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## **Development of Novel Procedure for Total Body Irradiation Using Scout Scan**

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To achieve uniform dose distribution for total body irradiation (TBI), a individual compensator is designed considering of physical dimension of the patient including lung dimension from chest CT. The prepared compensator is laid on the transparent tray to match its position with patients' body. A novel procedure for TBI is proposed using scout scan, fast scan mode to get anterior and lateral topography for determination of CT scanning range, of CT simulator. The patient is laid on treatment position with immobilization device and the treatment center is marked using lead line on the immobilizer. And the patient is moved to CT simulator with his/her own immobilizer device. Anterior and lateral topography are performed. Instead of physical measuring of the patient using ruler, measurement to determine the thickness of a compensator is performed using anterior topography including lung dimension. The printed lateral topography considering of magnification factor is used to determine the dimension of a compensator. And we can simply match the treatment center with patients' body, whole matching procedure is automatically performed. Also, detailed lung compensator could be easily made. This novel procedure could improve the accuracy of a compensator and whole setup procedure is lessened.

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