Automated CT Protocoling Might Improve Radiology Workflows

In recent years, the field of radiology has witnessed a remarkable surge in the use of computed tomography (CT) examinations, leading to a significant strain on radiologists due to the increased demand for both interpretive and noninterpretive tasks. One crucial noninterpretive task that contributes to this strain is examination protocoling – the vital step between order entry and examination completion where a radiologist or practitioner selects the appropriate imaging technique based on clinical indications and patient factors.

Evaluation of an Automated CT Protocoling System

However, this process often leads to delays, interruptions, and potential errors, posing challenges for operational throughput and workplace satisfaction. Recognizing this issue, researchers embarked on a study to evaluate the impact of an automated CT protocoling system on examination process times and protocol error rates. The study, spanning from July 2020 to June 2022 and encompassing 317,597 CT examinations, introduced a rules-based automated protocoling system institution-wide. This system evaluated CT orders in the electronic health record (EHR) and either assigned a protocol automatically or directed the order for manual radiologist protocoling. The findings, published in the American Journal of Roentgenology, revealed several key insights into the efficiency gains and benefits of automated CT protocoling.

Substantial Efficiency Gains

Implementation of the automated protocoling system led to significant improvements in radiology workflows. Notably, 99.9% of emergency department (ED) and inpatient CT exams were assigned a protocol within one hour after the placement of the CT order, compared to only 76.0% with manual protocoling. This reduction in turnaround times underscores the system's ability to streamline processes and enhance care efficiency.

Increased Frequency of Automated CT Protocols

The study reported a remarkable increase in the frequency of automated CT protocols, indicating a shift towards automation in radiology workflows. Overall, there was a 36% growth in automated protocol frequency, with substantial increases observed across different patient categories. Specifically, automated CT protocol frequency increased by 12.1% for emergency department patients, 22% for inpatients, and a staggering 56.8% for outpatients. This surge in adoption highlights the widespread acceptance and preference for automated protocols among healthcare professionals.

Enhanced Standardization and Reliability

Automated CT protocols were found to promote improved standardization in radiology practices. By enforcing predefined rules and considering a multitude of patient and order factors, the system facilitated greater adherence to standardized protocols, potentially reducing variability and ensuring more consistent quality of care. Moreover, the study noted a high concordance rate between automatically assigned protocols and retrospectively assigned ones, highlighting the system's reliability and accuracy.

The implementation of an automated CT protocoling system represents a significant milestone in revolutionizing radiology workflows. Not only does it alleviate the burden on radiologists by reducing noninterpretive tasks, but it also enhances care efficiency and standardization. With its ability to expedite processes and minimize errors, automated CT protocoling emerges as a promising solution for meeting the growing demands of modern healthcare while delivering high-quality patient care.

Source: [American Journal of Roentgenology](#)