

This three-part symposium will provide an update on the important topic of CT radiation dose, which continues to receive increased scrutiny from a growing proportion of the medical field.

The first talk is entitled "Radiation dose considerations in pediatric CT imaging," and will be delivered by Dr. Donald Frush, an eminent expert in pediatric radiology. There are unique considerations when performing CT in infants and children. These considerations include the sensitivity of children to radiation, radiation dose exposure and dose assessment for this technology. The special technical considerations make pediatric CT in many ways more demanding than in adults. Accurate dose assessment is important for determining potential risks essential for the risk-benefit ratio in this younger population.

The second talk is entitled "CT measurements: The good, the bad, and the ugly," and will be delivered by Dr. John Boone, an esteemed medical physicist. The theory behind the current method for assessing radiation dose in CT (the CT dose index) will be reviewed. This method has many positive features ("the good"), and a growing number of limitations ("the bad"). Several groups have been formed to develop a different approach to assessing CT radiation dose, and many issues must be carefully considered ("the ugly"). Dr. Boone will provide his perspective on these and other interesting developments in the area of CT dose assessment.

The third talk is entitled "Custom patient-based CT radiation dose estimations," and will be delivered by Dr. Michael McNitt-Gray, also an esteemed medical physicist. An approach that appears to be gaining in popularity for CT patient dose estimation is the use of computer models and scan simulations. This type of methodology requires a substantial investment in program development, but can result in a very flexible approach for exploring alternative technique design strategies. The use of computer modeling may find a more widespread role in CT dose assessment in the future, so it is important to understand its limitations in addition to its advantages.