Introduction to Clinical Interventional Radiology

Timothy P. Murphy, M.D., F.S.I.R., F.A.H.A., F.S.V.M.B.¹

ABSTRACT

Within 10 years of Dr. Sven Seldinger's introduction of needle replacement of a catheter in 1953, Dr. Charles Dotter, at the University of Oregon Health Sciences, began to use catheters as surgical instruments. Dr. Dotter said, "The angiographer who enters into the treatment of arterial obstructive disease can now play a key role, if he is prepared and willing to serve as a true clinician, not just as a skilled catheter mechanic. He must accept the responsibility for the direct care of patients before and after the procedure; now see them as patients, not just as blocked arteries." On this prediction time has shown Dr. Dotter to be exactly right. We are on the verge of tremendous growth in peripheral vascular interventions, particularly in the arterial arena. There are several forces within and outside radiology that presaged this transition that will be explored in this issue. But it is clear that all of radiology, not just interventionalists, have finally heeded Dotter's message. In 2004, the American College of Radiology published a "white paper" on interventional radiology clinical practice. The white paper outlined the features and resource needs of interventional radiologists for providing patient care. In this issue we will explore the reasons why in 2004 there is no other way to practice interventional radiology than to practice as a clinical doctor.

KEYWORDS: Interventional radiologist, clinical practice, competition

Objectives: Upon completion of this article, the reader will gain an understanding of the trend toward clinical interventional radiology and its basic necessity for improved patient care.

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The birth of modern endovascular interventional therapy occurred with Dr. Sven Seldinger's introduction of needle replacement of a catheter in 1953.¹ Prior to that discovery, catheters could be introduced into the body only by cutdown. Alternatively, needles could be used to access arteries but further selective catheteriza-

tion was impossible. Within 10 years, Dr. Charles Dotter, at the University of Oregon Health Sciences, began to use catheters as surgical instruments.² These were the key developments that helped lead to the current era. Minimally invasive procedures are now pervasive throughout medicine and are desired by patients

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because of their safety compared with open surgical procedures. Dr. Dotter was also ahead of his time in understanding the importance of patient care for the future of interventional radiology as a specialty and also for the popularization of interventional radiology techniques. Dr. Dotter said, "If we don't assume clinical responsibility for our patients, we will face forfeiture of our territorial rights based solely on imaging equipment others can maintain and skills others can learn." This quote needs to be emphasized in many practices today, but was actually made by Dr. Dotter in 1980.² Dr. Dotter also said, "The angiographer who enters into the treatment of arterial obstructive disease can now play a key role, if he is prepared and willing to serve as a true clinician, not just as a skilled catheter mechanic. He must accept the responsibility for the direct care of patients before and after the procedure; now see them as patients, not just as blocked arteries."² On this prediction time has shown Dotter to be exactly right. We are on the verge of tremendous growth in peripheral vascular interventions, particularly in the arterial arena. To continue to participate in these treatments, interventionalists need to heed Dotter's advice. Dr. Dotter also noted that, "[I]f we do the job well we will keep it; if not, we will lose the techniques we have developed."² He also noted that attempts to "corner the x-ray equipment or claim critical competence in passing catheters and minimizing radiation standards" would not help to preserve the role of interventionalists in providing their treatments.² There have been numerous standards documents and multidisciplinary documents published in attempts to outline the qualifications for performing peripheral vascular interventions, many that are well reasoned and sound. However, in the local arena money talks and unfortunately quality often takes a backseat. Documents have, in some cases, provided a bulwark against the incursion of poorly qualified or unqualified practitioners but have not been able to stave them off entirely. Usually, other practitioners are able to obtain "certification" or the oxymoronic "limited competence" by doing limited training. Often, in these environments the trainers are no more qualified or have no more credentials than the trainees. Nevertheless, hospitals are loathe to deny practitioners privileges for providing services that they desire to provide, and indeed have a conflict of interest in that they exist based on their referral base of doctors. Hospitals have a strong need to please the referring doctors and not alienate them, so credentialing requirements to keep doctors from performing procedures for which they are not qualified can be predicted to fail.

The evolution of interventional radiology has progressed to a stage envisioned by Dotter, with interventional radiologists managing patients and treating diseases over time. There are several forces within and outside radiology that presaged this transition that will

be explored in this issue. But it is clear that all of radiology, not just interventionalists, have finally heeded Dotter's message.

In 2004, the American College of Radiology (ACR) published a "white paper" on interventional radiology clinical practice. Dr. Michael Pentecost was the primary author of the white paper. The white paper outlined the features and resource needs of interventional radiologists for providing patient care. Subsequent to this paper being presented to the ACR, a committee was formed to author a guideline on interventional radiology clinical practice using the white paper as a template. This committee was chaired by Dr. Curtis Lewis, and the primary authors of the guideline were Drs. David Sacks and James Swischuk. The ACR Practice Guideline on Interventional Radiology Clinical Practice was presented to the college and ratified at its annual meeting in the spring of 2004. It was recently published in the *Journal of Vascular and Interventional Radiology*.³

Therefore, there is no question that organized radiology supports the clinical practice of interventional radiology. Certainly, the white paper and ACR guideline serve as comprehensive starting points for those who want to know what this support entails. In this issue, we will discuss the rationale, practice details, market forces, and politics surrounding interventional radiology clinical practice. Clearly, market forces within and outside radiology have influenced the change. But ultimately interventional radiologists agree that clinical practice is necessary in 2004 because of the complexity of our interventions and the value our skills bring to patient care. That is, in 2004 there simply is no other way to practice interventional radiology than to practice as a clinical doctor. In this issue we will explore the why, what, and how of this conclusion.

Clinical practice in interventional radiology has come of age. There are several reasons for the wide acceptance of clinical practice in interventional radiology. First, the services offered by interventional radiologists are so complex and in many cases so important in the management of disease that clinical care by interventionalists is mandatory. Embolization and stent placement for elective complaints are commonplace today. Interventional radiologists have recognized that it is safer for patients to be managed and followed after these procedures by themselves. Interventionalists have also recognized that they are at a competitive disadvantage when other specialists in their markets offer similar procedures plus clinical care if they don't also provide it.

Some interventional radiologists may practice in regions where there is little competition and where they feel they can continue to provide embolization and stent services as procedure-only specialists indefinitely. They may resent suggestions that they radically modify their

practice style to provide patient care. It is certainly their prerogative to continue in that mode. Until the last few years, a surgeon across town performed all of the vascular arteriograms on his patients in the operating room by translumbar arteriography, a technique that he learned in his training in the 1950s. Although that served him well, it wasn't in his patients' best interest and in fact was a technique that was destined to die out when he retired. Similarly, extensive empirical evidence from other sites indicates that interventional radiologists who don't provide patient management will lose their role in therapeutic interventional procedures, either by slow erosion or more often by rapid evaporation. There may be some to whom that is acceptable, especially those who have leveraged that contingency by a focus on other areas of diagnostic imaging. Although it is their prerogative, it is potentially harmful to the rest of interventional radiology because doctors in their region will use them as an example for the profession of interventional radiology. This may come back to hurt interventional radiologists when negotiating interdisciplinary position papers or

procedure reimbursement when numerous other specialties are at the table.

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