

What's the difference between a Radiologist and a Nuclear Medicine Physician?

In fact – What the heck is Nuclear Medicine?...

By Jan Manarite, VP of Advocacy & Education

As I stated in my previous blog, a **Radiologist** is a physician you probably never meet, yet still impacts the understanding and treatment course of your cancer. He **reads and interprets your imaging** or your radiology exams, such as CT, MRI, and X-ray.

A **Nuclear Medicine physician also reads and interprets imaging**, but some types of imaging are not called radiology – they are called nuclear medicine, or nuclear imaging. In prostate cancer the most common nuclear imaging exams are Bone Scans, and all types of PET Scans. These are considered nuclear medicine because the patient receives an injection that is radioactive, called a radio-pharmaceutical as part of the imaging. (An MRI or CT Scan can sometimes require an injection, but it is not a radiopharmaceutical, so they are not nuclear medicine.)

Another way to state the difference between imaging with radiology vs nuclear medicine, is that **radiology is designed to see anatomy (shapes & sizes)**, while **nuclear medicine is designed to see physiology (cells, molecules, chemical interactions, etc.)**. If you've ever had a PET scan (nuclear imaging) for your prostate cancer, you may have had it "fused" with a CT scan (radiology). That's because the PET is better at visualizing cancer cells, but the CT scan is better at visualizing anatomy such as organs, bones, etc. Since no medical imaging is 100% perfect, using 2 different techniques together often improves the accuracy of the exam.

Another unusual thing about Nuclear Medicine, is that it includes both imaging, and treatment – because a radiopharmaceutical can be used for either. And the radiopharmaceutical (injection) is what makes something “nuclear medicine”. So nuclear medicine physicians not only deal with imaging, but they also administer a few treatments. In prostate cancer, this is mainly one treatment right now, which is Xofigo (radium 223). Xofigo was FDA approved in 2013 for men on hormone therapy, with rising PSA and bone metastases ([see full Xofigo information here](#)).

So if you are scheduled to start Xofigo, you may have a clinic visit scheduled to see a nuclear medicine physician, who you may have never met before in your cancer care. The only other type of doctor who administers Xofigo is a Radiation Oncologist – [See previous blog post](#).

In the world of prostate cancer there are many twists and turns on the journey. The medical system is often complicated, and sometimes overwhelming. Understanding the medical system can help you navigate your journey. Knowing a little about the different physicians might be of help. So if you hear the word nuclear medicine, know that it includes both imaging and treatment in prostate cancer. And know that it's slightly different than radiology when it comes to your imaging. Use this information to formulate better questions for your nurses, or medical oncologist. Better questions always bring better answers. Stay empowered.

What's the Difference Between a Radiologist and a Radiation Oncologist?

By Jan Manarite, VP of Advocacy & Education.

A **Radiologist** is a physician you probably never meet, yet still impacts the understanding and treatment course of your cancer. He **reads and interprets your imaging** or your radiology exams. In prostate cancer, radiology exams include CT Scan, MRI, and X-ray (most commonly). Ultrasound would also be considered radiology, but in the case of prostate cancer, most urologists do their own ultrasounds and don't use radiologists. There are other imaging techniques which are called "nuclear medicine" because they require an injection that is radioactive or a "radio-pharmaceutical." Nuclear medicine imaging in prostate cancer includes Bone Scans (both the T99 and the F18) and all PET Scans (C11 Choline, C11 Acetate and F18 or Sodium Fluoride). *Read more in Monday's blog for the difference between a radiologist and a nuclear medicine physician.*

Now, to complicate issues just a little more...there are Radiologists who DO see patients, therefore they treat prostate cancer, but they are the exception to the rule. Sometimes they are referred to as interventional radiologists. In our world of prostate cancer, some familiar names would include Dr. Duke Bahn in CA who is known for cryotherapy (cryo) and focal cryo, Dr. Fred Lee in MI (retired) who did the same, and Dr. Gary Onik in FL who also does cryo and focal cryo. There are also radiologists like Dr. Aytekin Oto in Chicago who are doing work in focal laser treatment for prostate cancer. (Note – focal treatments treat part of the prostate as opposed to all of the prostate.)

Now – on to the **Radiation Oncologist**. This is the physician who **administers your radiation treatments for cancer**, so this is much different than a radiologist. Since there are so many types of radiation treatments in prostate cancer, I will not attempt to name them all. But at the very least, think of daily radiation treatments to the prostate and short term radiation to metastatic disease as common treatments given by radiation oncologists. There is also radioactive seed implantation to the prostate (brachytherapy) which involves both the radiation oncologist and the surgeon (urologist).

One last type of radiation that a radiation oncologist may administer is an injectable radiation for bone metastases called Xofigo (radium 223). This is for men who are metastatic and on hormone therapy. As you may know, this is called mCRPC or metastatic castrate-resistant prostate cancer. The other type of physician who might also administer Xofigo is a Nuclear Medicine Physician.

Simply understanding the differences between physicians can help you in your research and help you decide who to make an appointment with. This is all part of patient empowerment – we hope this explanation is helpful to you.

Watch for the next blog – What is the difference between a Radiologist and a Nuclear Medicine Physician...

UsT00 25th Anniversary Conference

UsT00 Conference last weekend
by Jan Manarite – VP of Advocacy & Education

Rick Profit and I attended the UST00 Conference last weekend in Chicago. There was some great comradery, and lots of advocates & support group leaders. There were also several great speakers including Dr Paul Schellhammer and Dr Mark Moyad. Here are a few things overall that stood out to me personally or resonated with me (for patients & caregivers):

1) Spiritual health is an important part of life and certainly an important part of the cancer journey, whether you're a patient or a caregiver. Dr Jason Mann is a medical oncologist now studying to be a Rabbi, which I found to be an interesting transition. But he spoke of his experiences in trying to cure patients' vs being empathetic with them, which led to some type of healing for the patient – and the family.

2) Dr Paul Schellhammer spoke of cancer as always being called a 'battle,' and suggested that maybe sometimes the battle is too much. I commented that a battle, and a rest, and a letting-go period might be different seasons in the same cancer journey. They certainly were in ours. (note – Dr Schellhammer is a highly regarded urologist who is also a prostate cancer survivor, which he has written about more than once)

3) Dr Stephen Bravo from Sandlake Imaging in Orlando, FL showed some of his research imaging cancerous lymph nodes with Feraheme (Ferumoxytol) contrast injections. I thought this was interesting because finding prostate cancer in lymph nodes is currently one of the biggest imaging challenges in prostate cancer. (He did confirm with me that the current cost for Fereheme lymph node imaging is about \$1,300. Make sure you ask about cost if you are considering this – cost can vary.) He also commented that ferumoxtran-10 (Combidex) is back again in Europe – in the Netherlands with Dr Jelle Barentsz.

4) Dr Aytakin Oto from University of Chicago talked about his work with prostate MRI, the new PI-RADs scoring system for prostate MRI and his work with focal laser treatment of

prostate cancer. Dr Oto made it clear that prostate MRI wasn't perfect. But I would say to the patient and caregiver – that's OK. Nothing in science is perfect, nor is it meant to be. So we deal with percentages and probabilities. And I would point out that the percentages of accuracy in prostate MRI are higher than the grey-scale ultrasound usually done, which has led to the issuing of the data-supported PI-RADs (v2) scoring system, issued by the American College of Radiology in Dec 2014. So this is good information for patients and caregivers to have. But seek an expert in prostate MRI. Call Jan at PAACT for more info (616) 453-1477.

5) Dr Mark Moyad continues to emphasize the importance of overall health, and heart health as being the key issue for prostate health. It is all connected. He continues to explain that S.A.M. is a great acronym to remember. Consider these with your physicians – Statins, Aspirin, Metformin. For more information call Rick or Jan at PAACT (616) 453-1477.

Father's Day

For dads here, and dads who are not...

My son lost his dad to prostate cancer about 2 years ago. My son is a strong young man, but this was one of the hardest things he's ever faced. I am glad I can be there for him, and glad I can be with him on this coming Father's Day. And I am so, so glad for all the memories we can hold onto, and all the years he had with his father, knowing that his dad lived many, many years longer than he was expected to. I am glad for all these things.

I know his father is still with us in ways I cannot explain, or fully understand. But I know it is true somehow. Even

though we all had some very rough times together, his kindness and his strong loving heart are the things that linger. It is as if that's all he is now – just goodness. These things are hard to explain, but my heart seems to understand them somehow.

So for all of the people out there who struggle with Father's Day because your father may be gone, look for a good memory and hold onto it. You will make it stronger, and it will make you stronger. Maybe it's a good day to pull out old photos and reminisce about the good times.

And for all those people who still have their fathers, enjoy the day and make more memories. No matter what the relationship is, hold onto something good. You will make it stronger, and it will make you stronger.

Happy Father's Day, everyone. From the world of patients who are often fathers...

Jan Manarite

VP of Advocacy & Education