PHILIPS

Informed Perspectives

A discussion with Dr. Lane Rosen

Dr. Lane Rosen Radiation Oncologist and is the Director of Radiation Oncology at the Willis-Knighton Cancer Center.

Q: What do operationally and clinically efficient workflows mean to you?

Dr. Rosen: Operational workflows are key in order to provide good care for cancer patients. One of the things that I see as a roadblock in so many centers is coordination between the various aspects of a department. In order to a facility flow properly, you want to make sure that the left hand and the right hand know what each other are doing. You want to make sure that communication is key through every aspect of the department.

Q: What area of workflow has traditionally posed the greatest challenge for you or your teams?

Dr. Rosen: Things such as having access to outside records. If you are in a large health system, of course you can get access through your own PACS systems and electronic medical records, but what do you do in a referral center, like ours, where patients are coming from far away? Sometimes, getting access to those records can be quite challenging.

Q: What do you think could improve getting those outside records for patients who are traveling a distance?

Dr. Rosen: We're dealing with a lot of rural health. I can see a situation where telemedicine will open up opportunities that we haven't been able to pursue before.

Q: How has your department or programs workflow changed in response to COVID-19?

Dr. Rosen: Like most radiation oncology departments around the country, COVID-19 has changed almost everything in our department. Initially, it was a big adjustment. We've gotten used to dealing with the challenges that it poses, like when COVID-19 first occurred, there was such a scramble for everyone to find protective equipment and there was a lot of fear among the staff.

The first things we've done here at Willis-Knighton, like many programs, is, in order to enter the cancer center, you have to be checked for temperature. We're not allowing anybody to bring visitors unless the patient has some sort of incapacity or is mentally challenged or requires assistance.

We've also had to move any patients that are COVID-19 positive to a single machine, so we have three linear accelerators and we've declared one of those linear accelerators only after three o'clock to be available to COVID patients. So that way, we minimize impact and access, minimize exposure to our staff and healthy patients.

We also instituted a telemedicine program for some of our follow-up patients.

Q: Telemedicine, telehealth - how much of that has been adopted by you or your teams? How has that changed since before COVID?

Dr. Rosen: Telehealth and telemedicine were something that almost every radiation oncology department has talked about doing. I think, it's not that COVID necessarily changed everybody's plans but rather, just accelerated it. Technology has improved so much over the last several years, and even though there were a number of vendors available on the market, they weren't necessarily catching on in the medical community in our field.

I think COVID advanced that and so now what we find is those patients who are coming in with disease types that don't require physical exams, such as follow-up patients or patients, for example, with prostate cancer, you can obtain a PSA in their home community, and then carry on an interview by telehealth, which serves very effectively. During COVID, one of the things that has occurred is that there's been a reduction in some of the legal aspects associated with it. One of the real barriers to doing telemedicine has always been the fear of legal issues, lawsuits, HIPAA violations, and I think a lot of that has been reduced during COVID and has proven to be helpful to help medical departments extend into this area.

Q: What's driving those priorities?

Dr. Rosen: Some of our new priorities since COVID, and became a new issue for all of medicine, has been how to get patients to have confidence when returning to our department. Although we continued to treat throughout the entire early part of the pandemic, like most hospitals, patients were afraid of infection. Many radiation oncology departments around the United States, there numbers dropped, which added a number of concerns. Number one is, how you could afford to continue to keep full staffing when you had very few patients. The second was investment in new technology because COVID has created a scenario where there's going to be a drain on finances and certainly, Medicare costs and deficit costs are going to cause a reduction in federal spending, which will result in less reimbursement and less hospital spending on technology. We're trying to figure out, in some ways, how to do more with less. That includes shortening treatment courses, making patients more comfortable coming to their physician and increasing access to the physician and the healthcare team.

Q: As we think about healthcare more broadly, COVID-19 represents a defining moment. What do you think is pivotal to turn this defining moment into a change for the better?

Dr. Rosen: COVID, I think, gives us opportunities to do better. There's a number of areas where we discovered deficiencies. Obviously, we can do better in public health.

We're going to have to do a better job of preventing disease, identifying disease earlier. I believe some of the vaccine research that's being done will pay dividends, even in cancer care. Some of the techniques that they're developing, I think, will forward medicine a decade into the future.

Q: How can health technology help you standardize and improve the quality of care across your practice and your hospital?

Dr. Rosen: I think technology has been key to our department for a very long time. We've always been a forward thinking technology department, and it's that very technology, the imaging, that's available in our department. The precision of our equipment has allowed us to do things that are not necessarily available to most departments. In our department, we recently just installed a dual-energy Big Bore CT scan simulator and we think that that's going to reduce our uncertainty in treatment, like proton therapy, which our department was an early pioneer in. We think that will reduce uncertainty quite significantly.

We've been doing image-guided radiation therapy here since 2003, and as a proton facility, it's very strongly dependent on image guidance. It's that advancement and technology and speed of imaging and acquisition of images that has really made a difference for us. So I think technology is the key to a modern therapy.

Q: How did the AI and deep data integrations specifically help in oncology, or radiation oncology from a diagnosis, clear pathway decision making and therapy planning delivery perspective?

Dr. Rosen: The role of artificial intelligence in oncology and radiation oncology, specifically, is just in its infancy. They're using artificial intelligence now to help both the diagnostic radiologist with diagnosing conditions, but specifically in radiation oncology, I can see a use for it in helping the physician with treatment planning specifically.

I think artificial intelligence and virtual reality, in general, both have a lot of roles. Another area where I think it could be very helpful is in training of staff. When you're a proton center like we are, it's very difficult to find time on a machine for training new therapist. I've seen some really interesting virtual reality and augmentative reality training software where a therapist can essentially be immersed into a proton room and set up a patient in virtual reality. I think a lot of these things have been propelled to the present by this COVID pandemic.

Q: How do you see care virtualization - telehealth, remote work, case reviews, remote consultations, impacting the future of cancer care?

Dr. Rosen: I think remote consultations are being done in several departments. In radiation oncology, I think it's still limited in some patients in the sense that after the consultation, the patient still requires to come to the radiation oncology department for several weeks if not longer. One thing you can do though, is open up access to patients that would not have been exposed to radiation. For example, if you have a patient in the community, out in a rural area, who has an early stage breast cancer, they may not have access to physicians or radiation oncology departments and as a result, we see a higher rate of mastectomies performed.
If you had access to those hospitals, you could discuss hypofractionated or partial breast or even brachytherapy techniques for breast conservation that would make travel less of a concern. You could change the way patients are being treated. I do think that we need to extend, especially in rural states like Louisiana. I think online consultations and telemedicine have an expanding role in the future.

Q: What solutions would you like to see that can help you navigate the additional complexities of combination therapies both by making decisions and then in the delivery stages?

I think some of the solutions that are going to help us determine the best way to combine different modalities of therapy is going to require better data collection than we've been historically doing, and it needs to be big data collection. What we're not sure of yet is, for example, should radiation come before immunotherapy or after immunotherapy? Should radiation be large fractions to cause expression of antigens or should it be smaller, more traditional fractions? To figure these kinds of things out, studies with 30 and 50 and a 100 patients isn't going to give us the answer. There needs to be some mechanism in the future whereby we can combine anonymized data from multiple sites, big data review, in order to help determine the best way to make these kind of new combinations both effective and also cost effective.

Q: How can COVID-19 make changes for the better with respect to cancer care and radiation oncology?

Dr. Rosen:COVID-19 has made us all rethink the nature of our departments. In the United States, really in the world, we've become rather lax with things like secondary infection. Nosocomial infections are the cause of a lot of deaths in the United States, and I think all of us have become much more attuned to careful hand washing and sanitation, and masking. If we could help prevent, if you have a lung cancer patient in an immuno-compromised state, forgetting COVID-19, if we can help prevent the development of a cold or pneumonia or a virus in that patient, then we may avoid delays in therapy, hospitalization, reduce cost.

Q: What does it mean to enable precision diagnosis and why is it important?

Dr. Rosen: Precision diagnosis is the concept where we can determine the malignancy or the presence of cancer cells or obtain a diagnosis in a much quicker way than has been available thus far. As we begin to monitor circulating tumor cells and liquid biopsies and a number of the other things that have been developed, we're going to be able to find disease at an earlier stage. Earlier stage presentations are perfect for a field like radiation oncology because systemic therapies are necessary when cancer is beyond its localized position. Radiation oncology is a field designed to treat a tumor that you know where it exists - to treat limited stage disease or limited volumes of disease.

Q: How do you collaborate with a patient's multi-disciplinary care team today and where can you see improvements moving into the future?

Dr. Rosen: Collaboration among physicians is so important in the oncology patient. We pride ourselves on communication with our medical oncology, gynecological oncology colleagues, surgeons, but like everything in the world right now, you depend on telephones, texts, fax machines, which are outdated, and email. Secure, open dialog could be facilitated by better technologies that are still on the horizon. We're already doing a lot of that in these kind of audio visual multi-disciplinary consultations and multi-disciplinary tumor boards, but in order to provide the best care for patients, there has to be good communication.

Q: What are you most excited about in your field with regard to what technology can do?

Dr. Rosen: In a time with limited budgets available, radiation oncology continues to stand as a cost effective and efficacious treatment for cancer. I'm excited that all the new technologies that are available in our field are allowing us to do what we've always done, cure cancer, but with much less side effects than what has historically been done. I see a bright future for radiation oncology, especially when there's only so much cost that can go around. Many of the wonderful new drugs that are being developed are just too expensive to be applied on a wide scale basis, so I'm excited about the future of our field in a cost efficient environment.

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