

Surgical Oncology

An Interview with Matthew John Weiss, M.D.,
Deputy Physician-in-Chief and Director of Surgical Oncology, Northwell Health

EDITORS' NOTE Dr. Matthew Weiss is board-certified by the American Board of Surgery. He trained in general surgery at Johns Hopkins University School of Medicine and was dual fellowship trained in complex surgical oncology and hepatopancreatobiliary surgery at Memorial Sloan Kettering Cancer Center. Dr. Weiss was previously the chief of the hepatopancreatobiliary surgical service at Johns Hopkins Hospital and was also the director of the pancreas and liver multidisciplinary clinics and the surgical oncology fellowship program. Dr. Weiss completed his undergraduate studies at the College of the Holy Cross, received his medical school training at Thomas Jefferson University Medical School, and completed an immunology research fellowship at Massachusetts General Hospital.



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What needs to be done to drive faster results and bring more advances in treating cancer?

Pancreatic cancer is currently the third leading cause of cancer death in the United States. It's going to be number two in the next couple of years. This is, quite honestly, a medical emergency. There are going to be 50,000 people that will die of pancreatic cancer this year. Up until now, the advances have been incremental at best.

Pancreatic cancer is an underfunded cancer, even from the NIH. The way funding works for grants is that people focus on small incremental improvements because that's the way you are able to get your next grant. The result is that the same group of researchers are getting the funding year after year. I personally believe that what we need is more funding and we need for it to go to the correct people that have new and innovative ideas on how to treat cancer.

Many researchers currently focus on early detection. If you think about how we've made the most advances in cancer care in the last 30 years, most of it has been in surveillance and early detection. We have no such study on early detection protocols for pancreatic cancer or for liver cancer. We need to develop early detection methods and also focus on therapeutics. We need new drugs and methods to determine which drugs work best for an individual patient. Currently, we determine if a patient is responding to chemotherapy by simply treating them with the drugs and then reviewing radiologic studies which can be imprecise. We need methods to determine if a patient will respond to therapy before they are actually treated with it and then base therapeutic decisions on the individual patient. This is called "precision medicine."

Another exciting area is immune therapy. I think there's great promise in immune therapy. You're seeing more and more drugs coming out, but we need to do the trials to prove that it's going to work. I was involved in numerous immune therapy trials for both pancreatic and liver cancer prior to joining Northwell and will be initiating similar trials here in New York.

Will you highlight the innovation taking place in surgical oncology?

There are a number of innovations happening. We used to do all our operations with a big incision. Now, we're doing it with smaller and smaller incisions. I do a fair amount of my operations robotically with small incisions.

There are innovative things being done to minimize the morbidity of operations and also, in theory, for cancer treatment to improve, many patients need to get additional therapy. That's because, if you do a big operation and the patient doesn't get chemotherapy for two or three months, it's problematic. But if you can limit the morbidity and do a smaller incision and get them onto chemotherapy in three weeks or four weeks, it is going to improve the outcome. In addition, we are now finding that many patients benefit from systemic and radiation therapies prior to undergoing a surgical procedure. Surgical, medical, and radiation oncologists are working closely together to develop new multimodality treatment regimens that are improving cancer outcomes.

A major focus of my career has been on utilizing genetics of cancers to help dictate surgical approaches. There is emerging data, in particular, for colorectal liver metastasizes, colorectal cancer that spreads to the liver. Looking at genetic changes in the tumor that can help predict survival and, perhaps more importantly, genetic changes that we can use to actually dictate the type of operation that we're going to perform.

You are dealing with long-term challenges that require long-term solutions. How important is it for you and your team to take moments to appreciate the gains being made and the advances taking place?

It is important that, from time to time, you take a step back and you take a deep breath and you appreciate some of the short-term wins. Why did I choose to go into cancer surgery? The reason I chose to become a hepatobiliary surgeon was that I loved surgery and I hated cancer and I still do. There is so much opportunity in this field. I picked a field where we still have a lot to figure out and it gives me an opportunity to have an impact. I wanted to tackle the difficult problems. That's why I chose liver and pancreatic cancer as my specialty – because those are the most difficult problems we face in cancer care right now. ●