TELERADIOLOGY: THE PERKS, PITFALLS AND PATIENTS

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TELERADIOLOGY: THE PERKS, PITFALLS AND PATIENTS WHO ULTIMATELY PAY

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ABSTRACT

The business side of medicine is driven by profits and changes have been implemented to achieve this goal with the utilization of such things as electronic medical records, e-prescriptions, the increased use of generic drugs and the reduction in the number of diagnostic imaging and blood tests ordered. A less well known change is teleradiology, the ability of health care providers to transmit radiological images, like X-rays, CT Scans and MRIs, from one location to another for diagnostic or consulting purposes. The premise is that a radiologist can diagnose images remotely from anywhere in the world as long as there is a phone or internet connection. This allows a medical facility, regardless of its size, to have a radiologist on call at any hour to quickly review their diagnostic studies without having to employ such a specialist on premises. The business advantages of teleradiology are obvious, but who is responsible when something goes wrong? After all, teleradiology services are usually set up as independent contractors but can the healthcare provider escape liability for the malpractice of a radiologist who is not an employee of the hospital or urgent care center? The complex and sometimes far removed relationships teleradiology creates can make ascertaining who is liable and how to seek legal redress uncertain. This article will address the myriad legal issues that arise with the use of this technology in the practice of medicine.

FINANCIAL DISCLOSURE

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Annie was rushed to the emergency room of a rural hospital complaining of an intense headache. The emergency room doctor ordered a CT of her brain to determine the cause. As is the case with many smaller facilities, the hospital did not have a radiologist on-site to interpret and discuss with the treating doctor what the test revealed. The hospital, however, had a contract with an off premises teleradiology company so a digital version of the films were immediately dispatched to that company. The service in turn sent the scan to one of their radiologists in California. She returned a written report indicating a small mass in the patient’s brain, possibly a tumor, but not life threatening.

Annie was discharged with pain medication and told to schedule an appointment with a neurologist. She returned to the medical facility four hours later in excruciating pain and the same ER doctor ordered a CT angiography to obtain a more detailed image of the brain.\(^3\) The physician again sent the images to the teleradiology company who forwarded the study to a different radiologist who was in England at the time. This radiologist also detected the small mass, but noted a cloudy ring around it. The ER doctor, receiving no cause for concern from the second radiologist, again discharged the patient.

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The following morning, Annie’s father – aware she had been to the hospital – checked in on his daughter. Unable to reach her by phone, he rushed to her house and found Annie unconscious at the bottom of the stairs. She was transported to the same emergency room where she was now diagnosed with a ruptured brain aneurysm. Annie was in a coma for seven weeks and sustained permanent brain damage. Her sensory skills are impaired; she cannot drive and has difficulty processing language, which means she cannot function on her own. Had the ER doctor been able to discuss with either teleradiologist their findings, Annie’s condition may have been prevented. The mass was actually a fusiform aneurysm⁴ and the ring was a buildup of fluid causing pressure on the brain, which can be fatal if left untreated. With no interaction among the physicians and the travel of the images through cyberspace, each doctor assumed that someone else was putting the puzzle pieces together concerning Annie’s problem, thereby causing the devastating consequences she experienced.

I. Introduction

The face of medicine has dramatically changed during the last several decades. The days of doctors making house calls and hospitals being non-profit centers catering to the needs of the local community are gone. Healthcare is a business with the bottom line being the focus of much attention. Providers clearly understand their priorities - offering “high quality goods and services people want, at affordable prices.”⁵ For instance, profit margins have been increased by converting to electronic medical records. This system allows physicians to treat more people since they spend less time inputting data and the task of the office personnel in claims processing.

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is expedited thereby making them more efficient. Hospitals are utilizing less-costly generic medication and streamlining their staff with less overtime being offered. Others are eliminating unnecessary diagnostic imaging and blood tests. For example, not every person with back pain needs an X-ray or MRI when physical therapy will abate most spinal complaints. Teleradiology, a little known byproduct of the digital age, is another cost saving measure that offers a number of medical benefits and cost savings.

Teleradiology – A Brief History

Teleradiology is that branch of telemedicine, where the exchange of medical information is accomplished via electronic communication. Teleradiology enables health care providers to transmit radiological images, like X-rays, CT Scans and MRIs, from one location to another for diagnostic or consulting purposes. The premise is that a radiologist can diagnose images remotely from anywhere in the world as long as there is a phone or internet connection. This allows small healthcare providers which do not employ a radiologist on a 24 hour basis to send

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9 What is Telemedicine?, AMERICAN TELEMEDICINE ASSOCIATION, http://www.americantelemed.org/about-telemedicine/what-is-telemedicine#.U9WC_fldWSo (last visited July 18, 2014). As explained by the American Telemedicine Association, “telemedicine is the use of medical information exchanged from one site to another via electronic communications to improve a patient’s clinical health status. Telemedicine includes a growing variety of applications and services using two-way video, email, smart phones, wireless tools and other forms of telecommunications technology.” Id. The Institute of Medicine has noted that the growth of this form of healthcare is attributed to the cost of health care in the United States and the need to better utilize expensive resources. Thomas R. McLean and Edward P. Richards, Teleradiology: A Case Study Of The Economic And Legal Considerations In International Trade In Telemedicine, Health Affairs, Vol. 33, No. 8, August 2014, http://content.healthaffairs.org/content/25/5/1378.full (last visited August 15, 2014).
their films for immediate interpretation by an imaging specialist at a distant location.\textsuperscript{12} Other advantages include reducing costs, allowing radiologists to be more productive by not having to travel, allowing hospitals to better serve their patients and providing access to radiological specialists in certain subsets of diagnostic imaging.\textsuperscript{13}

Until recently, health care providers used teleradiology services in emergency situations only.\textsuperscript{14} However, the concept of providing long distance medical services is not new. Closed circuit television systems were developed for medical care of boat passengers as early as the 1960s.\textsuperscript{15} The rise of the computer facilitated the store-and-forward method,\textsuperscript{16} simplifying operations by eliminating the need for all parties – patients, providers, and other support staff – to be present at both sites simultaneously.\textsuperscript{17} With the advent of digital imaging, teleradiology became possible, but different practices for how these images were stored made displaying them on various machines complicated.\textsuperscript{18} A standard for storing digital images was created in 1993 and was widely accepted by image machine manufacturers, creating uniformity among these entities.\textsuperscript{19}

Commercial availability of teleradiology systems became available in the 1980s, but their quality, adaptability, and enlargement capabilities to handle a growing amount of work were limited.\textsuperscript{20} Thus, the high costs and low performance hindered their widespread adoption.\textsuperscript{21}

\begin{flushleft}
\textsuperscript{14} Id.
\textsuperscript{15} Id.
\textsuperscript{16} James H. Thrall & Giles Boland, \textit{Teleradiology, in PACS: A GUIDE TO THE DIGITAL REVOLUTION} 315, 318 (2d ed. 2002).
\textsuperscript{17} Thrall, \textit{supra} note 10, at 614.
\textsuperscript{18} See TELERADIOLOGY GROUP, \textit{supra} note 14.
\textsuperscript{19} Id.
\textsuperscript{20} Thrall, \textit{supra} note 10, at 614.
\end{flushleft}
changes in computer technology and performance, medical imaging, and the birth of the Internet, however, created an economical and functional platform for realizing teleradiology on a large scale.\textsuperscript{22}

Just before the start of the twenty-first century, pure teleradiology companies flourished, taking advantage of differences in time zones such that a doctor in England could monitor the graveyard shift in California.\textsuperscript{23} The software necessary to interpret various types of images became inexpensive and with the availability of personal computers, the radiologist is able to work from home for several teleradiology companies.\textsuperscript{24}

II. Questions Teleradiology Raises

A. Who Is Responsible?

The advantages of teleradiology are obvious, but who is responsible when something goes wrong? The complex and sometimes far removed relationships teleradiology creates can make ascertaining who is liable and how to seek legal redress uncertain. Parties involved at a minimum are the teleradiologist; the employer, which may be a hospital or an independent contractor; the treating physician; and the hospital with whom the teleradiology company has contracted.

1. Teleradiologist

The most obvious place to begin when investigating liability is with the individual reading the images. Setting aside jurisdictional questions, if the teleradiologist has malpractice insurance, an individual has some form of redress for the harm caused. In addition, the

\textsuperscript{21} Id.
\textsuperscript{22} Id.
\textsuperscript{23} See TELERADIOLOGY GROUP, supra note 14. As noted in Hayles v. Ayedun, 2012 WL 6136028 (S.D. Ga.), teleradiology has gained wide acceptance among health care professionals “as [a] method for radiologists to view and interpret radiological images, like x-rays.”
\textsuperscript{24} Id.
teleradiologist presumably has not only the training and skill to read the images, but also adequate equipment on which to read them.

_Coleman v. Meritt_, 25 offers an example of a malpractice claim against a teleradiologist. In _Coleman_, a teleradiologist’s delayed diagnosis of a ruptured stomach ulcer was alleged to be directly responsible for Ruth Lacey’s demise. 26 Lacey went to a hospital for a CT scan and then returned home. 27 The images were forwarded to a teleradiologist who reported nothing life threatening. 28 Still in pain, Lacey went to the emergency room the following day where doctors detected a ruptured ulcer, but emergency surgery did not save her life. 29 A lawsuit alleged that free intraperitoneal air 30 was visible on the images indicating an emergency, however, when the teleradiologist viewed the images, they were not the original images, but rather “digitally transferred images on his office computer monitor,” and they were not of diagnostic quality. 31 The court determined the teleradiologist breached the standard of care because he should have recognized the life threatening emergency that was present in the images. 32 A review of the images the teleradiologist interpreted showed that the free air was clearly visible. 33

A. STANDARDS GOVERNING RADIOLOGISTS

26 Id. at 341.
27 Id.
28 Id.
29 Id.
31 Id. The teleradiologist did not deny the diagnostic quality of the images, from which a radiologist may make the final diagnosis. _Id_ If the radiologist deems the images anything less, the diagnosis should be labeled preliminary pending review of the original films. _Id_ at n. 5.
32 Id. at 342.
33 Id. It is unclear why the teleradiologist neglected to notice it as there were no details regarding the equipment or training of the teleradiologist.
Two entities, the American Board of Radiology and the American College of Radiology, have created guidelines for standards of care governing outsourcing of radiologists services. Both work with state medical boards to ensure high quality medical care and professional integrity in the practice of radiology.

i. **American Board of Radiology (ABR)**

The ABR works with the American Board of Medical Specialties to establish board certifications in radiology, offering different certificates in radiology. The ABR strives, through certification, to improve the quality of medical care, to improve radiological education, and to improve training and standards within radiology. There are various radiological subspecialties, such as pediatric radiology and neuroradiology, however, diagnostic radiology is the basic certification enabling one to interpret a variety of different images.

ii. **American College of Radiology (ACR)**

In addition to the certification requirements set forth by the ABR, the ACR works to improve the practice of radiology by furnishing ongoing education and overseeing research for the advancement of radiology. The organization devotes “its resources to making imaging safe, effective and accessible to those who need it.”

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35 American Board of Radiology General Information, AMERICAN BOARD OF RADIOLOGY, http://theabr.org/about-landing (last visited July 20, 2014). The American Board of Medical Specialties (ABMS) helps twenty-four specialty boards in such disciplines as family medicine, radiology, dermatology, orthopedics, and emergency medicine, to name a few, to create and utilize standards in their certification of doctors. This organization is considered the gold standard in the board certification process. American Board of Medical Specialties, http://www.abms.org, (last visited Aug. 15, 2014).
36 Id.
39 Id.
With this background in mind, the ACR first published standards for teleradiology in 1974, which standards have since been revised twice.\textsuperscript{40} The standard states that the individual providing the formal interpretations is responsible for the quality of the images.\textsuperscript{41} It also notes that a diagnostic radiologist should interpret images only when he is involved in the full practice of radiology on a relatively consistent basis, including working to improve quality, regularly reviewing images, and participating in policy matters that affect patient care.\textsuperscript{42}

The ACR requires those who interpret images in a state other than the one in which they reside to be licensed in both states – the one where the image was produced and the one in which the interpretation takes place.\textsuperscript{43} The ACR also supports state legislation that requires out-of-state physicians to obtain and maintain a license to practice teleradiology within a particular state.\textsuperscript{44}

Though the regulations vary by state, thirty-seven states and the District of Columbia have enacted statutes that generally require a full, unrestricted license to practice telemedicine, including teleradiology, within their borders.\textsuperscript{45} Thirteen states and Puerto Rico permit an exception to this requirement if the out-of-state radiologist is consulting with an in-state physician.\textsuperscript{46} Minnesota, for example, requires a telemedicine license but not if “the services are provided on an irregular or infrequent basis,” defined as less than once a month or ten patients annually.\textsuperscript{47} Oregon has no statutes regulating telemedicine, however, the Oregon Medical Board

\textsuperscript{40} Teleradiology (State Level), AMERICAN COLLEGE OF RADIOLOGY, http://www.acr.org/advocacy/state-local-relations/legislative-issues/teleradiology (last visited July 22, 2014).
\textsuperscript{41} Id.
\textsuperscript{42} Id.
\textsuperscript{43} Teleradiology (Federal Level), AMERICAN COLLEGE OF RADIOLOGY, http://www.acr.org/Advocacy/Legislative-Issues/Teleradiology (last visited July 22, 2014).
\textsuperscript{46} Id.
\textsuperscript{47} MINN. STAT. ANN. § 147.032 (West 2014).
provides that a radiologist located outside of Oregon consulting with a physician inside Oregon does not require an Oregon license.48

B. ON-SITE VERSUS WORKING FROM HOME

The above requirements and standards proffered by the ABR and ACR as well as individual state licensing requirements seem adequate to ensure that the radiologist reading the image is qualified and has the resources to do so, however, the environment in which one works can make a difference. Prior to the advent of telemedicine, working in a medical facility may have made it relatively easy to stay focused and productive; however, the pitfalls of working from home have the potential to negatively affect a teleradiologist in the same ways it can anyone else. Working from a doctor’s residence may make one more comfortable and thus more prone to become distracted and lose incentive to maintain professionalism.49 Interruptions and distractions are also common problems that affect telecommuters – two problems that can have disastrous results for a teleradiologist.50

These circumstances may have contributed to a patient’s death in 2008. The facts show that a 47-year-old man with a history of thoracic aneurysm51 and experiencing back and side pain went to the Carilion Roanoke Memorial Hospital emergency room in Roanoke, Va.52 The treating physician, aware of the patient’s medical history, ordered a diagnostic study to ascertain the condition of the aneurysm.53 The hospital did not have a radiologist available so the

48 OR. ADMIN. R. 847-008-0022 (2014)
53 Id.
physician forwarded the images to Nighthawk Radiology Services (NSR), a teleradiology service, with whom the hospital had contracted.\(^\text{54}\) In turn, NSR forwarded the images to a radiologist working from home in Louisiana for interpretation.\(^\text{55}\) The teleradiologist ascertained that there was no change in the aneurysm, which prompted the treating physician to send the patient home with pain medication.\(^\text{56}\) Five days later, a family member found the patient dead.\(^\text{57}\) Upon re-examination, the images showed the aneurysm had actually grown in size and was on the verge of bursting.\(^\text{58}\) The cause of death: a ruptured aneurysm.\(^\text{59}\)

This case was settled, but it is unclear why the teleradiologist misread the images. Was he distracted or were the images of poor quality? Did the radiologist have an inadequate number of images to review or was the machine used to produce them defective? While it is conceivable possible the pitfalls of working from home played a role in the misinterpretation, there is no information available regarding the equipment the teleradiologist used at home. It is critical that the equipment a radiologist uses at home to interpret images complies with ACR standards. This generally is not an issue when it comes to equipment at a hospital or other medical facility, but monitoring every piece of equipment at a teleradiologist’s residence is not feasible and substandard machines may cause interpretation problems.

C. Equipment Guidelines and Standards

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\(^{54}\) Id.

\(^{55}\) Id.


\(^{57}\) Id.

\(^{58}\) Id.

\(^{59}\) Id.
The ACR has created extensive guidelines for devices used in the acquisition, digitization, compression and transmission of images. It also specifies the type of monitor, graphics card and image presentation requirements. These guidelines take into account the needs and resources of each facility, however, they stress that all efforts should be made to ensure image quality is “appropriate to the clinical needs” of the facility. Further, the teleradiology company is responsible for ensuring the teleradiologist maintains an adequate workstation.

Unfortunately, the guidelines explicitly state they are not intended to be used as a “legal standard of care.” The preamble for most, if not all, ACR guidelines states the guidelines are “an educational tool designed to assist practitioners” and “are not intended, nor should they be used, to establish a legal standard of care.” Further, the ACR specifically “cautions against the use of [the] guidelines in litigation” when “clinical decisions” are questioned.

The courts have reached conflicting results in whether these guidelines can be used to establish a standard of care. In *Diaz v. New York Downtown Hospital*, citing the ACR guidelines was insufficient to demonstrate the legal standard of care for a radiologist. The facts show that a woman brought suit alleging a sexual assault during a vaginal sonogram. There was no female observer present in the room during the examination, as recommended by the ACR

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61 Id. at 6.

62 Id. at 4.


64 See Technical Standard, supra note 60, at 1.

65 Id.

66 See Technical Standard, supra note 60, at 1.


68 Id.


70 Id.
guidelines, and the plaintiff consequently argued the hospital was negligent.\textsuperscript{69} The court disagreed: the “wording [in the guidelines] falls well short of establishing the ‘accepted standard of care.’”\textsuperscript{70} Had the organization wanted to impose legal standards, “they would have done so in more obligatory terms,” and thus the statements were “non-binding, suggested procedure, and nothing more.”\textsuperscript{71}

Conversely, the Arizona Court of Appeals relied on ACR guidelines in determining a radiologist had a duty to communicate the results directly to the patient when there was no referring physician.\textsuperscript{72} In a matter of first impression, the court looked to case law in various jurisdictions and turned to the ACR guidelines when all other resources offered no definitive rule.\textsuperscript{73} On appeal, the Arizona Supreme Court declined “to find a duty to report directly to the patient based upon the medical profession’s ethical standards because [it] conflates the existence of a duty with the standard of care.”\textsuperscript{74} The court held that whether duty required the radiologist to communicate directly with the patient was a question of fact and remanded the case.\textsuperscript{75} This decision at the appellate level is the only one showing a court’s reliance on the guidelines.

**D. INTANGIBLE INTERPRETATION FACTORS**

A physician’s familiarity with a particular machine also plays a role in the accuracy of his or her interpretation.\textsuperscript{76} The overnight shift in a hospital commonly referred to as “the ‘third shift,’” generally employs less experienced radiologic technologists (RT), the individual who

\textsuperscript{69} Id.
\textsuperscript{70} Id.
\textsuperscript{71} Id.
\textsuperscript{73} Id. at 1080-81.
\textsuperscript{74} 92 P.3d at 854.
\textsuperscript{75} Id. at 856.
positions the patient and operates the machine.\textsuperscript{77} Thus, the technician may not be as familiar with the characteristic of the images a particular machine may produce.\textsuperscript{78} In a hospital setting and depending upon the symptoms that a patient presents, a radiologist may instruct the RT to use a different machine based on previous experiences and to optimize diagnostic quality.\textsuperscript{79} On-site radiologists generally have more familiarity with the equipment and there is no ABR certification for experience and knowledge with a particular machine.\textsuperscript{80} A teleradiologist does not know the age, quality, and accuracy of a machine and any idiosyncrasies associated with it. Any innate defects are indiscernible to the teleradiologist who would not have the familiarity with the imaging devices to make the necessary adjustments.

Another element that may affect a teleradiologist’s interpretation is working alone.\textsuperscript{81} When a radiologist works in a medical facility on a regular basis, a relationship is created with other physicians which contributes significantly to the quality of care provided.\textsuperscript{82} If a radiologist becomes friendly with or has a good working relationship with various RTs, he or she can discuss with the RT how images were captured, suggest methods to optimize diagnostic quality and can appreciate the RT’s skill and style, which may assist in the radiologist’s interpretation of the images.\textsuperscript{83} Despite technology expanding opportunities for physicians to practice, learn and collaborate remotely, the comfort and trust colleagues create while working together in the same physical location cannot be replicated in the virtual world of telemedicine.\textsuperscript{84}

\textsuperscript{77} Id.
\textsuperscript{78} Id.
\textsuperscript{79} Id.
\textsuperscript{80} Id.
\textsuperscript{81} Id.
\textsuperscript{82} Id.
\textsuperscript{83} Id.
\textsuperscript{84} Id.

\textsuperscript{81} Nyberg & Lanzieri, supra note 76, at 260.
In *Estate of Fout-Iser v. Hahn*, the lack of a working relationship may have contributed to the death of child. When Maranda Fout-Iser was eight months pregnant, she went to the emergency room complaining of abdominal pain, fever, and other symptoms. The ER doctor ordered an abdominal sonogram and a relatively new X-ray technician generated eight images, which were forwarded to a teleradiologist. The X-ray technician called the teleradiologist who allegedly began “shouting profanities with regard to the poor quality of the images,” stating that he needed more. Explaining her unfamiliarity with the machine, the procedure and asking for assistance only prompted more shouting because the doctor “‘didn’t have time to come [to the hospital]’.” The physician provided no guidance, stating it was the X-ray technician’s “job to know what to do.” The X-ray technician produced approximately fifty more images; however, by then the patient had already been transferred to another hospital. The images were nonetheless still forwarded to the teleradiologist who reported the presence of a live fetus. Six hours after Maranda went to the initial hospital, doctors at the second facility delivered her child by C-section, but the baby was already dead.

The patient and her husband sued the teleradiologist and the court ruled that whether the teleradiologist breached the standard of care was for a jury to decide, denying motion of the defense for summary judgment. An expert testified that the teleradiologist was responsible for interpreting the images and, because he was dissatisfied with the initial images, the physician should have provided “some guidance or direction” so that he would “be comfortable providing

85 649 S.E.2d 246 (W. Va. 2007).
86 Id. at 248.
87 Id.
88 Id.
89 Id.
90 Id.
91 Id.
92 Fout-Iser, 649 S.E.2d. at 249.
93 Id.
94 Id. at 250.
an interpretation of . . . the images that he received.\textsuperscript{95} While even an on-site radiologist would not be expected to perform an X-ray technician’s duties, working together and understanding her discomfort and unfamiliarity with the procedure may have prompted a collaboration to produce images faster, leading to a quicker diagnosis. The delay in interpretation, resulting in a transfer to another hospital, directly contributed to the child’s death.\textsuperscript{96} Another expert for Maranda testified that an earlier C-section could have saved the life of the baby.\textsuperscript{97}

2. \textit{Teleradiologist’s Employer}

Holding a teleradiology company or a hospital liable for the negligence of a radiologist is done through traditional respondeat superior principles. Presumably, a background and reference check is performed on a prospective radiologist, regardless of whether he or she plans to practice remotely.\textsuperscript{98} If a hospital or teleradiology company is negligent in hiring physicians by failing to perform background checks or ensure he or she is fit to practice, it may be liable for any malpractice that the physician commits.

3. \textit{Treating Physician}

While it may be relatively easy to understand that the radiologist is responsible for any interpretation mistakes, the treating physician in such a situation is usually not liable. Though he or she has primary contact with the patient and ultimately determines decisions concerning care, the treating physician generally has no liability if he or she reasonably defers to the radiologist’s expertise. For instance, in \textit{Shah v. Jefferson Parish Hospital},\textsuperscript{99} the court ruled a treating physician did not breach the standard of care when he did not personally read a patient’s X-ray

\textsuperscript{95} Id.
\textsuperscript{96} Id. at 251.
\textsuperscript{97} Id.
\textsuperscript{99} 870 So. 2d 597 (5th Cir. 2004).
and instead relied on the radiologist’s diagnosis. The X-ray revealed a fracture that the radiologist did not spot, leaving the patient in pain two weeks longer than necessary. Specifically, the treating physician’s “judgment to defer to the radiologist was reasonable.”

The court’s opinion was bolstered by a medical review panel’s conclusion that the treating physician did not breach the standard of care, despite the fracture being visible on the X-ray, because the patient did not “have the classic presentation of a . . . fracture.”

If, however, a physician is not reasonable in relying on a radiologist’s diagnosis, he or she may be held liable for malpractice. In Hernandez v. Chalmette Medical Center, an ER doctor’s defense of deferring to a radiologist’s diagnosis was unsuccessful because the patient presented with classic symptoms of a hip dislocation, which the court held – based on a medical panel’s review – the ER doctor should have detected. Additionally, the ER doctor stated he was capable of and planned to interpret the X-rays himself, but because the radiologist “happened to walk by the emergency room,” they viewed the X-rays together. Neither doctor saw the hip dislocation, but rather the radiologist diagnosed it as a “hip and leg contusion.” As a result, the patient suffered permanent damage to the hip. Further, a medical review panel concluded that both the treating physician and the radiologist breached the standard of care by failing to diagnose the patient properly because the symptoms were clear without further tests.

4. Hospital’s Liability
   A. Ostensible Agency

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100 Id. at 600-01.
101 Id. at 599.
102 Id. at 601.
103 Id. at 600.
105 Id. at 151.
106 Id. at 152.
107 Id. at 143.
108 Id. at 144.
109 Id. at 152.
Normally, the contract between the teleradiologist and health care provider will spell out in exquisite detail that the physician will be considered at all times an independent contractor. The reason for this designation is obvious. It is a basic tenant that a principal is generally not liable for the torts of an independent contractor. That distinction is fine between the contracting parties but how is the patient suppose to know that the radiologist is not employed by the hospital or may be located hundreds of miles away or even in another country?

Holding a hospital liable for a teleradiologist’s mistake varies by jurisdiction. If a radiologist is an employee of a hospital, respondeat superior holds the hospital vicariously liable for any malpractice. However, agency law governs the contractual relationships a hospital has with teleradiology companies. General agency principles state that a fiduciary relationship forms when one person, the principal, assents for another, the agent, to act on his or her behalf, subject to the principal’s control and consent. An independent contractor, however, may also be an agent and is defined as one who contracts with another but is not subject to control with respect to the physical conduct of the performance. Generally, an employer is not liable for the torts of the independent contractor. Nevertheless, a principal who represents to a third party that another is acting on his behalf may be liable to that third party for any harm caused. Thus, upon entering a hospital for care, the hospital may be liable for a physician’s negligence despite the status of an independent contractor depending upon the representations or manifestations the hospital makes regarding its relationship with the physician.

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111 RESTATEMENT (THIRD) OF AGENCY § 1.01 (2014).

112 Id. at Reporter’s Notes c; see also Wiggs v. City of Phoenix, 10 P.3d 625, 628 (Ariz. 2000) (“[I]t is not always the case that an independent contractor is not an agent.”).

113 RESTATEMENT (THIRD) OF AGENCY § 7.08 (2006) (stating that a principal may be liable via vicarious liability for a tort committed by an agent).
Ostensible agency, or apparent authority, is an agent’s power “to affect a principal’s legal relations with third parties when a third party reasonably believes” the agent has the power to do so and that belief can be traced back to the principal’s indications.114 Thus, if a hospital holds out a radiologist such that a patient believes the radiologist is acting on behalf of the hospital may be vicariously liable for any harm the patient suffers at the hand of the radiologist even though that individual may be an independent contractor.

Historically, hospitals were immune from liability for the negligence of physicians.115 Charitable immunity provided protection because hospitals were staffed by volunteers and furnished minimal services.116 In addition, physicians with highly specialized training and skills were not controlled by a hospital lay board of directors and thus could not be servants in the manner dictated by respondeat superior.117 Instead, “physicians were classified as independent contractors.”118 Modern hospitals, however, are tremendously different in that they regularly employ a broad range of individuals on a salaried basis and a patient who looks to a hospital for treatment expects that the hospital will provide services, not that the staff will act of their own accord.119

Most, if not all, teleradiology contracts deem the teleradiologist to be an independent contractor. Whether a physician who is dubbed an independent contractor is an agent of a hospital for vicarious liability purposes is a question of fact.120 When telemedicine was in its

114 Restatement (Third) of Agency § 2.03 (2006).
116 Id.
117 Id. at 236.
118 Id.
119 Id.
infancy, courts in numerous states determined that a hospital is liable for an independent contractor physician’s malpractice. The hospital, however, must hold itself out as a medical services provider and, “unless the patient has actual knowledge of the physician’s actual status as an independent contractor, the patient can recover if it is objectively reasonable for the patient to believe that physician is an employee of the hospital.” Contractual provisions expressly stating that a physician is not an employee are “not determinative of the relationship of doctor to hospital vis-a-vis the plaintiff.” In each case, the court looks at the facts and determines whether a reasonable person in the same circumstances would have believed the physician was an employee.

In Mejia v. Community Hospital of San Bernadino, the court held a hospital liable for a teleradiologist’s negligence based on ostensible agency. A woman went to the hospital’s emergency room after experiencing severe neck pain. The teleradiologist, to whom “at least contractor is an agent); Perkins v. Children’s Orthopedic Hosp., 864 P.2d 398, 404-05 (Wash Ct. App. 1993) (holding a hospital’s language in a release labeled independent contractor physicians agents of the hospital).

See Clark v. Southview Hosp. & Family Health Ctr., 628 N.E.2d 46, 53 (Ohio 1994) (holding that it is reasonable to assume patients believe a radiologist whom they have never met is an employee of a hospital); Simmons v. Tuomey Reg’l Med. Ctr., 533 S.E.2d 312, 322 (S.C. 2000) (holding a hospital vicariously liable through ostensible agency for an independent contractor physician’s malpractice); Richmond County Hosp. Auth. v. Brown, 361 S.E.2d 164, 166 (Ga. 1987) (holding summary judgment regarding whether the hospital was liable for independent contractor physician’s malpractice was inappropriate and plaintiffs deserved opportunity to provide evidence that the hospital held out physicians as employees); Gilbert v. Sycamore Mun. Hosp., 622 N.E.2d 788, 795 (Ill. 1993) (holding a hospital may be vicariously liable for an independent contractor physician’s malpractice unless the patient knew, or should have known, that the physician was in fact an independent contractor); Sharsmith v. Hill, 764 P.2d 667, 672 (Wyo. 1988) (holding summary judgment was inappropriate and that the apparent, or ostensible, agency rule applied to determine whether a hospital was vicariously liable for an independent contractor physician’s malpractice); Arthur v. St. Peters Hosp., 405 A.2d 443, 446-47 (N.J. Super. Ct. Law Div. 1979) (“[U]nless the patient is in some manner put on notice of the independent status of the professionals with whom it might be expected to come into contact, it would be natural for him to assume that these people are employees of the hospital.”); Capan v. Divine Providence Hosp., 430 A.2d 647, 648-50 (Pa. Super. Ct. 1980) (holding it was possible for a jury to find the hospital held out the physician as an employee and would thus be vicariously liable). 

Ermoian, 61 Cal. Rptr. 3d at 781; see also Clark, 628 N.E.2d at 53 (holding it is objectively reasonable for a patient to assume a doctor he has never met to be an employee of the hospital); Simmons, 533 S.E.2d at 322 (holding patients were reasonable in their assumption that treating physicians were employees of the hospital).


Id. at 234.
“one” image was sent, noted a congenital fusion of some vertebrae, but nothing life threatening.\footnote{126}{Id.} After being sent home, the woman woke up the following morning unable to move – she was paralyzed because her neck was actually broken.\footnote{127}{Id. at 235.} A jury found the teleradiologist negligent, but dismissed the claim against the hospital.\footnote{128}{Id.} The hospital contracted with an independent radiology group to run the radiology department, which employed the teleradiologist.\footnote{129}{Id.}

On appeal, the hospital argued three points in an attempt to defeat liability under the theory of ostensible agency: 1) the plaintiff had no contact with the radiologist so the hospital did not hold out the radiologist as its agent, 2) it was the radiologist’s employer, not the hospital, that selected the physician, and 3) the plaintiff came to its facility not because it held itself out as having a better medical reputation, but because it was the closest facility.\footnote{130}{Id.} The court disagreed, stating California law recognizes the rebuttable presumption that a physician is a hospital’s agent unless it provides timely notice otherwise.\footnote{131}{Id.} Second, the contracts a hospital enters into are irrelevant unless the patient knows of the arrangement.\footnote{132}{Id. at 241.} Finally, the question is not whether the patient relied on the hospital’s reputation, but whether the patient relied on the hospital’s representations that the physician was an agent.\footnote{133}{Id.} As to this last point, the court remanded the case, stating that whether the plaintiff should have known the radiologist was not an agent of the hospital was a jury question.\footnote{134}{Id. at 240-41.} Most courts deem this a jury question provided the plaintiff has produced sufficient evidence establishing a legitimate question of fact.

\footnote{126}{Id. A congenital fusion is a malformation of the spine, occurring during gestation.}
\footnote{127}{Id. at 235.}
\footnote{128}{Id.}
\footnote{129}{Id.}
\footnote{130}{Mejia, 122 Cal. Rptr. 2d at 240-41.}
\footnote{131}{Id.}
\footnote{132}{Id. at 241.}
\footnote{133}{Id.}
\footnote{134}{Mejia, 122 Cal. Rptr. 2d at 242.}
Conversely, some states refuse to recognize ostensible agency if the hospital provides notice to the patient that the physician is an independent contractor. In *Loynd v. Emerson Hospital*, the plaintiff needed to prove more than a reasonable belief that the physician was an employee. He needed to prove “his belief was caused by the manifestations of [the hospital].” The contractual provisions between the radiologist and the hospital negated an actual agency relationship, but the court granted summary judgment in favor of the hospital based upon ostensible agency because the plaintiff neglected to prove the standard of reliance the court described. The plaintiff needed to “establish that ‘he relied in his conduct on the belief that the doctors were employed or controlled by [the hospital] and that his reliance was reasonable under the circumstances.’” Based upon the facts, the court held the evidence was insufficient to defeat the hospital’s motion for summary judgment.

Similarly, the Montana Supreme Court found a hospital was not liable for an independent contractor physician because the patient signed a consent form stating she understood the doctor was not an employee, but rather an independent contractor. “[T]he [h]ospital’s provision of ‘space, equipment, and personnel’ did not give rise to ostensible agency.” This indicates a propensity to absolve hospitals of liability if consent forms clearly state the independent contractor status of physicians, including radiologists.

In *Jennison v. Providence St. Vincent Medical Center*, the court addressed this issue. Jennison brought his wife, Denisa, to the hospital because she was complaining of severe

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136 Id. at *3.
137 Id.
138 Id.
139 Id.
140 Id. at *4.
142 Id. at 356.
abdominal pain.\textsuperscript{144} The treating physician recommended exploratory laparoscopy and the Jennisons agreed, signing a consent form to have the procedure performed.\textsuperscript{145} The surgery uncovered a severe infection and abscess in the right fallopian tube.\textsuperscript{146} After successful removal, a central line was inserted for pain medication administration while the patient was in recovery.\textsuperscript{147} An accompanying X-ray revealed improper placement, but the teleradiologist never communicated this situation to anyone to rectify the problem.\textsuperscript{148} This created pressure on Denisa’s heart, which caused her to go into cardiac arrest.\textsuperscript{149} Though doctors successfully revived her after forty minutes, the lack of oxygen caused permanent brain damage.\textsuperscript{150}

Jennison sued the hospital and a jury returned a multi-million dollar verdict, finding the hospital 100 percent liable.\textsuperscript{151} On appeal, the hospital argued the consent form Denisa signed dispelled any reasonable belief she had that the radiologists were employees.\textsuperscript{152} The consent form she signed, however, had no indication that the radiologists were independent contractors.\textsuperscript{153} The court held that when a patient signs such a consent form, it is reasonable for her to assume the radiologist is an employee of the hospital.\textsuperscript{154} Further, Denisa had no contact with the radiologist responsible for interpreting her X-ray, thus, it was reasonable for her to believe that an employee, rather than an independent contractor of the hospital performed the services.\textsuperscript{155}

\begin{flushleft}
\textsuperscript{144} Id. at 360. \\
\textsuperscript{145} Id. \\
\textsuperscript{146} Id. \\
\textsuperscript{147} Id. \\
\textsuperscript{148} Id. at 361. \\
\textsuperscript{149} Jennison, 25 P.3d at 361. \\
\textsuperscript{150} Id. \\
\textsuperscript{151} Id. \\
\textsuperscript{152} Id. at 363. \\
\textsuperscript{153} Id. at 367. \\
\textsuperscript{154} Id. \\
\textsuperscript{155} Id. at 366-67. 
\end{flushleft}
Colorado recognizes the common law corporate practice of medicine with regards to hospitals, which means a corporation cannot employ doctors, perform medical services, or interfere with a doctor’s independent medical judgment, and is thus shielded from vicarious liability. \(^{156}\) Similarly, Alaska enacted legislation protecting hospitals from vicarious liability with regards to emergency room physicians. \(^{157}\) As noted in *Fletcher v. South Peninsula Hospital*, \(^{158}\) if the hospital provides notice that the emergency room physician is an independent contractor and the physician is insured, the hospital is not liable for malpractice. \(^{159}\) Following this logic, the court in *Acevedo Salmeron v. Lifemark Hospital of Florida* \(^{160}\) held a “hospital’s duty is to provide” competent physicians and it is “the physician’s duty is to be non-negligent.” \(^{161}\) Despite the plaintiff’s citation of Medicare regulations and state laws, the court explained those regulations only require a hospital to staff its hospital competently and provide protection when hospitals are negligent in doing so. \(^{162}\) It would therefore be reasonable to extend this logic to teleradiologists.

Based on the existing case law, holding a hospital liable for a teleradiologist’s negligence depends upon the standard of proof the jurisdiction requires and the type of notice a hospital provides to patients regarding the independent contractor status of its physicians. Some jurisdictions that have extended the ostensible agency relationship to hospitals because of the contractual nature of the relationship, but not all have so ruled.

**B. NON-DELEGABLE DUTY DOCTRINE**

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\(^{156}\) *Daly v. Aspen Ctr. for Women’s Health, Inc.*, 134 P.3d 450, 452 (Colo. App. 2005).

\(^{157}\) ALASKA STAT. ANN. § 09.65.096 (West 2014).

\(^{158}\) 71 P.3d 833 (Alaska 2003).

\(^{159}\) *Id.* at 840 n.28. Further, the court stated ostensible agency would not have been appropriate because the plaintiff was seeking a specific physician, not care from the hospital in general. *Id.* at 839.


\(^{161}\) *Id.* at *6.

\(^{162}\) *Id.*
Courts also look at whether the state recognizes the common law doctrine of a non-delegable duty. This doctrine states that one may delegate a duty to an independent contractor, but if the independent contractor is negligent and subsequently breaches that duty, the delegating entity is still liable for that breach.\textsuperscript{163} It is an alternate theory of vicarious liability.\textsuperscript{164} This theory has been applied to employers, landlords, and common carriers, based upon the facts of each case.\textsuperscript{165} It is generally associated with activities that are inherently dangerous.\textsuperscript{166} Some states have explicitly extended the non-delegable duty doctrine to hospitals.\textsuperscript{167} Depending upon the facts of each case and the extent to which hospitals have provided notice of the independent contractor status of its physicians, even a state recognizing the non-delegable duty doctrine may not hold a hospital liable for the malpractice of those physicians.\textsuperscript{168} Recognizing the existence of a non-delegable duty, some courts do not extend it based on public policy.\textsuperscript{169} Expanding the scope of liability is “better left to the Legislature.”\textsuperscript{170}

In the South Carolina case, \textit{Simmons v. Tuomey Regional Medical Center},\textsuperscript{171} a patient ultimately died when two emergency room physicians neglected to treat a head injury.\textsuperscript{172} The patient’s daughter signed a consent form that acknowledged the independent contractor status of

\begin{thebibliography}{9}
\bibitem{164} Id.
\bibitem{165} Id. at 317-18.
\bibitem{166} See \textit{Kelly v. St. Lake’s Hosp. of Kansas City}, 826 S.W.2d 391, 394 (Mo. Ct. App. 1992) (stating “the practice of emergency medicine does not involve inherently dangerous activities or other circumstances necessary to invoke the non-delegable duty doctrine.”).
\bibitem{167} See \textit{Irving v. Doctors Hosp. of Lake Worth, Inc.}, 415 So. 2d 55, 59 (Fla. Dist. Ct. App. 1982) (holding instructions on the non-delegable duty doctrine along with ostensible agency doctrine were appropriate); \textit{Martell v. St. Charles Hosp.}, 523 N.Y.S.2d 342, 352 (Sup. Ct. 1987) (implying hospitals may be liable for malpractice under the non-delegable duty doctrine); \textit{but see Baptist Mem’l Hosp. Sys. v. Sampson}, 969 S.W.2d 945, 949 (Tex. 1998) (holding that applying non-delegable duty doctrine was inappropriate); \textit{Kelly}, 826 S.W.2d at 394 (noting there were no Missouri cases applying the non-delegable duty doctrine to medical malpractice cases and was thus inapplicable).
\bibitem{168} See \textit{Renown Health Inc. v. Vanderford}, 235 P.3d 614, 616 (Nev. 2010) (holding there was no basis for imposing an absolute non-delegable duty on hospitals).
\bibitem{169} Id. at 616.
\bibitem{170} Id.
\bibitem{171} 533 S.E.2d 312 (S.C. 2000).
\bibitem{172} Id. at 314.
\end{thebibliography}
the physician, however, her distraught state rendered the notice invalid.\textsuperscript{173} The court recognized the hospital had a non-delegable duty; however, it rejected the notion that the duty was absolute.\textsuperscript{174} It relied on a series of Ohio cases that tailored the ostensible agency approach to harmonize with the non-delegable duty doctrine.\textsuperscript{175} If a hospital holds itself out as a provider of medical services to the public, it may be liable to patients in the absence of notice regarding the independent contractor status of its physicians.\textsuperscript{176} The court made clear, however, that the notice must “be effective [and] must come at a meaningful time.”\textsuperscript{177}

Hospitals may be held liable for the malpractice of teleradiologists through either theory – ostensible agency or the non-delegable duty doctrine. They will not be able to escape liability by relying on the contracts they have executed with physicians declaring them independent contractors unless patients receive clear and timely notice of such relationships. Conversely, if a patient seeks out a particular doctor at a hospital or is admitted by a private physician who has privileges at a hospital, courts have rejected holding a hospital liable. Patients in such situations could not reasonably believe the physician is an employee of that hospital.\textsuperscript{178}

B. Jurisdiction and Service of Process

What happens if a teleradiologist does not maintain a residence or is not licensed in the state of suit? Most, if not all, states have long-arm statutes that can be interpreted to provide for jurisdiction over a non-resident physician on a number of theories.\textsuperscript{179} Conducting business

\textsuperscript{173} Id.
\textsuperscript{174} Id. at 318.
\textsuperscript{175} Id. at 320.
\textsuperscript{176} Id. at 320.
\textsuperscript{177} Id. at 320.
\textsuperscript{178} See Ward v. Lutheran Hosps. & Homes Soc. of Am., Inc., 963 P.2d 1031 (Alaska 1998) (holding hospital not liable for malpractice of an independent physician who had privileges); Brookins, 292 P.3d at 356 (stating all the patient’s appointments were at the physician’s private office and the physician’s privileges at the hospital did not make it liable).
transactions within the state, contracting to provide services within the state or holding malpractice insurance that covers claims in that state are just a few examples. Pennsylvania, for example, “may exercise personal jurisdiction over a person . . . who acts directly or by an agent” if he or she contracts “to supply services” or causes “harm or tortious injury”. This statute appears broad enough to cover contracts that hospitals in Pennsylvania have with teleradiology companies anywhere – domestic and internationally.

Depending upon the location of the teleradiology company, service of process may pose an issue. For instance, service of process outside of Pennsylvania is not an issue if it is within the United States. Under Pennsylvania law, service upon an individual in another country may be accomplished according to a treaty or at the direction of that “foreign authority in response to a letter rogatory or request.” A letter rogatory is a way of acquiring judicial assistance from another country absent a treaty and is used to effect service of process if permitted by that foreign country’s laws. Executing these letters are time consuming and may take more than a year to complete, thus effecting service on a teleradiologist located in a foreign country may be difficult.

III. Conclusion

Teleradiology blossomed due, in part, to the expense of maintaining an on-site radiologist. Using a teleradiology service dramatically reduces the cost by hiring a full time radiologist or by paying on a per-exam basis rather than by a daily or hourly flat fee. Smaller
facilities, rural areas, and those requiring round-the-clock services benefit the most from these savings.\textsuperscript{187} Teleradiology also provides access to excellent radiologists across the globe.\textsuperscript{188} When radiologists dedicated to high-quality service and professional standards use the opportunity that teleradiology provides to consult, mentor, and improve the practice overall, medical care and quality can improve dramatically in areas that otherwise have medical limitations.\textsuperscript{189}

Technology like video conferencing and internet links to hospitals with specialists for thorough consults and advice makes teleradiology appealing. The alternative may be leaving image interpretation to less trained general physicians when there is no radiologist available.\textsuperscript{190} Complications of using a teleradiology company may be miscommunication, confusion, and error.\textsuperscript{191} Doctors may neglect to pass on a medical history or recent events to provide context for teleradiologists.\textsuperscript{192} The result may be a misdiagnosis or no diagnosis at all, both of which can be fatal.

Courts readily hold teleradiologists liable for malpractice when evidence of his or her negligence either directly or proximately caused the injury. If the teleradiologist’s employer was negligent in hiring the physician, vicarious liability is another form of redress for injured patients.

Imputing liability to the hospital via ostensible agency depends on the facts of each case. Proving the hospital holds itself out as a provider of medical services is generally not in dispute. Showing the patient reasonably believed the teleradiologist was an agent of the hospital is more

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\textsuperscript{187} Id.
\textsuperscript{189} Thrall, \textit{supra} note 98, at 327.
\textsuperscript{190} Id.
\textsuperscript{191} Id.
\textsuperscript{192} Id.
difficult. Consent forms abound, have become longer and more explicit, and if it clearly states the independent contractor status of the teleradiologist, a patient may have a difficult time claiming he or she thought the teleradiologist was an employee. Language from cases repeating the phrase, “provide notice” has prompted more and more hospitals to openly reveal the contractual relationships it has with different physicians to distance itself.

Alternatively, trying to hold a hospital liable based on the common law non-delegable duty doctrine is more difficult because most states have not recognized this concept as applied to hospitals.\textsuperscript{193} State law governs medical liability and pursuing a non-delegable duty theory does not require the same evidentiary standard – expert testimony.\textsuperscript{194}

Revisions to state statutes have expanding the reach of long-arm statutes in response to, among other things, the prevalence of telemedicine so as to exercise personal jurisdiction over teleradiologists. Jurisdictional issues are virtually nonexistent when a teleradiology company avails itself via contract to a medical facility in a particular state. Service of process, however, may be an issue if the teleradiologist resides outside of the United States.

In addition, doctors maintain privileges and appointments at different hospitals based on evaluations.\textsuperscript{195} This is more difficult to do with teleradiologists because the on-site radiology group may not institute a proper system for monitoring his or her work.\textsuperscript{196} A teleradiologist’s opportunity to interpret images at any given medical facility is greater than a traditional radiologist looking for employment – there are no interviews, background or reference checks, simply credentials tendered through the teleradiology company on their behalf.\textsuperscript{197} This carries a


\textsuperscript{194} \textit{Id.}

\textsuperscript{195} \textit{Id.}

\textsuperscript{196} \textit{Id.}

\textsuperscript{197} \textit{Id.}
risk to the reputation of the hospital and its staff.\textsuperscript{198} The more radiology is seen as a commodity that may be bought and sold on the open market, the less likely radiologists will be viewed as professionals and highly trained consultants.\textsuperscript{199}

\textsuperscript{198} Id.
\textsuperscript{199} Id.