The Interventional Initiative

IO Learning spoke with Isabel G. Newton, MD, PhD, Chief of Interventional Radiology at the VA San Diego Healthcare System and Associate Professor of Radiology at the University of California, San Diego, and co-founder of the Interventional Initiative, a nonprofit foundation dedicated to engaging the public with credible and comprehensible information about minimally invasive, image-guided procedures.

Isabel G. Newton, MD, PhD

Can you tell us about the Interventional Initiative?

The Interventional Initiative is a not-for-profit 501c3 organization with a public service mission to educate and engage the public about the value of minimally invasive, image-guided procedures (MIIPs). Susan Jackson and I founded the initiative in 2015. Susan has a background as an interventional radiology (IR) technologist and has an MBA in marketing, so she understands the value of reaching out to people. Susan is also the executive director of the Western Angiographic & Interventional Society (Western Angio). I'm a board-certified diagnostic and interventional radiologist at the VA San Diego Healthcare System and the University of California San Diego (UCSD), and was asked by Western Angio to document their history. I recognized that the more interesting story was not simply the history of IR, but in telling it to the public in such a way that they could understand what is available to them in terms of MIIPs. I proposed interviewing luminaries and thought leaders in the field of IR to try to capture the history, and Susan suggested that we turn the project into a documentary, which later became a docuseries called *Without a Scalpel*. The idea was to educate the public about MIIPs through entertainment, which we knew would be a way to access swaths of people who might not understand what we do otherwise.

Susan realized that the scope of the docuseries required a foundation to provide ongoing support. The Interventional Initiative was therefore created to support the docuseries and emerged very clearly with a mission to reach out to the public and to patients in order to educate and engage them about the power of MIIPs.

How many episodes of *Without a Scalpel* have been produced and where can they be viewed?

There are 4 completed episodes of *Without A Scalpel*, and they are on many different on-demand platforms, such as YouTube, Amazon Prime, and Vimeo. Our website (www.theii.org) also contains a link to the docuseries.

What kinds of disease can be treated with MIIPs?

This question goes to the root of why IRs are not understood or are inconspicuous to the public. Most doctors can say, "I'm a cardiologist and I specialize in diseases of the heart" or "I'm a gynecologist and I deal with women's reproductive health." IRs, on the other hand, deal with many organ systems and many types of patients across the patient lifespan, and we are everywhere. It is therefore very difficult to have a concise message about which conditions and diseases can be treated.

IR treatment can be as small as a biopsy or putting in a special IV for a patient to get medications, or it can be as complicated and as significant as treating cancer deep inside the body and helping a patient avoid other, more invasive procedures or systemic procedures that would cause collateral damage. We are able to treat infertility. We can treat benign growths in the uterus called fibroids. We can treat infection. We can open up clogged blood vessels and we can close vessels that are bleeding. In the middle of the night, we are called to save patients who have been in a car accident or had some other kind of trauma. Another really interesting thing that we can do is place a transjugular intrahepatic portosystemic shunt (TIPS) for people who have high blood pressure in the liver. This procedure

involves going through a tiny pinhole in the neck to create a new bypass and allowing some of that blood to go past the liver, which relieves the patient's symptoms.

What is National Without A Scalpel Day?

National Without A Scalpel Day commemorates the very first MIIP, which was performed by Dr Charles Dotter on a very brave woman named Laura Shaw on January 16, 1964. Laura had a narrowing in the artery in her leg and she refused to have an amputation, so she told Dr Dotter to "do what you can."

Dr Dotter had the radical notion that he could do more than just see the problem—that once inside the body, he could fix it. He had developed vessel dilators that he could place over a wire and navigate through the body in order to open up the closed blood vessels and let the leg get the blood that it needed to survive. Well, he did this procedure on Laura Shaw, and 3 days later, she walked out of the hospital on her own 2 legs and passed away several years later from an unrelated disease.

We celebrate that procedure for the audacity of both the physician and the patient. From that, the entire field of IR has been born, with all of medicine becoming much less invasive as time goes on. We recognize the value of keeping patients whole and using smaller and smaller incisions (or pinholes) that allow patients to return to their normal lives in a much timelier manner.

What is the Patient Decision Aid initiative?

The Patient Decision Aid (PDA) is probably our most exciting initiative, because it stands to have the greatest impact on educating the public about MIIPs. It was borne out of a collaboration with Dr Eric Keller, who is a brilliant interventional radiology resident at Stanford University. Dr Keller approached me because he was interested in ideas around the ethics of IR, which is very new field of study. We discussed the idea that we could either consciously try to shape the field of IR to be more ethical, more inclusive, more accessible, and more equitable, or we could let things evolve organically. And Dr Keller stood up and said, "I don't think it should happen organically. I think we should consciously decide how we are doing things and critically analyze our processes." For example, how do we handle patient consent? How do we inform and educate patients in order to give them the power to make the best decisions for themselves?

Dr Keller's stance aligned perfectly with what we were doing in the Interventional Initiative, because we know that patients do not understand the field of IR. We also know that patients who understand their options do better when they are able to make an informed choice. Dr Keller came to us and explained that he was creating patient consent documents. We recognized that we could marry many of the things that we had already written with the data he had mined on the benefits and risks of different IR procedures. We created the handouts in a language that is accessible to the general public (at about the sixth to eighth grade health literacy level). At this point, we have created over 50 different PDAs in both printed and digital formats that are beautifully illustrated to make them easy and accessible for people to understand, with English and Spanish versions available (see sample PDA in **Figure 1**).

The truly unique thing about this process is that the PDAs are written by people who are experienced with the procedures, but who are also skilled at writing in plain language. Once written, the PDAs are given to a group of IRs to make sure that we are all in consensus regarding our message. The PDAs are then sent to focus groups in both English and Spanish. The focus groups represent a wide range of patients (or potential patients) and we make sure that our message resonates, holds their interest, and is informative. We then revise and improve the PDAs based on the focus group input.

Another thing that sets our PDAs apart is that we have tested them in clinical trials at Stanford and UCSD. The trials include patients who receive the printouts in the waiting room and doctors who are blinded as to whether or not the patients have received the PDAs. The patients who received the aids felt like they had spent more time with their physician and that it had been a more fruitful interaction than those who did not receive aids. The patients who received aids were also far more likely to respond correctly about questions regarding the procedure, with only about 8% responding "I don't know" to the survey questionnaire (versus about 30% who responded "I don't know" in the group that did not receive the informative materials).

Our studies indicate that the information is effective and improves the quality of the encounter, without changing any other aspect of the encounter. Our next step, when we fully implement these patient decision aids, is to provide guidance to IRs and the team on how to incorporate the PDAs in a way that is more effective. We are therefore hoping to influence the entire consent conversation and process to make it more transparent, more open, more equitable, and more reproducible, so that patients have a better stake in their own healthcare.

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Do you plan to make these aids available at the referring physician level as well?

We originally conceived of the aids as something the patient would receive in anticipation of a clinic visit or at the clinic visit with the IR. However, we have done beta-testing in different types of IR practices and some of those IRs have suggested that they would really like their referring physicians to have this information, not only for the primary care physicians to understand more about the IR options, but also so they could share it with their patients as part of a decision tree and to determine whether or not the patient would like to explore the IR options.

At this point, we are finishing the last of the patient decision aids and are about to launch the first 2 waves. After the first iteration, my hope is we will realize that there are applications beyond those we have anticipated. Our goal is to educate and to engage.

What are the future plans for the Interventional Initiative?

We will continue to develop the patient decision aids and create a curriculum to help physicians understand how to use and implement these aids as part of a broader, more sensitive consent process. Our hope is to develop one that is not perfunctory, where the physician gives a speech while the patient lies on a gurney and then both sign to indicate they had the conversation. Instead, we want to consider how to have a consent conversation that respects a patient's desires and goals. We need to be sensitive about goals of care, end of life, and questions about futility. This all goes back to the work that Dr Keller has done with his Applied Ethics Committee, and that dovetails beautifully with our efforts. I think there is going to be a lot of co-mingling between the 2 initiatives in the future.

We also have a fifth episode of *Without A Scalpel* that is half-filmed and then had to be tabled during the pandemic. In 2020, I went and scouted a film location at Miami Cardiac & Vascular, which is an innovative IR practice led by Dr Barry Katzen, one of my personal IR heroes. In the 1980s, Dr Katzen understood what we are now just realizing, which is that patients don't understand IR. Patients do understand disease and they want to go someplace where they are going to be cared for as a whole person. Dr Katzen created a center focused on the heart and the blood vessels, and he included all of the doctors who treat those things together under one roof, working together and making patients better. I hope to highlight the wins that they have had on behalf of their patients.

What are the current volunteer opportunities at the Interventional Initiative?

We have about 80 members of the Interventional Initiative, most of whom we call on far too infrequently. We are very much like a startup, and so we have had that phase where we are putting our heads down and getting things started, but we are starting to engage more of our members. At this point, the most engagement has been with the written content committee. They have been very active in creating our procedure descriptions that are on our website, and I asked many of them to spot-check some of the patient decision aids as we went along. As we ramp up and create more of these patient decision aids, we will engage more members, but at this point, it has involved a core group including me, Susan Jackson (who has moved outside of the organization but remains very dear to us), Dr Keller, and Margaret Simor, a member of our board of directors who is a registered nurse and former hospital administrator with expertise in the executive management of MIIPs.

We could very much use some more help in terms of coordination and social media support, and that help can come from within the IR community or even trainees. Outside of the IR community, laypeople are very valuable to us as test readers for our materials, and so we have our focus groups, and we are always looking for more people for these groups, or people who are supporters of the type of work that we do and want to contribute.

All of us work on a volunteer basis, which means that 100% of donations go to support our mission. We don't have any salaried people at this point. As we grow, we will need more people who are fully dedicated to our initiatives and to the organization. At this point, through passion and determination, our team has dedicated a lot of our time toward making this happen.

How is the Interventional Initiative funded?

We have thrived on donations and grants, and a large portion of our donations have come from individuals. We have also had donations from corporations that are "no strings attached," because we are unbiased. We have received grants from UCSD and Stanford University, but perhaps the largest grant

that we have received is from the Angelina Merenda O'Bar trust, which allowed us to fund the patient decision aids initiative. Ann was like a mother to Susan Jackson, and she honored Susan's efforts at the Interventional Initiative with this gift, which has been really special. Other supporters have chosen to donate stock, which we also appreciate, because it continues to grow in value. We have also had people include us in their wills.

The Interventional Initiative is very fortunate that people recognize what we are doing and believe in our mission, but as with any type of nonprofit, we rely on continued support over time. For those interested, there is a donate button on our website at www.theii.org, and donations can either be mailed or processed online. Donations are 100% percent tax deductible. The Interventional Initiative is an excellent choice for those looking to support an organization that provides real, tangible, evidence-proven benefits to patients.

Any final thoughts?

Interventional radiology is at a crossroad, and we need to seize this opportunity to consciously move forward in a way that is going to support the best care for patients. We have made great advances in IR technology, but we have limited resources and cannot offer everything to everyone, so we must be very conscious about how we allocate these resources. MIIPs often offer the best healthcare level at a lower cost overall, meaning we can go in and effect an improvement to a patient or offer some kind of solution without taking patients out of the workforce for a long time, or without adding added morbidity or side effects. That is a sweeping statement, but any time the physician sends the patient home with a bandage instead of a big incision, the patient can expect that the recovery will be faster.

This is not to say that there are no indications for more traditional types of treatment, but it is to say that I think we are missing opportunities to treat people with MIIPs, because they have traditionally been the option of last resort. Instead, MIIPs should be right on the table at the beginning with everything else. The pecking order of things in medicine needs to be dismantled and reorganized. Most patients with liver cancer, for example, are initially sent to either an oncologist or a hepatologist, who then runs the show; IR is not always consulted even though liver cancers can often be treated by MIIPs. Patients are unaware that equally effective, less invasive options are available. That is what drives us and why we are so passionate about educating the public about MIIPs.

My hope, and the hope of all those who are working with me at the Interventional Initiative, is that these procedures, when there is an option for them, will be presented to patients so they can make the best decision. I'm hoping that the value of these procedures will be recognized and shared across all patients, whether they are in the prime of their life or at the end of their life, and can see the options and the opportunities available to them.

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To learn more about the Interventional Initiative, visit https://www.theii.org/

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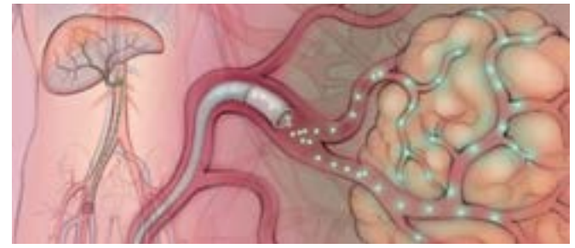
INTERVENTIONAL ONCOLOGY

TARE

A minimally invasive treatment for liver cancer



What is TARE?

TransArterial RadioEmbolization (TARE) is a minimally invasive treatment for liver cancer. It is also called radioembolization. It is done by a specialist using moving x-rays for guidance. It is not surgery. The procedure involves threading a small tube into the blood vessels feeding the tumor(s) and injecting radioactive beads. The beads deliver high doses of radiation to the tumor, killing it over time.

How is TARE done?

TARE requires two separate procedures. The first procedure is like a test run. First, the clinician maps out your liver's blood supply to see what is feeding the tumor(s). Then they inject a test substance to see if it goes to the lungs or other organs that could be hurt by the radiation. The second procedure is the actual treatment. The clinician injects the radioactive beads into the vessels feeding the tumor(s).

TARE IN THE LIVER

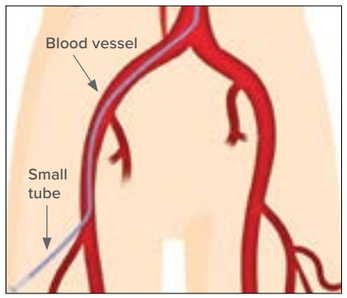


Fig. 1: After numbing the skin, a small tube is placed into the blood vessel at the top of the thigh (shown) or wrist.

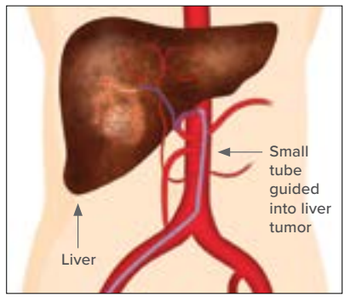


Fig. 2: Using x-ray guidance, the clinician steers the small tube to the blood vessel in the liver that feeds the tumor.

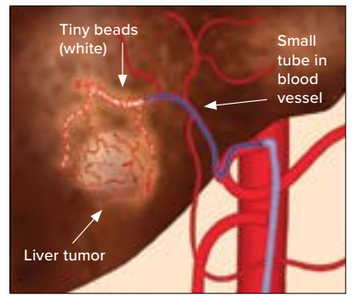


Fig. 3: Tiny beads soaked in radiation are injected directly into the blood vessels that feed the tumor. The tumor dies over days to weeks.

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FIGURE 1. Sample Patient Decision Aid. To see more patient aids, visit www.theii.org/media

TARE

What are the risks?

TARE is generally a safe procedure when done by a specialist.

POTENTIAL COMPLICATIONS

2 IN 100 PEOPLE

- liver failure/infection
- lung or stomach damage
- injury to blood vessels

1 IN 5 PEOPLE

- bleeding and temporary kidney injury
- abdominal pain
- fever and/or
- nausea

What are the alternatives?

Your treatment options depend on your preferences and your unique conditions. These include your overall health as well as the size, location and number of tumors that you have. Sometimes you may benefit from a combination of these treatments.

Alternative 1 **No treatment.** The disadvantage of this is that the cancer may continue to grow.

Alternative 2 **TACE** is a similar minimally invasive, image-guided procedure where the beads deliver chemotherapy instead of radiation.

Alternative 3 **Ablation** is another minimally invasive, image-guided procedure to destroy the tumor with a wand placed through the skin.

Alternative 4 **Surgery** to cut the tumor out or to replace your liver with a transplant.

Alternative 5 **Radiation therapy** is a series of treatments to destroy the tumor with radiation beams delivered from the outside.

Alternative 6 **Medicines** to treat the cancer or help the immune system fight the cancer.

WHERE CAN I GET MORE INFORMATION?

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The Interventional Initiative is a non-profit organization dedicated to educating the public about minimally invasive, image-guided procedures and the conditions they treat.
www.theii.org |