

Recovering The Appropriateness of Ordering Outpatient Diagnostic Imaging for Acute Care: Should there be clearer guidelines for physicians?

H Perkins, S Keene

Citation

H Perkins, S Keene. *Recovering The Appropriateness of Ordering Outpatient Diagnostic Imaging for Acute Care: Should there be clearer guidelines for physicians?*. The Internet Journal of Radiology. 2007 Volume 9 Number 1.

Abstract

The purpose of this article is to take a look at the ethical concerns of physicians ordering outpatient imaging exams. It is not written to draw attention to doctors' mistakes; furthermore, such instances do not occur with all physicians. The article explains the risks and benefits of ordering an excess of radiographic procedures or having an exam performed that does not properly diagnose the patient. It explains that some doctors order multiple exams in an attempt to avoid malpractice lawsuits or because they honestly do not know the correct exam to order. Other physicians may not completely listen to the patient's concerns and order an inappropriate exam or no exam altogether. Sadly, both situations are not providing a patient centered care atmosphere for the patients. These individuals will face stress due to medical expenses and travel time, along with their underlying medical condition. The findings proved that there should be much more emphasis placed on ordering the right exam at the right time.

INTRODUCTION

Patients who have a suspected injury or an unknown illness require diagnostic imaging exams. In these types of situations, the utilization of ionizing radiation is vital to obtain a closer, in depth look at the anatomical region that is in question. However, many physicians do not take into consideration the seriousness of ordering multiple exams on patients because they are not confident in what to order. They simply choose what "sounds good." In some instances, exams are ordered because the patient expects it as a part of a thorough examination by the doctor. Conversely, other ordering doctors do not feel the need to go through the hassle of ordering a radiographic procedure and later having to follow up with the patient. Therefore, the patient is left with their undiagnosed medical condition. Physicians do not intentionally order incorrectly; still, it is an increasing problem that should be addressed.

Radiography as a whole can lead to an immense ethical dilemma. Ionizing radiation has been known to have harmful effects since it was first discovered. We already receive a small amount of radiation from the environment, not taking into account an individual who has annual dental x-rays. Furthermore, middle-age women require mammograms on a yearly basis. If the individual has additional medical imaging done, the radiation dose continues to add up. This is

important to know and understand with regards to radiation induced cancers or other illnesses. All of this should be taken into great consideration when ordering radiography exams.

LITERATURE REVIEW

Although x-rays and Computed Tomography (CT) scans are very helpful diagnostic tools, they should not be used as frequently as they are in the present day. Radiography exams account for the largest source of exposure to radiation and are still escalating in use ("X-Rays"). In 1895, Wilhelm Roentgen discovered x-radiation. Before long, it was very evident that radiation could cause serious medical problems. However, some feel that adequately informing patients of these risks could dissuade them from getting the necessary tests they need (Won Tesorien, 2006). In reality, some ordering physicians are ordering excessive imaging exams or simply ordering inappropriate exams. Even though physicians have an honest desire to help their patients (DeNoon, 2005), they are humans and do occasionally make unwise decisions concerning what to order (Allen, 2007).

Physicians desire as much diagnostic information as possible even though they are taught to order scans "as low as reasonably achievable." Every year, more than sixteen billion dollars is spent on unnecessary high-tech imaging

Recovering The Appropriateness of Ordering Outpatient Diagnostic Imaging for Acute Care: Should there be clearer guidelines for physicians?

exams (Allen, 2007). One study shows that at least eight percent of check ups include an x-ray, while forty-three percent include some other type of examination or test. Today, it is pushed that more testing equals better medicine. Ordinarily, one exam leads to another. For example, a patient has no apparent symptoms or complaints, but their physician orders a routine chest x-ray. If the radiologist notices a small lung shadow, there is an obligation to investigate further. A CT scan is performed showing a small pulmonary nodule. Next, a biopsy is needed. In most cases, it is a benign nodule of no concern. However, follow-up tests will be ordered over a period of time to ensure there are no changes. For the patient, this means a cost of time, pointless suffering, and a large amount of money wasted (Kevin, M.D., 2006).

Medical x-ray exposures in the United States could be cut by at least fifty percent with no loss of medical information ("X-Rays"). Approximately ninety three percent of physicians practice "defensive medicine" (Kevin, M.D., 2006). The quality of care declines if the physicians are not directly concerned with the patient. Instead, they are troubled by a possible malpractice lawsuit that could devastate their reputation (DeNoon, 2005). They want to move their patients to specialists, and once doctors get on this train, it is incredibly hard to get off (Landro, 2007). Unfortunately, high-profile malpractice cases highlight missed diagnoses due to a failure to test patients (Kevin, M.D., 2006). This places an economic burden on these physicians by a crumbling medical liability (DeNoon, 2005).

On average, a physician will interrupt a patient describing their symptoms within eighteen seconds. During this short time, they have already made their diagnosis without all of the information (How Doctors Think). This leads to an inappropriate test being ordered that does not get to the root of the problem (Groopman, 2007). In some cases, the physicians simply rely on tech-savvy imaging to make diagnoses, rather than confirming them (Allen, 2007). Advances in technology will continue to accelerate this use since it will give doctors more detailed information to work with. Between the years of 2000 and 2003, there was an explosion in CT scans, with an increase of fifty percent (Won Tesorien, 2006). However, the ordering physicians should think carefully about the benefits and risks to their patients ("X-Rays"). "Do no harm" is a bedrock principle of medicine, but needless tests and procedures that provide no real benefit to the patient, can't do anything but harm

(Landro, 2007).

In some cases, doctors order x-rays and/or CT scans needlessly because they don't know the risks and they order them out of habit. Recent reports have warned physicians to limit CT radiation exposures to patients, especially children. Any type of imaging exam should not be used to confirm minor injuries or a known illness. In particular, CT scans should not be utilized for full body scans. Unluckily, some individuals obtained multiple scans over a short time period ("CT Scans Are Clear..."). One report states that an individual received three hundred and forty-one CT scans over an eighteen month period. Several other patients received more than one hundred scans in the same time frame (Won Tesorien, 2006). If a patient presents a medical problem, a physician should use radiation free ultrasound or MRI if possible. Extensive evidence proves that Americans already receive 3 millisieverts, a measurement of radiation, from the environment. A single CT scan delivers at least three to twelve millisieverts ("CT Scans Are Clear..."). A disadvantage of radiation exposure is the possibility of developing cancer. Increased CT scanning is responsible for approximately two percent of cancer cases in the United States alone (Odle, 2008).

CONCLUSION

In conclusion, there is a rising number of x-ray and CT scans being ordered and performed. Even though this is a wonderful, noninvasive technology, it is making healthcare a financial burden on patients. Ordering doctors need to thoroughly evaluate the patients' symptoms and decide if and/or what exam they essentially need. This could be accomplished if physicians attended extensive continuing education classes or seminars specifically designed to minimize this issue. If this cannot be achieved, the physicians simply need to be more contemplative when considering any medical exams that involve a patient receiving any quantity of radiation. The best outcome for health care, with respect to imaging, will only occur if both the patients and the physicians are aware of the full range of benefits and risks to radiation exposure ("XaHP", 2004).

References

- r-0. Allen, Gregg. (2007). Right Image, Right Time: Predictive Modeling Makes Radiology Management More Lean and Effective. Retrieved January 29, 2008, from <http://www.entrepreneur.com>
- r-1. CT Scans Are Clear, But Risks, Rewards Aren't. (2007). Retrieved January 30, 2008, from <http://www.redorbit.com>
- r-2. DeNoon, Daniel J. (2005). Doctors Malpractice Fears Hurt Health Care. Retrieved January 30, 2008, from

Recovering The Appropriateness of Ordering Outpatient Diagnostic Imaging for Acute Care: Should there be clearer guidelines for physicians?

<http://www.foxnews.com>

r-3. Edwards, Marc. (1991). Development of Radiation Protection Standards. Retrieved January 29, 2008, from <http://radiographics.rsnajnl.org>

r-4. Groopman, Jerome. (2007). The Mistakes Doctors Make: Errors In Thinking Too Often Lead To Wrong Diagnoses. Retrieved January 30, 2008, from <http://www.boston.com>

r-5. Kevin, M.D. (2006, May 20). Why Doctors Order Unnecessary Tests. Messages posted to <http://www.kevinmd.com/blog/2006/05/why-doctors-order-unnecessary-tests.html>

r-6. Landro, Laura. (2007). Better Ways to Treat Back Pain: Insurers, Employers Target Excessive Scans and Surgeries To Improve Patient Outcomes. Retrieved January 30, 2008,

from <http://www.wsj.com>

r-7. Odle, Teresa. (2008). Send The Dose Creep Packing. ASRT Scanner. Volume 40(5), 13.

r-8. Product Description [Review of the book How Doctors Think] Retrieved January 29, 2008, from <http://www.amazon.com>

r-9. Won Tesorien, Heather. (2006). Worries Mount Over Excessive CAT Scans. Retrieved January 29, 2008, from <http://www.post-gazettenow.com>

r-10. X-Rays. Retrieved January 30, 2008, from <http://www.tuberose.com>

r-11. XaHp: The X-rays and Health Project. (2004). Retrieved January 30, 2008, from <http://www.x-raysandhealth.org>

Author Information

Heather N. Perkins, R.T.(R)

East Tennessee State University

Shane Keene, MBA, RRT-NPS, CPFT, RPSGT

East Tennessee State University