

DEVELOPMENT OF A MAJOR CANCER CENTER

Dr. Gil Lederman responds to questions on the development of Radiosurgery New York's innovative cancer center.

Question: You have had tremendous success developing a major cancer center over the years. This must be quite a complex endeavor.

Dr. Lederman: A cancer center is an endeavor that involves physicians from most specialties. The advantage of our development is that we had such strong areas of expertise in the important contributing fields including but not limited to surgery, medicine, medical oncology, radiation oncology, pathology, gynecology, thoracic surgery and the other surgical subspecialties including neurosurgical oncology, head and neck surgery as well as surgical oncology and gynecology oncology.

Question: Can you describe, for example, oncologic development in radiation at Radiosurgery New York?

Dr. Lederman: Radiation Oncology has been a major point of development over the decade. The most important starting ingredient is a vision of what the department should be and how patients and their families should be treated. Our guiding light in the Department of Radiation Oncology is that each patient should be treated, as we would want to be treated ourselves. That might seem quaint but, in fact, it is the most important aspect of what goes on here.

Our leadership in brain and body radiosurgery is well known. Our doctors were the first to bring fractionated body radiosurgery to the Western hemisphere. We have the largest experience worldwide. We have a very large experience treating prostate cancer. The beauty of our programs is that our results have been documented and been presented at national and international meetings. This information is also available at our patient seminars on a regular basis.

Question: Can you describe the technological advances?

Dr. Lederman: Fractionated brain radiosurgery was brought to New York by our expertise. We were one of the first worldwide to have fractionated brain radiosurgery. This led to the development of fractionated stereotactic body radiosurgery, which is an extrapolation of the same using an external frame of reference and highly precise beams of radiation. This incorporates much other work. Included with radiosurgery is IMRT as well as high dose treatment. High dose hypofractionated stereotactic radiosurgery allows us to treat even tumors that have previously been irradiated. We have a very large experience in this field. Unfortunately with standard radiation, a variety of tumors such as lung cancers recur 50% of the time in the lung. With high dose hypofractionated radiosurgery, the control rate – meaning cessation of growth, shrinkage or disappearance of the cancer in the treated area – is very high, around 90%.

Question: Is there special training for your Physics staff?

Dr. Lederman: Yes, first of all our radiation physicists are Board-certified. Our dosimetrists are certified as well. All our staff goes through extensive training for our sophisticated equipment. As well they have extensive experience, probably the greatest experience worldwide using this equipment for radiosurgery of the brain and body. This is important as well as close collaboration with our physicians.

Question: I understand you have an extensive Physics staff in your department. Is that crucial to the development of a major cancer center?

Dr. Lederman: Our physicists and physicians, as well as dosimetrists and radiation technologists, use their expertise to best treat each patient. It is critical to a patient that we have this large experience so that when we encounter difficult or unusual circumstances, we can rely not only on our expertise but the experience we have gained. We track all our patients and have a strong fund of knowledge to perform stereotactic radiation on a daily basis.

Question: What exactly do physicists and dosimetrists do in daily activities in a cancer center?

Dr. Lederman: The responsibility of the physicists and dosimetrists is multi-fold. They are in charge of maintaining the equipment and seeing that the equipment is properly performing. It is crucial that daily checks be performed and there are certainly a great number of quality assurance measures performed on each machine prior to use.

The physicists and dosimetrists implement the treatment that is prescribed by the physician at the highest levels. They perform treatment planning on our numerous treatment planning computers.

We currently have separate complex treatment planning computer systems so to have quick and reliable access for quality care. This computer equipment has cost the group a great deal, which in fact, it has been happy to provide knowing that this level of sophistication is necessary for the care that we provide.

Question: Do physicians supervise all aspects of this process?

Dr. Lederman: Physicians must supervise all aspects of the care, including radiation planning. Every plan is performed with physician's active role and in fact, even requires his final sign-off before it is implemented.

Question: Who actually performs the radiation in such a cancer center?

Dr. Lederman: Shoulder-to-shoulder are working radiation oncologists - the physicians - radiation physicists, radiation dosimetrists and radiation therapists. We have radiation therapists administering radiation on our American-made linear accelerators. This equipment is built by Varian, a leading manufacturer of accelerators in the United States.

Question: You said your physicians had many 'firsts'. Can you outline them?

Dr. Lederman: Our physicians were among the first groups to perform sophisticated brain radiosurgery. We were the first in the Western hemisphere as physicians to perform stereotactic body radiosurgery. We have very extensive experience with prostate brachytherapy and other methods of brachytherapy. Of course, we have expertise in IMRT or intense modulated radiation as well as standard radiation. It is important for the physician to have experience with different treatment modalities to be able to best recommend treatments to patients and as well to rely on a large fund of knowledge to help guide patients make difficult treatment decisions. Our data has been presented at national and international meetings.

Question: For example, where has your work been presented?

Dr. Lederman: We have monthly seminars in New York available to public and as well travel worldwide including England, Italy, Israel, New Zealand giving seminars about our data. Topics range the spectrum. Use of radiosurgery for benign and malignant brain tumors as well as

cancers of the body have been discussed. Obviously over many years, we have given lectures in many places. While many centers say they perform radiosurgery, we believe that innovative programs and presentation of current data is crucial for the patient.

Question: Speaking of the National Society for Bloodless Surgery, I understand your lecture about body radiosurgery was quite a hit.

Dr. Lederman: Yes, very much so. We were the first physicians of any sort in the Western Hemisphere to offer stereotactic non-invasive body radiosurgery. This is a new technique that allows us to use the principles of brain radiosurgery in the body and treat tumors with great precision, higher doses and better outcome than what would be routinely available.

Question: Is body radiosurgery important?

Dr. Lederman: I believe it is most important and we have led the way not only in the United States and this continent but also in the hemisphere. Body radiosurgery allows us to treat diseases as diverse as lung cancers, lung metastases, pancreatic cancers, liver cancers, liver metastases and other cancers of the head and neck, body and extremities which were previously thought to be untreatable.

Body radiosurgery has opened up a whole new vision for patients. It has allowed us to treat - with tremendous accuracy - small, medium as well as large tumors. We have had a dramatic level of success. The appeal is that patients who were thought to be untreatable have a new avenue of approach for cancer treatment and those who had surgery and chemotherapy as well as standard radiation as options now have a new option - fractionated body radiosurgery.

Question: Are there statistics available with this program?

Dr. Lederman: Yes. Of the overwhelming number of patients we have treated, about 80% have had successful outcome of their fractionated body radiosurgery in the targeted area. Of course for those interested, we have more information available about the specific programs including brain radiosurgery, body radiosurgery and prostate seed implantation.

Question: How is the prostate seed program been for Radiosurgery New York and patients?

Dr. Lederman: Prostate seed implantation is a very important area for those caring for men with prostate carcinoma. The appeal is again its high success rate using directed radiation. Most men we see do not want radical prostatectomy. They do not believe that radical prostatectomy will give them the outcome or the quality of life that they seek. Most men I see want to avoid a major operation with a prolonged hospitalization as well as the sexual and urinary distress that often follows radical prostatectomy.

Radiation seed implantation offers a high control rate with the majority of men maintaining their sexual function. Urinary control is nearly never a problem in those men who have not had prior surgery on the prostate.

The procedure is done in about a 60-minute time frame and the patient is back to his normal activities by the next day. We have had men running in the New York City Marathon during radiation seed treatment and most others have maintained their usual level of activities.

We have treated about 2000 men with prostate cancer. Our innovative program using prostate seed brachytherapy and often body radiosurgery leads to very high cancer-free control rates. We have data at ten years based upon our extensive experience. When men realize that cancer-free

survival is so high and they can avoid the radical prostatectomy – and as well maintain a better quality of life than usual after surgery – it makes many decide on coming with an innovative program like ours. We use Palladium seeds exclusively because of the shorter half-life and seemingly less rectal irritation. This is documented by our statistics. We also have ten-year data suggesting an improved cancer-free survival.

Question: I know that all of you are so busy. How do you meet to share knowledge among experts?

Dr. Lederman: There are many meetings every week where the leading expert physicians to meet to discuss cases and review results. Just in Radiation Oncology alone, we have our brain tumor meeting held weekly as well as our body radiosurgery meeting. There, information including x-ray, CT scans and our multi-physician panel to determine the best level of care reviews MRIs as well as pathology reports and other records. Also, the results of prior therapies are reviewed. This is an important meeting and we certainly have many who seek out our best opinions. There is a weekly Tumor Board where all the specialists also meet to discuss current cases from the hospital itself. Important components at these meetings include the specialties that we discussed as well as pathology.

Question: How is your facility viewed by other major cancer centers?

Dr. Lederman: Patients seeking out sophisticated care come to us from all the major cancer centers throughout the United States and around the world. Patients who know about the advances that have been made in Oncology come here. One of our most important areas of referrals is by physicians for themselves, their families and patients as well as patients who were previously treated here.

We have a cancer hot line (1-212-CHOICES) available for those seeking information and provide ready access. Our physicians individually speak to each caller to help provide information. We believe this is a personal touch that is most important especially during critical times when one or a family member or friend is seriously ill.

Question: What about the facilities themselves?

We have created facilities in Radiosurgery New York that is best suited to take care of patients on an individual basis. Each patient receives individual attention from our physicians and nurses. A multidisciplinary panel of expert physicians reviews our cases. We oversee treatment and follow patients over time. Our center is located in Cabrini Medical Center – a central location in the heart of New York.

Question: how do others view your facility?

Patients throughout the world come to us from other major cancer centers. One of the main reasons for this is innovative care and a large experience. Each institution has its own area of expertise. Ours is precise radiation and radiosurgery. It offers great appeal for many but not all patients. We encourage those who are interested to send in their films or contact us. They can call us at 212-CHOICES or e-mail questions to gil.lederman@rsny.org. We try to provide personal service. We also have seminars open to the public at no charge on a regular basis concerning major areas of interest. We encourage patients and prospective patients to ask questions rather than sit home and wonder.

Comment: The Group's location is superb.

Dr. Lederman: Radiosurgery New York is located centrally, convenient to airports and public transportation. There are hotels in the nearby area often at reduced rates. It offers an excellent site for those in the tri-State area as well as people from around the world. We work with patients to find the best schedules and treatment not only for oncologic care but as well as emotional needs. We encourage patients and families to contact us as questions arise.