Communicating Findings: A Justification and Framework for Direct Radiologic Disclosure to Patients

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**OBJECTIVE.** Radiologists’ delivery of imaging results to patients remains controversial. Referring clinicians typically prefer to relay radiologic findings themselves, often explicitly barring the radiologist from communicating diagnostic findings directly to patients. Some radiologists remain tepid about the prospect of giving results directly to patients, either because of pressure from the referring clinicians or because they feel undertrained in how to communicate difficult news, whereas other radiologists view disclosure as a core obligation of their clinical practice.

Even though clinicians are divided, patients overwhelmingly want to know their diagnostic findings. A survey of patients visiting a large university hospital showed that 87% of patients wanted to know their diagnostic findings as soon as possible, regardless of the severity of the results [1]. Tellingly, a later study showed that in an outpatient imaging practice, only 45% of patients actually asked to discuss examination findings, revealing that far more patients desire radiologic disclosure than request it [2]. In fact, only 7% of patients preferred that the findings be given only if requested [1].

On the physician side, past empirical research reveals a sliding scale of comfort regarding radiologic disclosure, for both referring clinicians and radiologists, that correlates to the severity of the findings [3]. The rationale behind this approach to radiologic disclosure is that the more benign or normal the findings are, the less potential harm there might be to the patients in radiologists communicating them. We claim that the argument for limiting disclosure only to good news is seriously flawed [3]. The practice guidelines that we advocate employ a sliding scale based on the diagnostic confidence of imaging results.

**CONCLUSION.** Once a doctor-patient relationship has been established, we claim that it is morally justifiable for radiologists to communicate findings directly to their patients. The practice guidelines that we advocate employ a sliding scale based on the diagnostic confidence of imaging results, in which the higher the radiologist’s confidence is in the results, the stronger the duty is to disclose them.

The Problem With Limiting Disclosure to Good News

The predominant view regarding disclosure holds that good diagnostic news is appropriate for radiologists to share and bad diagnostic news is not. There is strong empirical evidence that support among referring clinicians for radiologic disclosure of imaging findings decreases significantly as the severity of the findings increases. One study found that 75% of referring clinicians favored disclosure when results were normal, whereas only 27% supported disclosure of severe results [3]. In this study, the willingness of radiologists to convey diagnostic information was similarly correlated, although the support for disclosure among radiologists was significantly higher in each category: when the news was good, 90% of the radiologists surveyed supported disclosure, whereas that support fell to 31% when the findings were severe; when there were moderate results, 50% of referring clinicians and 66% of radiologists favored disclosure [3].

The problem with the radiologic practice of disclosing only positive diagnostic news is...
that patients want their medical information as soon as it is known [2, 4–6]. Patients often ask radiologists performing scans for the results of their tests and are sometimes insistent on receiving them. Waiting for results is highly anxiety producing, and even sometimes emotionally or psychologically paralyzing. In fact, many patients contend that waiting for results and not knowing the diagnosis is far worse than knowing the results, however dire. Patients both desire medical information and have a right to it [7–9].

**Weak Arguments Against Disclosing Bad News**

There are three arguments used to support disclosure on a sliding scale of severity: first, if bad news is disclosed, the patient will demand information on treatment and prognosis that the radiologist does not have; second, the referring clinician has a logistic support system to ensure appropriate referral and follow-up for a given condition; and third, it is emotionally easier for patients to receive bad news from a provider who has an established and long-standing relationship with the patient. We assert that these arguments are weak and fail to justify this approach to disclosure.

On the first argument, the rationale against disclosing severe findings is that the radiologist will not be able to provide the patient with any information about treatment or prognosis that will be sought by the patient after the difficult diagnostic news is revealed. This would, of course, not be an issue if the news is good, so revealing benign or normal results is not vulnerable to this charge. However, this argument assumes that referring physicians would have the requisite expertise to answer such questions, and this is often not the case. In many instances, the referring physician is the patient’s primary care physician, who, as a generalist, does not have the specialty knowledge needed to address the patient’s specific questions about the clinical management or outcomes of the condition. Oncologic findings, for example, will always necessitate a referral to the oncology service, and many primary care physicians will not feel trained to answer questions about the appropriate treatment course, let alone the prognosis, in an area of medicine with rapidly changing protocols and constant advancements in outcomes. For example, consider a patient presenting with dysphagia who undergoes fluoroscopic examination that shows an irregular distal esophageal wall with a long segment of luminal narrowing and ulceration with abrupt shelflike borders, findings characteristic of esophageal carcinoma [10]. Both the radiologist and the primary care physician can competently describe the next step in the disease evaluation process involving endoscopy with tissue sampling for pathologic confirmation, as well as a CT scan for staging. Neither can say more about current survival rates, treatment approaches, and so forth. This parallel is not limited to oncology patients. In a patient with a sonographic diagnosis of carotid stenosis, the standard management criteria are that a carotid endarterectomy (CEA) is recommended at greater than 70% stenosis or, in the case of symptomatic stenosis, at 50–69% stenosis [11, 12]. Regardless of whether the patient learns of these findings from a radiologist or a primary care physician, both are in possession of this knowledge of management and neither can competently describe the technique or the prognosis after the actual CEA, which is in the domain of vascular surgery.

The second argument involves the next steps associated with managing and treating the patient’s condition. Although both the radiologist and the primary care physician have the requisite knowledge to discuss these issues from the perspective of their respective expertise, it is well recognized that the primary care physician has a logistic support system in place to refer the patient for appropriate follow-up care. However, this alone is not sufficient reason to forgo discussion of findings with patients, as evidenced by how patients are managed after visiting the emergency department. After an emergency department visit, a patient is always discharged with instructions for follow-up care. These instructions typically amount to “contact your primary care doctor” [13, 14]. Aside from emergency consults, emergency physicians do not typically arrange for chronic management of a patient’s condition. This is in parallel to the case of radiology, where the radiologist would instruct the patient to contact the referring physicians or primary care physician for advice on next steps.

Potential counterarguments to this are that the patient will be informed more quickly and that a concerned patient may burden the already overworked primary care physician. The presence of a concerned patient may arise from one of two reasons: either a nonworrisome result was poorly explained or there is a worrisome result. In the instance of a nonworrisome result, it is the duty of the radiologist who is conveying findings to the patient to ensure that there is appropriate understanding. This particular facet of communication will be discussed in detail in a later section (see “Implementation”). The second instance is when there is a worrisome finding or at least a finding requiring follow-up or additional management. In cases requiring follow-up, the radiologist will almost certainly be required to telephone the referring clinician about the finding. The only difference would be an increased need to communicate the findings to the clinician without delay in case the patient called the office either to schedule an appointment or to ask additional questions. For institutions that require that findings are communicated in real time during business hours, this should not pose a problem. In institutions following that protocol, reports are not finalized until communication with the referring physician has been documented. Because it is the radiologist’s legal responsibility to communicate these findings to the referring clinician in a timely manner [14], disclosure to patients should not alter the radiologic work flow or generate extra work for or otherwise impose on the referring clinician.

The third argument used to support limiting disclosure to normal or benign results is that getting bad medical news from a physician who has a prior established doctor-patient relationship is better for the patient. There are two different rebuttals to this claim. First, in today’s fractured health care delivery system, many patients do not have a family physician or general practitioner with whom they have a long-standing relationship. This claim harkens back to an idyllic past in which patients would be cared for over decades by the same general practitioner. Managed care, specialization in medicine, frequent changes in insurance coverage, and large group practices have all but ended this type of primary care relationship. Some Americans, especially the under- or uninsured, receive their health care in clinics, never seeing the same provider twice. Shortened appointment times and the rise of certified nurse practitioners and physician assistants make it even less likely that a primary care physician will have adequate opportunity to become deeply acquainted with his or her patients. Even in pregnancy, many women visit practices with multiple physicians and certified nurse practitioners, and they are encouraged to see different providers on every visit to become familiar with all of the clinicians who could be on call during
labor and delivery. Given the way that contemporary medicine is practiced, even if it were best to hear difficult news from a trusted primary care physician, this would not be a possibility for many Americans.

Still, is bad news really most appropriately conveyed by a long-term primary care provider? In an important sense, bad news is bad news. Depending on its seriousness or severity, it will be upsetting, devastating, life altering, or life limiting. Nevertheless, other specialties that could not possibly entail pre-existing or long-term doctor-patient relationships—such as emergency medicine—are expected to deliver some of the worst possible medical news. What makes the experience of hearing difficult medical information better or worse is not how long the patient has known the physician but how compassionately the news is delivered.

Within the current model of breast imaging, radiologists typically disclose the findings regardless of whether the diagnostic news is good or bad. Radiologists do not withhold information because a mass is suspicious or malignant, so this area of radiologic practice does not follow the trend seen in the other subspecialties. Furthermore, the evolution of women’s imaging provides a model for changing radiologic culture, as well as a case study to rebut arguments against sharing difficult diagnostic news.

A survey performed in 1995 found that 88% of patients undergoing diagnostic mammograms preferred to have results given by the interpreting radiologist [15]. These numbers are concordant with the values seen in other modalities; this is as expected in the patient population surveyed, who were undergoing diagnostic (as opposed to screening) mammograms, which we feel is closer to the population utilizing general radiologic services. The second—and most likely the driving factor behind the change associated with women’s imaging—was litigation due to adverse events secondary to delayed communication [16]. These forces ultimately led to the passing of the Mammography Quality and Standards Act of 1999, which has since virtually eliminated the numerous lawsuits caused by a delay in communication [16, 17].

After the passing of this law, many mammography practices moved toward a real-time model of disclosure. Although the evolution and implementation of this model contains many facets that other radiologic subspecialties can benefit from, mammography is unique in that there is a national guideline of reporting, interpretation, and management that is based on the mammographic lexicon and the BI-RADS system. These precise and uniform requirements mean that mammography can serve as a useful starting point for greater implementation of patient disclosure, but it must be substantially modified to account for the different diagnostic issues present within each of the individual subspecialties.

Proposed New Paradigm for Radiologic Disclosure

With powerful arguments in favor of disclosure and only weak arguments justifying the restriction of disclosure to benign diagnostic results, we propose a new paradigm for direct disclosure to patients. We claim that direct disclosure is justified in all cases when a doctor-patient relationship has been or can be established between the patient and the radiologist. Moreover, we argue that the radiologist’s duty to disclose imaging results correlates with how definitive the results are; that is, the more confident the radiologist is of a definitive diagnosis, the more obligation she or he has to disclose it directly to patients. We propose a model for radiologist-patient communication with guidelines based on a diagnostic confidence scale, and we offer a method for applying these standards to the current practice model.

We believe that patient communication is always justified when a doctor-patient relationship has been, or can be, established between the patient and the radiologist. Legal precedent defines a very minimal level of interaction that a physician needs to have had with a patient in order for a doctor-patient relationship to exist. In fact, the presence of a doctor-patient relationship is the sole criterion required for a malpractice suit to proceed. Multiple court rulings at the state and federal level consistently reinforce the notion that as long as a physician renders a service for a patient, a doctor-patient relationship has been formed and the physician is subject to liability [16]. Additionally, there have been multiple instances when radiologists have had to defend against malpractice suits over not communicating findings directly to a patient if there was a lapse in the chain of health care communication [18]. Our view is that a doctor-patient relationship is robust enough to warrant disclosure of results when the radiologist has interacted directly with the patient in any way. This certainly includes all examinations where the radiologist is present but could also extend to examinations where the radiologist is on site while the scan is being performed and is called to review findings by the technologist. If the radiologist were available to meet with the patient before, during, or after the examination, a relationship could be established that would make disclosure appropriate.

We feel that this legal justification establishes the right of a radiologist to communicate with a patient. However, the communication of findings to patients is not simply a right bestowed by the legal system. Appropriate communication is an ethical duty. Medicine as a whole is a moral endeavor, with the primary value of medicine consisting of the obligation of the physician to serve the good of their patients [19]. Communication with both patients and referring physicians is considered one of the fundamental ethical pillars of radiology [19]. Although previously published literature has described the specific ethical duty only in regard to answering patient questions or ameliorating concerns about an examination, we believe that as patient-centered care paradigms continue to develop, the appropriate progression of the ethical tenet of communication is to extend our duty into disclosure and discussion of findings [19]. This is further supported by the substantial number of patients who would like to discuss findings but who do not ask. By not communicating findings to these patients, we are not fulfilling our ethical duty to meet patient needs. That said, it is important to recognize that there are a small number of patients who do not want to hear results from their radiologist, so we must craft a communication model to account for patients with this view.

In this new paradigm, we argue that it is an ethical duty of the radiologist to communicate results to all patients who desire that information. For differentiation of patients who desire direct disclosure by the radiologist from those who do not, we suggest adding a section on the preimaging questionnaire or consent form. This would allow patients to decide if they want to discuss the results with the radiologist or defer those discussions to the referring physicians.

In the case of a patient who does indicate a desire to discuss the results of an imaging study, we believe it is the duty of the radiologist to discuss those findings—no matter how severe they are. We believe that these communications should be guided by an approach based on a diagnostic confidence scale, in which higher levels of radiologic confidence correlate to a stronger duty to disclose. This scale serves patients by allowing them to access study results faster and benefit directly.
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from radiologists’ imaging expertise; additionally, such an approach leaves judgment about how much is legitimate to disclose in the face of uncertain results to the radiologist and recognizes the validity of the claim made by referring physicians that some imaging results can be accurately interpreted only through clinical correlation and consultation.

In other words, the diagnostic confidence scale method of communication uses a sliding scale for disclosure based not on the severity of the results but on how definitive the imaging results are (i.e., the more confident the radiologist is in a definitive diagnosis, the more duty she or he has to disclose it directly to patients). This diagnostic confidence scale employs a four-tiered continuum of diagnostic results that runs from “highly suggestive” to “indeterminate.” Unlike the previous model, which encouraged disclosure only in benign cases, this model focuses on diagnostic clarity on the grounds that patients ought to have timely access to definitive information about their health within the limits of the study that was provided, regardless of whether that information is positive or negative.

Looking more closely at this diagnostic confidence scale, we find four categories of confidence in the imaging results that correlate to the duty to disclose. The first category, “highly suggestive,” includes the case of the proverbial Aunt Minnie, as well as other characteristic classic presentations of common conditions. This represents the highest level of certainty in radiologic practice. Included in this category, for example, would be a pulmonary nodule with sharp demarcations, prominent central lucency, and focal calcification on CT scan, representing a hamartoma [20]. Also falling into this category would be a hyper-echoic hepatic mass in an otherwise healthy individual, indicating a classic presentation of a hepatic hemangioma [21]. We argue that the duty to disclose is strongest in these cases because the results are unequivocal.

We name the second major category of findings to be “suggestive,” indicating likely diagnoses but not definitively establishing a particular diagnosis. An ulcerated distal colonic mucosa seen on barium enema would fall into this category because it most likely represents ulcerative colitis; however, because 15% of patients with Crohn disease present with isolated colonic findings, this remains at least a reasonable, though less likely, alternative diagnosis [10]. The exclusion of a fracture on a radiograph presents a second example of this category: even though failure to see a fracture makes it most likely that no fracture is present, a radiographically occult fracture may be present, and occasionally follow-up radiographs or alternative modalities are recommended [22, 23]. In these situations, the results are merely “suggestive,” but we again argue that the duty to disclose is strong in patients desiring immediate information. Although the results are not as certain as in the previous category, we argue that it is still the radiologist who can provide the most complete picture of the likelihoods of various clinical possibilities, which generates the strong ethical duty for disclosure.

The third and fourth categories both include “indeterminate” findings. The third category represents findings that are indeterminate because of lack of evidence as to the nature of the finding. A typical example is the incidentaloma, which is defined as an incidental lesion detected on imaging that is unrelated to the purpose of the study [24]. An overwhelming number of these lesions are benign; however, there is a lack of evidence to state anything more conclusive. Specific guidelines are being developed to most appropriately manage these findings [24]. This presents a unique opportunity for the radiologist to convey the information to a patient, because these findings are new and completely within the domain of radiology and the data are not conclusive with regard to follow-up and significance. It is anticipated that the patient will have questions; however, it is up to the radiologist to convey the likely benign but still indeterminate nature of these findings. Although we argue that a duty for direct disclosure to patients who want it exists in these cases, it is not as strong given the ambiguous nature of the findings.

The final category encompasses those findings that are indeterminate and require clinical correlation or further evaluation. We include in this category the classic example of endometrial hyperplasia in a postmenopausal female, indicating endometrial hyperplasia, an endometrial polyp, or an endometrial carcinoma [25]. Even though the list of differential diagnoses is short, further workup is always needed to exclude carcinoma. An additional example within this category would be isolated inguinal lymphadenopathy seen incidentally on ultrasound; although this most likely represents reactive change, without appropriate clinical history and correlation, this cannot be said with any appreciable degree of confidence. In this category, it is imperative that the imaging results are synthesized with the patient’s clinical and laboratory history by either the patient’s referring physician or the appropriate specialist; thus, the diagnostic picture is too vague to give much definitive information for the patient through imaging alone. Therefore, although we believe it would be inappropriate for the radiologist to withhold the specific nature of these findings from the patient, we also believe that there is only a weak duty for direct disclosure. Some radiologists will be uncomfortable discussing such findings because they fear that discussion would serve only to exacerbate the patient’s anxiety without providing any concrete information; that is, disclosure would merely generate confusion and concern. For radiologists who feel this way, we argue that they are not obligated to provide direct disclosure. Our position, then, is that radiologists have a clear choice about how much of the findings to convey. They are justified in discussing the uncertain nature of the images, or they can convey that diagnosis simply requires consultation with a referring physician.

We believe that this diagnostic confidence scale, as a guideline for communication, will inform physician action when confronted with a patient demanding results. We argue that a stock answer—such as “I can’t say what is going on now because I need to further evaluate the images,” or “I will send a report to your doctor”—is disingenuous if the radiologist does in fact know the results and is simply using that as an excuse to avoid having an unpleasant discussion with the patient. In summary, we advocate for a new practice standard to better determine if a patient would like to hear results from the radiologists and for a sliding scale of diagnostic certainty as a guide with respect to the duty for direct communication. This new paradigm allows the patients to exercise autonomy by determining whether radiologic communication is desired. Similarly, it provides a framework for radiologists to use their expertise to assist patients while allowing judgment with regard to recognizing the importance of clinical and laboratory correlation where needed.

Implementation

The major issue with regard to the paradigm described is implementation, from both a logistic and a medicolegal standpoint. From the perspective of the radiologist, the greatest logistic issue is the impact that multiple patient interactions would have on work flow. As support for how this can function, we use the institutional guidelines at the pediatric hospital, a high-volume academic medical center, associated with our health care system. The institu-
tional policy at our pediatric hospital requires that the technologist speak to the radiologist before scanning, before contrast injection, and before the patient leaves the imaging suite for all cross-sectional imaging studies (Servaes S, written communication, 2012). Outpatient ultrasound and radiographic examinations also require approval before the patient can leave the department (Servaes S, written communication, 2012). These requirements were put into place for a combination of patient safety and image quality assurance reasons. Because of this requirement, most studies are read in near real time. Even acknowledging that patient communication will require more time than approving an imaging study, we believe this model is a workable starting point, which shows that near-real-time imaging interpretation is possible and that patient-centered factors like the aforementioned approval system are in place and are accepted despite reducing work flow. We also recognize that there is no significant research in this area. Therefore, we think that a gradual adoption of our system would be most prudent, and we would suggest beginning with one modality, most likely ultrasound, because many institutions require image approval before the patient leaves. We then advocate expanding to fluoroscopy as well as CT and MRI provided that an adequate work flow can be maintained. Although we would like to see a situation where patients undergoing radiography can speak with the radiologist about the findings, based on the current system of volume and reimbursement, we do not feel that is practical at this point.

The second factor regarding implementation is the logistics of follow-up management. This was discussed in detail in a preceding section (see “Weak Arguments Against Disclosing Bad News”). We believe that the radiologist is under the same ethical and logistic obligation that an emergency department physician is under regarding the arrangement of follow-up care. In evaluating how this would affect the referring physician, we think that most cases that would result in a patient calling with a question or making an appointment would require direct telephone communication regardless. Therefore, we do not think this would create an undue burden on the referring physician.

The third logistic factor is the differentiation between inpatients and outpatients. The system we have proposed can easily be implemented among the outpatient population. However, it is unclear if it can be implemented among inpatients. Although the ethical factors for inpatients remain the same, there are added concerns for patient safety. Inpatients are by definition sicker and more unstable. The radiology suite is not as well monitored as even a general medical floor. Therefore, even though we are not opposed to expanding communication to inpatients, we recommend caution when implementing any of these practices on inpatients, because patient safety takes the highest priority.

The other factor associated with added patient communication is the impact that this would have on medical liability. The best predictor of liability for a new idea is to evaluate previous precedent in similar cases. Once again, we believe that the most similar situation is that seen by emergency department physicians. Emergency department physicians have an unequivocal legal responsibility to recommend follow-up [13]. It is reasonable to assume that radiologists would bear the same burden. The solution to this problem is, in parallel to emergency department care, to have a form whereby the patient acknowledges being counseled on imaging findings and that follow-up with the referring physician was recommended. Additionally, documentation reflecting the interaction should appear in the report. Should a patient choose not to follow up and harm comes to the patient, the principle of “contributory negligence” comes into effect. Contributory negligence states that it is a patient’s legal duty to provide an accurate history and ensure follow-up as instructed [13]. Multiple cases in many state courts have upheld this doctrine, and it is therefore reasonable to assume that the same rules would apply to radiology [13].

Special consideration must be given to how this added communication would affect the field of teleradiology. Although there is an intrinsic doctor-patient relationship between the teleradiologist and the patient, it is clear that no direct interaction could occur between the two. We do not think it would be appropriate for the teleradiologist to telephone the patient, because this would most likely be considered intrusive. The ultimate rationale behind our proposed system is to improve radiologist-patient interaction: We would like all patients who want to know their results to have that opportunity whenever feasible because we believe that is our ethical responsibility. Still, this should be a patient-driven process, and patients will be instrumental in determining how this process affects teleradiology. Should there be increased demand for radiologist-physician interaction, market forces will push teleradiology to adapt accordingly; conversely, should there be less demand, teleradiology would remain within its current niche and we would still be better able to serve those patients who want to know findings in facilities with on-site radiologists.

Thorny Issues in Radiologic Disclosure

Barriers to direct disclosure still exist, even if there are sound justifications that speak in favor of direct communication of findings to patients. One of the most difficult obstacles to surmount is a prevailing view among radiologists that referring physicians adamantly oppose direct disclosure of moderate or severe results; this perception of referring physicians may be incorrect. Although support among referring physicians for direct radiologic disclosure is highest in cases of normal or benign results, their opposition to disclosure of less favorable results may be overestimated. Empirical data are limited to one study, but that research found that almost half (48%) of referring physicians “strongly agree” that radiologists should disclose moderate results with patients, and another 29% had no strong feeling either way [3]. In total, then, 77% did not oppose disclose of moderate results, and only 23% “strongly disagreed” [3]. Although support for disclosure did fall in cases of severe findings, over half of referring physicians either strongly agreed with radiologic disclosure (28%) or were neutral (25%) [3]. Therefore, even in the case of severe results, less than half of referring physicians were opposed to radiologists’ disclosure (47%) [3].

Clearly, then, the resistance from referring physicians is not as strong as has been commonly believed by radiologists, yet a sizable minority of referring physicians strongly oppose disclosure in each category of finding (18% for normal, 23% for moderate, and 47% for severe results) [3]. So, the question remains, Should radiologists disclose results to patients of referring physicians who oppose that communication? Our view is that the radiologists’ duty to disclose is not dependent on the view of the referring physician, but the practical matter of needing to work in tandem with referring clinicians makes disclosure in such cases fraught with potential negative repercussions for the radiologist. In cases where the patient does not request disclosure, it is easier to allow the findings to be communicated by the referring physician, but when the patient directly asks the radiologist, the obligation to the patient may outweigh concerns about the stance taken by the particular referring physician. A related concern is whether radiologists are obligated to ask the referring physician for “permis-
honest communication but generally hold a weaker obligation for disclosure. Opposition from referring physicians to direct disclosure by radiologists has been significantly overstated, and as radiologists adopt direct communication of results as standard practice, we expect that resistance to decline.

**References**

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