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35 Years of Radiology Consultation: Taking it Personally

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Key Points

- Value in radiology is being redefined from image interpretation to clinical integration.
- Traditional communication exercises still leave the radiologist remote and disembodied.
- For acute medical and surgical interpretation on-site personalised radiology consultation can be a win-win proposition.

Background

The expansion of both the range and the volume of the various imaging studies and procedures under the purview of the radiologist has been a hallmark of the forty-year growth of imaging as a powerful means of securing diagnosis and effecting treatment. The continual introduction and implementation of technological advances in this period have been influential, if not controlling, in setting the means by which a radiologist's work is organised and by which a radiologist's value is measured.

But this upward slope has now reached an inflection point. Incremental improvements are lessening in scope and effect, and the volume of studies in the United States peaked recently, becoming stable in some cases and declining in others, with a realisation that the untoward consequences of cost and dose have reached public consciousness and now occupy the agendas of regulators. Each of these impingements are engendering a perhaps still inchoate, but nevertheless inevitable, reconsideration of the place of radiology and its practitioners within the normative context and constraints of suitable clinical practice in the near future.

Until now, many radiologists have been content to consider that their functions are to accurately detect normality and pathology on the images they inspect, and then render a report, detailing them often with recommendations for further imaging. Communication with the referring physician is conventionally unidirectional, from us to them, through the vehicle of the written word alone. In the United States, the impersonality of the process has been abetted by: 1) the prevailing fee-for-service model of reimbursement for which the impetus is to do more imaging, and 2) the spectre of malpractice, which impels the referring physician to heed a radiologist's suggestions as being tantamount to an order.

The need for change has now become apparent with the realisation that the present modus operandi will become unsustainable if allowed to remain uncorrected.

Reducing Overutilisation

Hence various innovations have been introduced to limit overutilisation. I consider four of them:

A. Outright refusal by a third party to allow a test to be performed. That party may be a government body or an insurance company. They have deemed that a certain imaging test in a certain clinical situation should not be done, or, if done, it should not be reimbursed. Such dicta may be based on economic considerations alone or on clinical studies, which have assessed moderate to large populations. But aggregate data alone ignores specific scenarios in which the test may actually be appropriate and alternative means less so.

B. Clinical guidelines - such as the Appropriateness Criteria Project of the American College of Radiology (ACR). The focus of these numerous clinically specific algorithms, constituted by committees of experts under the aegis of the ACR, has value for very narrow presentations of illness or injury. But for many clinical presentations, its recommendations generalise without reference to pertinent, often critical history, the availability of previous images, the impress of patient-voiced considerations, and other mitigating factors, which, when taken together, help determine what can in effect be more appropriate and even optimal even at variance with the preference of the stated appropriateness criteria. For example, the ACR algorithm for intestinal obstruction is heedless of such considerations (Baker 2007). In my experience, and that of my colleague, our impression is that by and large the ACR guidelines are mostly ignored as a work-up or organising mechanism.

C. Radiology Benefit Managers (RBMs) combine the characteristics of obligatory, across-the-board restrictive policies and algorithmic inferences to provide a more measured consideration of the value of a proposed imaging study. RBMs have the power to deny a proposed test. The decrease in utilisation they induce is one metric by which they are compensated. Generally, RBMs take a more focused look at specific clinical information, but they are still remote from the patient and clinician at the point of decision-making. Moreover, often the relevant details that inform a sophisticated assessment are beyond their reach or perhaps also their concern.

D. Patient-focused computer-assisted decision support systems. That approach, most fully formulated in the U.S. at Brigham and Women's Hospital, is much more intimate in its relation to individual clinical evaluations, as it assesses specific factors relative to each patient's injury or illness in respect to a manifest clinical question (Khorasani 2001). In its typical application, lab data and previous studies are considered, as they may be valuable to inform their recommendation for radiologic studies. But the advice rendered even with this mechanism of decision support is outward from the imaging expert to the treating physician team. It is not a reciprocal relationship. There is usually no in-person dialogue engendered, and therefore it is an example of communication of expertise but not of consultation with insight reached through conversation.

The Personal Approach

I have taken a different approach, beginning in 1979 when I entered academic practice as a junior attending. This was the time when CT and US were beginning to become part of the requisite armamentarium under the radiologist's proprietorship. New advances in interventional radiology and nuclear medicine had entered the mix. Back then even new conventional procedures such as advanced double contrast barium enema and enteroclysis had come on the scene.

I was aware of the befuddlement that this dizzying array of new tests caused my clinical colleagues. I set out, as a clinical and intellectual exercise, to make sense of when each was appropriate and when each was not, depending on the clinical story in toto as related to me by the referring physicians, instead of just a chief complaint registered in a written request for a specific test.

My Chairman of Radiology allowed me the time and discretion to conduct daily on-site rounds in Medicine and then later in Surgery to help their respective clinical teams (and also to further educate me) about the best way to conduct workups which would involve radiology studies. Daily rounds became part of my everyday work in the wards. I brought the films with me - there was of course no PACS. Yet the process from the outset was mutually fulfilling, because not only did my physical presence and advice help them through our ongoing dialogues, but I too learned more clinical medicine and surgery from repeated interactions with them. I learned, also, about the unique consequences of drugs and procedures, some employed in Radiology and others from other disciplines, which helped me consider when further tests should be done and when they should be avoided. I also came to appreciate the capabilities, or lack thereof, of the various skills, limitations, and idiosyncrasies of the interpreting radiologists in my department. Over time I learned as well to change what constituted appropriateness when new tests came online and older ones became obsolete. Moreover, I accepted the idiosyncrasies inherent in this process occasioned by specific patient gender, ethnicity and habits.

We conducted three studies in the early 1980s, published respectively in AJR, Radiology and in JAMA - two in medicine and one in surgery, which demonstrated a collective reduction in the number of studies to reach a diagnosis (Baker 1982; 1984; 1986). In the surgical application of radiology consultations our endpoint was also length of days to reach a diagnosis before an operation was performed or regarded as not needed.

As my other duties increased, becoming first Program Director, and now for the past 29 years, as Chairman of Radiology as well, I have never abandoned my daily obligation to provide radiology consultations at or near the clinical department. Nowadays I do it exclusively in Internal Medicine. I have gained a deep appreciation for patient and family needs and predilections, their aspirations and limitations as informants of decision-making. I have gained as well appreciation of the presumptions and practices of the various ethnic groups in our heterogeneous patient population. I am aware of how an undue reliance on technology is inculcated into the mindset of medical students before they come to daily duty rounds. And I have recognised the value of information from previous studies, now more readily available with the emergence of the Electronic Medical Record. Furthermore, instruction in radiology consultation under my tutelage has become formalised as part of the curriculum for our residents in radiology.

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Yet despite my long-standing involvement everyday in Internal Medicine as a consultant, I have refused their requests to gain a secondary appointment in their department. Why? Because if radiology must adjust to the new meaning of what constitutes its value, it must be recognised as a unique consultative function, which should be seen to be entirely within the demarcation of what we are expected to do as integral caregivers. That is how we have to now define ourselves if we are to maintain our ethos as essential members of the clinical enterprise. Imaging now has to become a specialty that discriminatively utilises its roster of resources instead of exploiting them primarily for their pictorial capabilities.

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