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Shielding from Harm

# Can Your Patient Lie Flat?

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Can your patient lie flat? Such a simple question but one many health care providers do not ask often enough before sending patients to radiology for imaging. Early in nursing education, students are taught the benefits of elevating the head of the bed. So much so that it becomes second nature to increase patient comfort and ease of respirations to elevate the head of the bed. However, patients requiring imaging in a fixed scanner such as for magnetic resonance imaging (MRI), computed tomography (CT), or nuclear medicine study will have limited options to elevate their heads. Invasive procedures such as those performed in interventional radiology and fluoroscopy also require patients lying flat with a few exceptions. Therefore, it would stand to reason that if a patient cannot tolerate lying flat in their hospital bed, they will have difficulty completing imaging studies lying flat on a scanning table. Yet, patients are repeatedly sent to radiology without this consideration addressed.

Pain and inadequate respirations represent the two main issues patients suffer when asked to lie flat on a scanning table for any length of time. Take for example the patient with severe back injury requiring extensive MRI scanning before surgery to alleviate debilitating back pain and improve mobility. The surgeon orders an MRI of the cervical, thoracic, and lumbar spine, sometimes referred to as a total spine study. The MRI is the best diagnostic tool for the spine; however, the scans are lengthy, requiring patients to be still while lying flat for up to 3 hours depending on the images requested. A patient with chronic back pain will have difficulty managing such a scan without assistance. Good imaging requires patient cooperation to lie still, a very difficult task when experiencing back pain (Ali et al., 2013; Pearson, 2016). Yet, this is a common scenario of both inpatient and outpatient scans that the management of the patient's pain is not addressed before the scheduling of the scan.

Pain needs vary and are as individual as each patient. Some may require a continuation of the pain regime that has been working for the patient to this point. Others will need a much greater pain intervention than has been typically used, such as intravenous medications or increased doses. In the most extreme cases, general anesthesia may be required to obtain useable scans for a patient who is unable to lie flat. Failing to manage pain results in delays in care. When the success of the scan requires the radiology nurse to intervene on behalf of patients in pain, the scanning is interrupted and patients are on the scanning tables longer waiting for pain management to be decided. Increased table times adversely affect both the patient with prolonged pain and the imaging department with interruptions to schedules, thus further delaying other patients.

When increasing pain medication is not the best option for patients, or the health care provider is uncomfortable ordering increased pain management, then coordination and planning before the scan needs to take place between the patient, the nurses, and the radiology technologists. For example, if time permits, the aforementioned total spine study may be completed in three separate trips to the imaging department, thus decreasing patient time on the table and increasing the ability for the patient to tolerate the scans with current medication regime. Success requires planning and cooperation of all involved to best serve the patient.

Adequate pain management improves scan quality while improving patient satisfaction. However, respiratory assessment of patients' ability to lie flat impacts patient safety and patient outcomes. Respiratory distress occurs in radiology, sometimes to the point of requiring rapid response intervention (Ott et al., 2012; Tindel, 2014). Patients who cannot tolerate lying flat, whether in a hospital bed or at home, will not tolerate lying flat on a scanning table without intervention to support their respiratory needs. Interventions can range from increasing oxygen supply to mechanical ventilation. However, not assessing and addressing the potential for a respiratory distress in radiology puts patients at risk. Take for example the intensive care unit patient in need of a chest tube for recurrent fluid collection around the lung. However, a pulmonary embolism (PE) was also suspected. The patient was scheduled for a thoracentesis and tube insertion; however, the physicians determined it necessary to rule out the PE before proceeding. Therefore, the patient was sent to the CT department for a CT scan of the chest with contrast to rule out a PE. A PE scan requires a patient to lie flat on the scanning table for 10 minutes or longer, long enough for respiratory distress to occur in compromised patients. The ICU patient described previously could not be placed flat for the time it required to transfer the patient from the transport stretcher to the scanning table. Therefore, the ICU nurse contacted the ICU physician, who subsequently intubated the patient in the CT scanning room before obtaining the PE study. The patient received the scan and was taken for further procedures without incident. However, the patient required a paralytic for intubation, mechanical ventilation for the scan, and ongoing sedation, none of which were previously planned or arranged for this patient. Providing ICU level care during a CT scan itself is a high-risk situation. The emergent nature of the ICU level

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interventions in the radiology department placed this patient at increased risk.

Both examples demonstrate the need for a thoughtful assessment of a patient's ability to tolerate the imaging studies ordered by their care providers. For diagnostic imaging to provide the valuable information needed for the care of patients, adequate images need to be obtained. This requires patient cooperation with the scanning protocols, most of which require a patient to lie flat. Improper planning and assessment of patients leads to poor imaging quality, poor patient satisfaction, and potentially poor patient outcomes. So, the next time your patient is ordered an imaging procedure, ask yourself, “Can my patient lie flat?”

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