

Experience with HELIOS inverse treatment planning system

ABSTRACT

Purpose: To evaluate the clinical efficacy and user interface of the Helios inverse treatment planning system.

Methods and Materials: An inverse treatment planning system, Helios, was installed for clinical test in December, 1998. This system is completely integrated into the conventional treatment planning system both in hardware and in software operations. There is no extra beam data required by the Helios. Patient data are common to the external beam software module.

Results: The inverse treatment planning system is user friendly and easy to use. On an average, an inverse plan with 4 fields can be completed well within an hour. Users can interrupt the optimization process and redefine dose limitations to critical organs.

Patient data set is directly imported from CT simulators. Same data set is used for forward or inverse planning. The dosimetric output is in the same format as the regular treatment planning and it can be summed with other plans or with brachytherapy doses.

This system is totally integrated with the regular treatment planning system in software and hardware. The output to the multileaf controller is via a simple "export" command.

Conclusion: The Helios inverse planning system is evaluated for clinical implementation. The system is easy to use and it is fully integrated with the regular external beam module. This integration proves to be very valuable in comparing and evaluating alternate treatment plans. Dosimetric summations with other plans and/or doses from brachytherapy can be achieved with ease.