

**Purpose:** Recent headlines have put radiation dose and its potential deleterious effects in the limelight, and have caused some anxiety amongst patients and radiation safety personnel. Thus, it is even more important to minimize the stochastic effects associated with radiation. We demonstrate how an integrated departmental approach to reducing CT dose without sacrificing image quality can be achieved.

**Methods:** A cohort of subspecialized radiologists, radiology residents, a radiation safety officer, a medical physicist, and radiology technologists was assembled. Using, but also significantly modifying, the ACR (American College of Radiology) CT Chest dose reduction Practice Quality Improvement (PQI) project as a template, multiple factors were manipulated to evaluate their effect on dose reduction. Initially, a retrospective review of patient dose data from head, chest and body CT examinations was performed. Next, selected changes were made to select body parts. For example, the kVp of a chest CT was reduced from 120 to 100, and image quality before and after the alteration was assessed and compared. Similarly, abdominal CT slice thickness was increased from 1.25mm to 2.5mm.

**Results:** After the two interventions of decreasing the kVp and increasing the slice thickness, dose reduction of 23% and 20% was achieved, respectively.

**Conclusions::** A multidisciplinary approach to CT dose reduction with dedicated involvement from the entire Radiology department can result in significant dose reduction to patients. Using easily modifiable parameters, an intuitive flow chart was developed to help facilitate data tracking. While data has only been evaluated on some of the variables to date, we look forward to seeing the impact of other interventions as the study continues. Additionally, we believe this process can be replicated at other institutions with similar success, to ultimately reduce dose dramatically without significantly impacting image quality.