

Dose Evaluation of Dynamic Multileaf Collimator in Intensity Modulated Radiation Therapy

Sung Kyu Kim¹ Myung Se Kim¹, Sei One Shin¹, Sang Mo Youn¹, and Soo Ho Moon¹

¹ Department of Therapeutic Radiology & Oncology, College of Medicine, Yeungnam University, Daegu, South Korea

skkim@med.yu.ac.kr

There are two methods of static (stop and shoot) and dynamic (sliding window) in intensity modulated radiation therapy. In intensity modulated radiation therapy, the static method was conformed quality control for commissioning of radiation treatment planning, delivery of treatment information and process of treatment transport. Dynamic methods have many problems in quality control because of motion of multi-leaf and beam on together. In this paper, quality control of dynamic methods were accomplished same method with quality control of static method in intensity modulated radiation therapy. In the result, measurement dose of dynamic MLC and static MLC in central point was different from 0.2%, 90% isodose area was different from 2.7% and MU was different from 2% (371 vs 361) in clinical tumor volume under 5cm. The measurement dose of dynamic MLC and static MLC in central point was different from 0.2%, 90% isodose area was different from 2.2% and MU was different from 21.7% (414 vs 340) in clinical tumor volume from 5cm to 10cm. The measurement dose of dynamic MLC and static MLC in central point was different from 0.4%, 90% isodose area was different from 2.9% and MU was different from 58.9% (531 vs 334) in clinical tumor volume above 10cm.

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