CT PROTOCOL MANAGEMENT

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LEARNING OBJECTIVES
1. Learn strategies for development and implementation of an CT scan protocol system
2. Learn methods for multidisciplinary collaboration for efficient protocol development and testing
3. Learn methods for efficient and effective CT scan protocol implementation in multiple CT scanners

ABSTRACT
Most CT scan allow storage of multiple protocol settings for a multitude clinical scans. Unfortunately, this is often a labor-intensive process involving numerous departmental personnel and various patient care locations. Consequently, most complex imaging protocols are not developed or implemented on a consistent basis. This paper describes the development and implementation of a comprehensive CT protocol management system. The system has been in use for the last six years and allows for the development of multiple, user-defined protocols for a variety of common scans. The development of these protocols is intended to reduce the cognitive burden on the radiology staff and improve the overall quality of CT imaging.

THE SOLUTION
We recommend the implementation of a comprehensive CT protocol management system. The system uses a web-based interface to allow for the creation, modification, and deletion of CT protocols. Each protocol is defined by a set of parameters, including dose, scan settings, and post-processing options. The system allows for the creation of custom protocols and the modification of existing protocols to meet the needs of individual patients.

The protocol management system is designed to be user-friendly and easy to navigate. It includes a user-friendly interface that allows for the creation of new protocols and the modification of existing protocols. The system also includes a comprehensive set of documentation tools to help users create and modify protocols.

The protocol management system is designed to be scalable and adaptable to the needs of different imaging departments. It can be customized to meet the specific needs of each department and can be integrated with existing imaging systems.

THE CHALLENGE
Our institution has multiple CT scanner suites with a variety of protocols. The protocols are often duplicated across different scanners or locations, which can lead to inconsistencies in image quality and patient care. We were challenged to develop a protocol management system that would be able to support multiple scanners and locations, while maintaining a consistent protocol structure.

The protocol management system is designed to be flexible and adaptable to the needs of different imaging departments. It can be customized to meet the specific needs of each department and can be integrated with existing imaging systems.

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THE APPROACH
The Division of Computed Tomography at Mayo Clinic has developed a protocol management system for the multi-scanner environment. The system uses a web-based interface to allow for the creation, modification, and deletion of CT protocols. Each protocol is defined by a set of parameters, including dose, scan settings, and post-processing options. The system allows for the creation of custom protocols and the modification of existing protocols to meet the needs of individual patients.

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Figure 1: Approval/Optimality of CT protocol during the planning and implementation phases. The protocol is reviewed and approved by the protocol committee. The protocol is then implemented and monitored for performance and efficiency.

Figure 2: The "CT" protocol page is the state protocol. The protocol is reviewed and approved by the protocol committee. The protocol is then implemented and monitored for performance and efficiency.

Figure 3: The "CT" protocol page is the state protocol. The protocol is reviewed and approved by the protocol committee. The protocol is then implemented and monitored for performance and efficiency.

Elements of the Protocol Page
All protocols are formatted to the same receiver, with each component of a protocol linked to relevant scan settings and context. The scan parameters include settings for each scan, protocol title, and patient information. An attempt is made to connect the protocol to a single page, allowing for easy access to all relevant information.

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