

CT Neuro-perfusion overexposures continue to emerge, well over a year after the widely publicized events at Cedars-Sinai Hospital in LA. All CT facilities offering this exam should have critically reviewed their CT perfusion protocols by now. Also some form of protocol protection or regular review should be implemented to insure that the parameters for these exams in particular are not altered without careful assessment of their impact on radiation dose.

The AAPM Working Group on CT Nomenclature & Protocols has provided vetted CT Neuro-perfusion parameter settings on the AAPM website, available to all current AAPM members. This group is developing example protocol parameters for more commonly used CT exams such as routine head, chest, abdomen, pelvis and combination exams. These example parameter sets are not meant to reflect optimized or gold standard examples, but have been reviewed by a team of technical experts and deemed to be a reasonable combination of parameter settings for these exams.

AAPM Task Group 204 has nearly completed its report which provides a method to calculate CT dose (in the form of CTDI_{vol}) that is size corrected for individual patients, based on consistent experimental and computer modeling results obtained from several independent research laboratories. Use of this report will allow sites to more accurately assess and report CT dose for the wide variety of patient sizes that are typically encountered, and is a step beyond the current CTDI phantom size limitations.

An IEC CT committee has been working diligently to develop a new CT phantom, which will be appropriate for assessing dose using the Task Group 111 methodology and will also provide simple image quality metric targets. This phantom will allow dose and image quality to be quantified as a result of a single pass through the scanner, but will require more sophisticated software analysis tools than have been typically used in the past. Contrast resolution, noise (in the form of noise power spectrum) and spatial resolution (MTF) can be assessed with use of this phantom; it is anticipated that freeware will be widely available to support the image quality evaluation component.