Based on comparison of dose distributions, the advantage of using intensity modulated beams has been evident for the treatment of head & neck tumors. In reality, however, delivery time is an important factor to consider in accepting a treatment plan for daily treatments. Recently, two types of intensity modulation techniques have been implemented in our Department, planned with inverse planning techniques (Peacock/Corvus, NOMOS). One is delivered in 290 degree arcs with a computer controlled dynamic Multileaf Collimator(MIMiC, NOMOS). The other is delivered with multiple static Multileaf Collimator (MLC) fields, using an auto-sequencing control system (Primeview, Siemens). A typical nasopharynx case is presented with a 3D-CRT plan, an MLC intensity modulation plan, and a Peacock plan. These plans are compared not only in consideration of dose distributions but also in terms of treatment times. With the currently equipped auto-sequencing software and the computer controlled delivery device, the typical treatment times for these three types of treatment modalities are 10, 15, and 25 minutes respectively. A combination of a 3D-CRT plan with one of the IMRT plans is proposed as a treatment scheme and implemented for a prescribed dose of 70 Gy to the gross target volume, while other sensitive structures are spared within tolerance doses. With the current delivery technologies, using a combination of 3D-CRT and IMRT treatments for complicated cases such as head & neck tumors can produce clinically acceptable plans and be a practical alternative in a busy radiation oncology department.

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