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## Mammography Screening Can Survive Malpractice . . . If Radiologists Take Center Stage and Assume the Role of Educator<sup>1</sup>

After affirming that mammography reduces deaths from breast cancer, Daniel B. Kopans, in his insightful editorial that was published earlier this year in *Radiology* (1), admonished that, unless something is done to limit the number of malpractice lawsuits filed against the radiologists who interpret mammograms, women may lose access to this valuable screening test. Kopans then emphasized the seriousness of the matter by posing the question, "Will mammography survive malpractice?" It is a question that one hopes will be pondered by the nonradiologic medical, legal, and legislative communities, but it is also a question that should be addressed by the radiologic community itself. I am in favor of enlisting the support of our medical and nonmedical colleagues to find ways to relieve mammography practitioners of the often

devastating effect of malpractice litigation, but I also believe a major part of the solution to the problem lies in the hands of radiologists themselves.

I believe there are steps that radiologists can take to "save" mammography, mainly by focusing on two of the many topics that were discussed by Kopans: first, the education of the public and, second, the legal system, including the sub-topics of standard of care, expert witnesses, and reform. As will be seen, my perspectives on these topics differ from those of Kopans.

### Educating the Public about Mammography

Kopans alludes to an article in which I had stated that the failure of the radiologic community to educate the public about the limitations of mammography is a major cause of the increase in the number of medical malpractice lawsuits alleging the misinterpretation of mammograms (2). Kopans opined that educating the public "as to the fallibility of mammography" is insufficient to reduce malpractice lawsuits because "we have been educating women and their physicians for years, and the number of lawsuits continues to increase." Kopans also states that "despite repeated warnings by radiologists over the years that mammography does not depict all cancers and does not . . . save all lives, the damage [women's belief that screening mammography is guaranteed to save their lives] was done and perfection was expected." I respectfully disagree with Kopans. I do not believe that radiologists have been warning or fully educating the public about the questions that have been raised regarding the accuracy and efficacy of mammography.

I have never seen even one warning

presented by radiologists or by any radiologic organization about the fallibility of mammography. Indeed, I have never seen any evidence whatsoever of any radiologist or radiologic organization publicly educating women, or even nonradiologic physicians, about the imperfections of mammography. Perhaps in the privacy of his or her office a radiologist might from time to time admonish an individual patient about the limitations of mammography, but I have never seen even one advertisement or pronouncement in any newspaper or magazine or on television that discusses accurate data regarding mammographic fallibility or limitations.

What I have seen are advertisements placed by radiologists stating that radiologists can find a cancer "the size of the head of a pin" at mammography. What I have seen are advertisements placed by the American Cancer Society that show pictures of women exclaiming that "a mammogram saved my life." What I have seen are testimonial advertisements placed by radiologists that show a patient proudly proclaiming that a particular radiologist "saved my life because the radiologist found my breast cancer on a mammogram." Those who place such advertisements apparently do not realize that the unstated implication of this type of advertisement or testimonial is that "the radiologist who missed my breast cancer on the mammogram cost me my life." What I have also seen are advertisements placed by radiologists that state that mammography "prevents" breast cancer.

At the 2002 Annual Meeting of the American College of Radiology, the Council passed Resolution 41, which called on the College to develop and undertake a campaign that would explain to the public the benefits, as well as the

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limitations, of mammography. Thus far I have not seen any public messages or advertisements resulting from that resolution.

Let me summarize what the public seems to believe about mammography. A recently published article (3) reporting the results of a survey taken of women's perceptions regarding the benefits of mammography screening revealed that 57% of the American women polled believe that mammography prevents or reduces the risk of *contracting* breast cancer. Likewise, 62% of American women believe that periodic mammography will reduce breast cancer deaths by 50%–75%; the researchers determined that the most appropriate response is that screening reduces breast cancer mortality by 25%. Also, 60% of American women believe that mammography will prevent 40–80 deaths from breast cancer per every 1000 women who undergo the examination; researchers determined that the most appropriate response is five deaths.

Another recently published survey (4) revealed that 74% of American adults believe that finding cancer early saves lives “most” or “all of the time.” Furthermore, 53% believe that screening “usually” reduces the amount of treatment that is needed when cancer is found, and 70% believe that a person who refuses to undergo screening mammography is “irresponsible.” The authors of the study expressed concern that public health campaigns recommending cancer screening tests have communicated “a misleadingly simple and one-sided message—a message that discourages meaningful discussions about the use of these tests.” Researchers observed that the public is “primed to believe there is value in having any test that is marketed as being able to find early cancer,” and that “the public's enthusiasm for cancer screening and resistance to do less stems in large part from messages the medical establishment itself has promulgated.” Thus, the researchers admonished that “the challenge now is to balance messages and reduce the public's risk for over-testing and over-treatment.”

I draw one and only one conclusion from these surveys: The public has not received meaningful education regarding mammography from the radiologic community.

### Standard of Care and the Missed Mammographic Diagnosis

In his editorial, Kopans, by raising the rhetorical question of whether the stan-

dard of care in our legal system is a myth, expressed the frustration that is shared by many radiologists. Kopans asked, How does one determine a standard of care for failure to perceive something that is visible in retrospect? Since almost every radiologist who interprets mammograms has missed cancers, Kopans hypothesized, then either all radiologists are negligent, or the failure to perceive an abnormality that is expected of the average radiologist should not be considered negligence. Thus, he concluded that the failure to perceive an abnormality that is visible in retrospect should not be a cause for litigation.

The question of whether a missed radiographic diagnosis constitutes malpractice has confounded medical and legal professionals for a century, and it is not likely that the issue will be resolved to the satisfaction of anyone in the foreseeable future. Appellate and supreme courts in every state of the nation have been consistent (albeit arguably nebulous) in how they have defined the standard of medical care and the conduct that they believe constitutes medical negligence. The Illinois Supreme Court stated the following 144 years ago (5):

When a person assumes the profession of physician and surgeon, he must, in its exercise, be held to employ a reasonable amount of skill and care. While he is not required to possess the highest order of qualification, to which some men attain, still he must possess and exercise that degree of skill which is ordinarily possessed by members of the profession.

All courts have agreed with the essence of that definition. A Wisconsin appellate court was far more specific as to what constitutes the standard of care in diagnostic radiology. In a case in which it ruled that the defendant, a radiologist, was not negligent for failing to observe and report major radiographic findings, the court held the following (6):

The failure to detect [radiographic abnormalities] did not constitute negligence. . . . The failures to detect the defects in these radiographs were mistakes, but they were not mistakes based on negligence. The record is devoid of any evidence or suggestion that the radiologist is anything but a fully competent, conscientious radiologist in his examination of the radiographs. . . . There is no evidence to establish that the radiologist's errors in having failed to detect those defects came as the result of his failure to conform to the accepted

standard of care in the field of radiology.

A physician is obliged to conform to the accepted standard of reasonable care, but he is not liable for failing to exercise an extraordinary degree of care. . . . A radiologist may review an X-ray using the degree of care of a reasonable radiologist, but fail to detect an abnormality that, on average, would have been found. Radiologists simply cannot detect all abnormalities on all X-rays. . . . The phenomenon of “errors in perception” . . . occur when a radiologist diligently reviews an X-ray, follows all the proper procedures, and uses all the proper techniques, and fails to perceive an abnormality which, in retrospect is apparent. Errors in perception by radiologists viewing X-rays occur in the absence of negligence.

The courts in all 50 states have spoken, and they have spoken with virtual unanimity as to how they have defined and provided guidelines for the determination of the standard of medical care. How their guidelines are interpreted by physicians, lawyers, and jurors, however, is another matter.

### The Expert Witness

Later in his editorial, Kopans turned to the subject of medical expert witnesses and suggested that the courts have no effective rules about them. Anyone can qualify to be one, wrote Kopans, who then proposed that the definition of expertise be rewritten in a way “that would be satisfactory to the medical as well as legal professions.” Kopans' understanding of expert witnesses is not entirely correct. In court proceedings involving malpractice, the standard of care in any given case is set forth by expert witnesses because lay jurors are not expected to possess sufficient knowledge of medicine to determine on their own what constitutes the standard of medical care. Experts then offer an opinion as to whether the defendant did or did not breach that standard. Courts have defined an expert witness as “a person who, because of education, training or experience, possesses specialized knowledge beyond that of the average person on a factual matter material to a claim or defense in the litigation” (7).

With regard to medical expert witnesses, the courts have stated the following (8):

Whether the expert is qualified to testify is not dependent on whether he is a member of the same specialty or sub-

specialty, but, rather, the allegations of negligence concerning matters within his knowledge and observation. In establishing a physician's competency to testify, [it must be shown that] the physician is licensed. . . and is familiar with the methods, procedures, and treatments in either the defendant-physician's community or a similar community.

The United States Supreme Court has adopted rules to ensure that expert testimony is reliable and relevant. Among the considerations that bear on the reliability of proposed testimony are matters such as whether the opinion has been subjected to peer review and publication and whether it has attracted widespread acceptance in the relevant scientific community (9).

It is true, as Kopans pointed out, that "physicians are being held to a standard of care that is determined, in retrospect, at a single instant, by the opinion of non-medical juror members who, in part, base their decision on how they feel toward the plaintiff and the defendant and how they feel about the experts." Potchen and Bisesi (10) have phrased this another way: "The standard of care in a radiology case is whatever an expert witness can convince a jury it is." Obviously, in any specific case, the expert witnesses that are retained by the plaintiff and the defendant will more likely than not vigorously disagree with each other. Such are the vagaries of our adversarial system of civil law.

### Solutions: Taking "Center Stage"

Solutions to the malpractice quagmire, in which all radiologists, mammographers, and nonmammographers alike find themselves, are not easy to discern. Kopans suggested reform of the legal system, though he is not specific as to what kind of reform is needed. The system of civil law under which America operates was inherited in pre-Revolutionary times from English common law (11). The foundation on which the common law is built comprises the published decisions of state and federal appellate and supreme courts that serve as bases on which subsequent similar lawsuits are decided. Characteristic of the common law is its adherence to precedent. It is simply unrealistic to believe or even imagine that any fundamental change in our American system of law, which has existed since the mid-18th century, will occur.

Judges and appellate court justices know that the law dictates that the stan-

dard of care requires radiologists to conduct themselves reasonably, not necessarily accurately. They know that the question that must be answered in a malpractice case involving an alleged misreading of a mammogram is not, Did the radiologist miss a cancer that can be seen in retrospect? but rather, Could a radiologist, practicing in a reasonable manner, have rendered the same interpretation of the mammogram, albeit incorrectly, as has been rendered by the defendant-radiologist?

The situation is different, however, with jurors. Jurors are supposed to base their determination on whether a defendant was negligent on the evidence only, which comprises, to a large degree, the testimony of the expert witnesses that is presented in the courtroom. If a jury decides that a defendant was negligent, it will assess damages that, in malpractice litigation, may run into the millions of dollars. Federal tort reform legislation, if ultimately passed by Congress, will cap jury awards. Such legislative reform measures, however, would not have any effect on the core issue on which the American system of medical malpractice rests—that is, the jury's determination of whether the defendant has acted negligently. Therein lies the challenge; radiologists must change the perception held by the public (ie, potential jurors) of what constitutes medical—or more specifically radiologic—negligence.

I certainly am not opposed to radiologists' support of legislative action to reform the legal system under which medical malpractice litigation is conducted. However, I consider this kind of support as passive, "behind-the-scene" or "off-stage" activity. What I propose here is more aggressive, or "center-stage," action on the part of the radiologic community.

There are two ways that radiologists can try to change the perceptions of potential jurors on what constitutes negligence. First, radiologists must become more aggressive by assuming the role of educator to the lay public, from which jurors are selected. The reason for this is that, despite instructions by a judge to consider only the official evidence offered at trial, most jurors base their decisions on personal experience and perceptions of what they think is correct (12). As has already been noted, those perceptions related to breast cancer and mammography are often wrong (13,14).

The news media from time to time have given the public a perspective that reasonably balances the benefits and limitations of mammography. Two separate

newspaper articles published earlier this year are good examples. A *New York Times* article quoted the Director of the Office of Disease Prevention at the National Cancer Institute as follows (15):

People often talk about mammograms to prevent breast cancer when what it's done is to increase, not decrease, the incidence of breast cancer. . . . It is not easy to know if screening helps or harms overall.

Similar concerns were voiced in a front-page article published in the *Washington Post* (16) that focused on the issue of whether women should be given informed consent before undergoing mammography. Pointing out that "a vocal cadre of patients, cancer specialists, advocates and health experts argue that women are blithely undergoing mammograms without knowing nearly enough about them," the *Post* writer then quoted University of California-Los Angeles breast surgeon Susan Love as stating, "Nobody wants to go against the standard dogma—we have accepted the concept of early detection and of mammography screening as the way to do it, hook, line and sinker uncritically, and we do so at our peril." Another researcher is quoted in the article as saying, "Many women wrongly believe that the act of getting a mammogram reduces their chances of developing breast cancer in the first place."

Also quoted in the *Washington Post* article was the spokesperson for the Center for Medical Consumers, an advocacy group, who charged that "after 30 years of selling this [mammography] to us, women are still not fully informed about the risks. . . . It's been oversold. They're [radiologists] afraid they can't be fully honest because a lot of us would stop going for screenings" (16). Sadly, a radiologist who is in charge of breast imaging at a major teaching institution confirmed this impression when he was reported to have said that deluging women with too much information about all the possible outcomes and uncertainties about mammography would unnecessarily confuse and alarm them and "would scare women away from getting mammography."

One need not look too far to find similar views expressed in the scientific literature. Noting that many American women harbor fear of breast cancer on the basis of "hyperbole" and are "terrified of breast cancer," a Canadian researcher recently observed in the *Journal of the*

National Cancer Institute that “physicians must let frightened women know that, even without screening, most women who get breast cancer will not die of it and that despite screening, some women will die of breast cancer” (17).

In his *Radiology* editorial, Kopans (1) acknowledged that in as many as 70% of cases, a finding that could potentially represent breast cancer is visible, in retrospect, on a preceding mammogram. At the same time, Kopans questioned the need for further education of the public, maintaining that women have ready access to all information they need about mammography. I ask, has the radiologic community ever informed the public of this 70% statistic? I do not believe it has. I further ask, Has the radiologic community ever fully informed the public that earlier detection of certain virulent breast cancers at mammography will neither lengthen their lives nor increase their survival, and that detection of some histologically suggestive but clinically benign breast cancers will not only not lengthen a woman’s life span but also may instead subject the patient to unnecessary surgery or chemotherapy? I do not believe the radiologic community has addressed this issue. What I do believe is that radiologists must take center stage and educate the public.

### Educating Expert Witnesses

The second area in which I believe that radiologists must assume the role of educator concerns expert witness testimony. While it is true, as Kopans stated in his editorial, that radiologists who have no expertise in mammography occasionally testify incorrectly as an expert for the plaintiff in “mammographic-miss” malpractice lawsuits, there are far more cases where the experts are well qualified in

mammography. Whatever their motivation and reasons for stepping forward and testifying—noble or nefarious—radiology experts frequently misstate to juries what constitutes the standard of care (18,19). To be correct in all radiologic interpretations is not the standard of care. I ask, Has the radiologic community ever educated its own members, much less the public, as to what constitutes the standard of care in radiologic practice? I do not believe it has. What I do believe is that radiologists must again take center stage and educate their professional brethren.

### Can Mammography Survive Malpractice?

Kopans has asked whether mammography screening can survive malpractice. My answer is that it can, but only if radiologists and radiologic organizations walk onto the figurative center stage and fully and accurately educate the public by discussing the benefits and limitations of mammography, particularly as it relates to the management and prognosis of breast cancer. At the same time, radiologists and radiologic organizations must also educate their own colleagues and members about the true fallibility of mammography and the issue of whether a perceptual miss of a subtle sign of malignancy on a mammogram equates with negligence. Having radiologists assume the role of educator will not guarantee that screening mammography will survive malpractice, but the failure to provide such education could well hasten screening mammography’s further descent into the morass of malpractice litigation and eventual extinction.

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