Abstract:

International guidelines for radiation oncology were established with a goal of standardizing clinical practices by providing recommendations for dose prescribing, reporting and target nomenclature. Advancements in radiation treatment technology, allowing for more conformal dose delivery and variations in dose specification to multiple targets volumes, have created a need for revised clinical practice guidelines. Unfortunately, modern clinical trials and studies have failed to adopt established guidelines. Understanding the effect noncompliance is having on patients and clinical comparisons is critical in working towards uniformity. A direct correlation has always existed between prescribed dose and patient outcome. Dose variations of just a few percent could substantially impact local control and treatment success. Dose volume histograms for over 5,000 IMRT patients from 10 academic institutions were collected and analyzed to understand current trends in dose prescription practices, how these practices vary among academic institutions and finally what impact dose prescription and reporting variations have on patient outcomes and meaningful comparisons of clinical data.