Implementation of a dose data collection software system: structure of data and CT preliminary results.

Bellesi L.1, Ramundo M.2, Gaudino D.1, Pupillo F.1, Casiraghi M.1, Wytenbach R.2, Gerbino M.3, Piliero M.A.1, Leoni L.2, Mascaro F.2, Presilla S.1.

1 Medical Physics Unit
2 Department of Radiology
3 EOC Direzione Generale
Ospedale San Giovanni, Bellinzona

PURPOSE

CT protocols review and optimization require a considerable amount of time and dedicated staff especially to compare dose levels among multicenter institutions and with national and international average dosimetric values. The purpose of this work is to describe the structure of data collection for a dose radiation tracking software used to analyse a large amount of CT dose data. This should be done in order to audit scanner protocols, improve staff and patient safety and optimize all the diagnostic workflow.

METHODS

The software implementation team included a team leader, two radiology technologists, two medical physicists and the chief of radiology department. Very detailed data collection folders and diagnostic reference values (DRV) were created based on 25th percentile, as target value, and 75th percentile, as upper limit, values of CTDivol and DLP extracted from Swiss CT DRV. Data were collected from seven different multislice CT scanners using the study description Dicom tag.

RESULTS

Direct protocol comparison, for each institution/scanner, is presented. About 90% of CT exams applied a dose inferior to Swiss DRV.