

Establishing a Community Hospital Interventional Oncology Program: Essential Equipment and Services

The first in a three-part series on the most important components of starting a successful practice.

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One of the largest growing sectors of interventional radiology (IR) is the image-guided treatment of solid organ malignancies, commonly referred to as *interventional oncology* (IO).

For many years, these treatments have existed in purely academic centers. However, as more robust effectiveness data continue to be released, and several treatments are now being incorporated into first-line therapy,¹ there is a growing desire for radiology groups and hospitals to begin offering these services in their community hospital setting. Establishing such a program from scratch can be a daunting task. Moreover, in the community hospital setting, this task is frequently requested of relatively recent fellowship graduates, as they have trained in the era of chemoembolization, radioembolization (yttrium-90 [Y-90]), and ablation. Therefore, these young radiologists are knowledgeable regarding the technical details of IO procedures; however, few if any recent graduates will have experience in practice building at this stage in their career.

This is the first of a three-part series that will attempt to focus on the essential components and processes required to successfully form a community IO program. Each and every practice setting is very different from the next, and therefore, this should be construed as a general guideline and advice, but specific details will have to be tailored to one's own practice setting (academic, pseudoacademic, community), group relationships, hospital relationships, staff capability, and availability of adjunctive hospital ancillary services. Having recently established a community IO program out of train-

ing, we will try to cite specific examples and lessons learned along the way.

THE ESSENTIALS

It is important to make sure you will have the necessary support along the way. Have candid conversations from the start regarding the intent to build the service and its initial time and resource requirements. If you do not have the support of your hospital and/or your group, the project is unlikely to succeed.

When considering where to begin, we found it easiest to analyze what was already in place and build upon these resources. Perform a gap analysis. Identify what you have, what you ultimately will need, and what materials will be necessary to close that gap. For example, in our personal practice, renal mass cryoablation had already been performed for several years, and therefore, the equipment and staff familiarity with the procedure already existed. Because thermal ablation was already present, a relatively straightforward transition was the addition of radiofrequency ablation/microwave technology, as the general acceptance and administrative support for thermal ablation was already established. Therefore, acquiring the new microwave equipment, modifying, and further developing the pre-existing protocols became the necessary next steps.

An essential component is the establishment of a clinical IR model or dedicated clinic hours. This concept has been addressed innumerable times before, but cannot be understated. Depending on your particular practice setting, this may be difficult or impossible from

the start. Even if you must initially begin seeing patients for consultation in between your daily IR cases, this will go a long way toward establishing yourself as a clinician among your peers and a valuable consultant to the medical and surgical oncologists. As you become busier, you may eventually justify an entire clinic day dedicated to seeing these patients.

TYPES OF SERVICES

It is important to understand that interventional oncology encompasses more than just TACE, Y-90, and ablation. It requires establishing yourself as an imaging specialist with oncologic expertise/understanding and someone who is capable of managing everything from central venous access, tissue diagnosis, enteral nutrition, palliative care, and postprocedure complications.² Therefore, take the initiative early on to express your specific interest in these types of procedures. This will help shift those clinicians toward identifying you as the “oncologist radiologist.”

As previously mentioned, begin by building on what is already in place at your hospital. Creating protocols and obtaining administrative approval for transarterial and ablative therapies should be done as early as possible. In our own hospital, the approval and licensing process for Y-90 took nearly 9 months, which we assume is even faster than most institutions. Create protocols, and begin speaking to the pharmacists and your radiation safety officer about TACE and Y-90 very early in the process. Then, once you are finally ready to begin offering these services and accept these types of patients, there will not be a significant delay.

The industry can also help support your efforts along the way and can be indispensable for addressing specific billing questions, regulatory issues, and providing staff training. More on this later, but they are a resource that should not be overlooked.

EQUIPMENT

Most well-stocked IR suites contain nearly all of the necessary equipment to perform transarterial IO therapies. All operators have their own preferential set of tools depending on their experience and training institution. Certain IO-specific items that may not be present are: larger variety of microwires, angled microcatheters, full stock of 0.018-inch coils, and smaller-size particle embolics. Come up with a list of essential equipment you will need to perform these procedures, and have your technologists check this against your IR suite's current stock.

If you have access to a room with cone beam CT (DynaCT, Siemens Healthcare) capability, make sure that your technologists are familiar with its operation. If

not, ask the manufacturer to come provide training and educate them on performing and postprocessing the data. This is not something you want to try and learn for the first time while a patient is on your table.

TUMOR BOARDS

Most community or pseudoacademic medical centers already have tumor boards in place. It is imperative that you find time to attend these meetings. It provides valuable face time with your medical and surgical oncologists and the opportunity to suggest treatments when appropriate. If there is no tumor board present, take the initiative and start one. For example, in our own practice, there was no specific tumor board dedicated to hepatobiliary lesions, but these cases were frequently imaged, and oncology often requested second opinions and percutaneous biopsy. As we know, these are the types of cases in which interventional oncology can offer many therapeutic options. Therefore, we decided to start a “liver tumor board,” which translates to both better coordination of care across specialties and allows all treatment options to be discussed. Attendance and case submission may be sparse from the start, but it will steadily grow, as will the number and types of cases discussed.

NCCN GUIDELINES

It is crucial to understand what is and what is not present in the National Comprehensive Cancer Network (NCCN) guidelines. This is considered the authority by which nearly all medical, radiation, and surgical oncologists guide their decision making. It's imperative to know where interventional oncology procedures do and do not fit into these guidelines. It is a good idea to start building services that are already widely accepted to have sufficient evidence to be incorporated into the NCCN guidelines (eg, thermal ablation of solitary liver masses in a patient deemed a poor candidate for surgery, or a solid renal mass in a patient with multiple comorbidities).^{3,4}

LESSONS LEARNED

A few years ago, several of our IR partners made similar attempts at establishing a more robust IO service, but without success. They purchased the equipment, wrote the protocols, and scheduled luncheons to market. However, no new cases appeared. In retrospect, the cause was likely multifactorial, but there were at least three key ingredients missing from this initial venture. First and foremost, to be successful, you must be viewed as a consultant. This paradigm shift has already occurred in most academic centers; however, it is slow to change

in the community practice setting for a wide variety of reasons. Having regular phone conversations, adding input at tumor boards, and accepting ownership of the patient and your treatments are key elements, as previously discussed. In other words: be available.

The second factor is to make your relationship collaborative. Radiologists by nature receive requests and perform examinations. Referring new cases to other specialists may be a foreign concept to some, but it can go a long way in promoting collaboration and being viewed as a consultant, rather than simply as an order taker. Many of us are asked to perform biopsies on unknown lesions. We are often the first to determine that an unknown liver lesion represents a solitary metastasis. Take this opportunity to get involved in the patient's care and recommend a medical oncologist to both the patient and primary care physician. It helps streamline the patient's care and build collaboration both with the primary physician and the oncologist.

The third and perhaps most important ingredient is to speak the language of oncology. In other words, are you familiar with standard first- and second-line chemotherapy regimens, commonly used cancer staging systems, performance status scales, and the NCCN guidelines? Those physicians that have trained recently will likely already have experience in this arena, but these new chemo regimens and guidelines are constantly being updated and therefore should be on your regular reading list. Not only will this help you better understand where your therapies fit into the overall treatment guidelines, but it will also help avoid potential pitfalls such as performing arteriography on a patient receiving bevacizumab.

SUMMARY

Achieving the necessary components for an IO program does not happen overnight. It may be the most difficult part of the IO service-building process. Without having the necessary equipment or staffing, you cannot begin to promote such services. Without showing the procedural growth, however, your hospital or group may be reluctant to provide the resources. As our own group previously learned, having the equipment alone does not directly translate into receiving referrals. You must not only change the perception of your service, but actually mold your practice into a clinical type of IR. Each and every practice setting and referral network is different from the next. Identify which therapies and equipment are already in place and steadily expand from that point. ■

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