an ulcer, bless the treatment, you go to CVS and get a proton pump inhibitor and acid. Did, you know, back in the days, the treatment for that was a gastrectomy. So if we weren't pushing research, we'd still be doing gastrectomies for ulcer disease. And so we have to move forward. And the good news is like, we're just stacking success stories. I mean, the lung cancer community and the research community is just extraordinary. And I am so happy that organizations like LCFAmerica are supporting it, uh, in that our surgery's getting better, our radiation's getting better, the patients have more and more options, and the drugs are getting better. And so back to this issue of local advanced lung cancer, um, you know, as a drug starts to get past CR rates of 40% and 50%, now we're doing insurance surgery in half the population or insurance radiation. We're really, you know, we're, we're, we're gonna, I think we're gonna get to the point where we may be able to abandon radiation and surgery to the Smithsonian. Probably not in our lifetimes, but I would hope that in the future, you know, we can just eradicate this cancer with, uh, you know, even gentler treatments. But right now, minimally invasive surgery, minimally invasive radiation, great options. And I, and I hope more patients can be aware of it. I'm so glad you brought it to attention.

James Hiter (28:36):

So what's it like from a patient's perspective? What's it like to get SABR?

Dr. Drew Moghanaki (28:40):

Well, fun fact, I've actually never had it. So I can just tell you what the hundreds of patients I've treated have said back to me. Uh, most of 'em actually have no side effects at all, except for some mild fatigue. They can still carry on with their work. Maybe they need a little cat nap, but that's really about it. Some of 'em after treatment. Um, so the treatment, when it's delivered, they don't feel a thing, but maybe several days or weeks later, they develop some inflammation inside the lung. They don't really know what's going on. What they say is their breathing feels a little bit different. Kind of like, maybe like a mild pneumonia type of thing. There's usually no fevers or pain or anything like that and lasts a few weeks to go away. So you've got some fatigue, you've got a little bit of changes in breathing down the road.

(29:21):

Six to 12 months later, some patients may come back and say, you know, I got a little sore around here where you're treating me. What's going on? Well, the x-ray therapy can actually make the bones a little bit more brittle. So maybe if they bumped up against something, you know, with the way they laid on it, they can have a tiny little micro fracture. Even when we get CAT scans, we can't see it, but we know that it's there, it's real. And the good news is that it almost heals and goes away. But you might be interested to know that about once, about twice a year, usually little old ladies will complain to me for not having any side effects at all because they expected something. Right. And, actually I've had some, some charismatic witty, uh, male patients tell me, you know, I think there's a racket going on around here. I just laid on this thing and he told me to get up and go. I didn't feel anything then. I haven't felt anything since. And you're telling me everything looks good on the scans. So generally speaking, it is a pretty painless procedure that usually, you know, most of the time has no side effects at all. And when they do, they're actually pretty mild.

James Hiter (30:19):

Gotcha. So, a patient is awake for the process.

Dr. Drew Moghanaki (30:23):

Yeah. There's no anesthesia at all. No

James Hiter (30:25):

Anesthesia.

Dr. Drew Moghanaki (30:25):

And you know what I, I, I love asking open-ended questions just to understand a patient perspective. So, uh, for a while I was just asking what it was like, and 90% of them would, nine outta 10 of 'em would say it felt like getting a CAT scan.

James Hiter (30:41):

Oh.

Dr. Drew Moghanaki (30:41):

Which, you know, has no feeling.

James Hiter (30:42):

Yeah, exactly.

Dr. Drew Moghanaki (30:43):

And it's very similar because just like when you go to radiology, get a scan, a technician will put you on the table and the doctor isn't in the room. Right. Same thing with our treatment devices. I'm not wearing some suit aiming anything at anyone. Um, technicians will put the patient on the table and they press the buttons and all this very sophisticated robotic, uh, prescription will be delivered by the machine. And the machine doesn't touch you or anything. And again, you don't need a driver. There's no anesthesia, nothing touches you, and you go home. And then in just over three to six months, that area that was x-rayed, treated really, really hard with high precision x-rays will have turned into debris. And then the scar forms around it. And again, most of the time that cancer is gone, there's nothing else left in there.

But it takes, it takes a while for that cancer to die. Sure. Took a, it took a while to grow, takes a while to die. And then the good news, it helps you avoid surgery.

James Hiter (31:37):

Mm-hmm. If a person needs more than one dose, how, what's the span of time in between doses?

Dr. Drew Moghanaki (31:43):

If someone prescribes it in five treatments, they'll usually give it once a day over five days. Yeah.

James Hiter (31:48):

Got it. Alright. Outstanding. Want to learn more and join the fight and donate, go to LCFAmerica.org. Thanks.

Dr. Drew Moghanaki (31:59):

It's a pleasure. Thank you so much.

James Hiter (32:00):

Thanks for listening to Living with Lung Cancer: Ask me anything. I'm James Hiter. If today's conversation was helpful and I really hope that it was, please follow or subscribe and share the episode with someone who might find it useful. You know, together we can really change the way we talk about lung cancer. And if there's a lung cancer related topic that you'd like for us to explore, please let us know in the comments. And you can find a lot more information at LCFAmerica.org.