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BONE MARROW TRANSPLANTATION IN CHILDREN: LOW RISK IN  
DIFFERENT TOTAL BODY IRRADIATION REGIMENS

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From May 1984 to June 1995 we performed 112 bone marrow transplants both autologous (34) and allogeneic (78) in children with acute and chronic leukemia and solid tumors. In 19 cases the conditioning regimen included single dose total body irradiation (TBI) (7.5 Gy); in 23 cases fractionated TBI (12 Gy-2Gy/fr. over 3 days or 10 Gy-3.33 Gy/fr. over 3 days). 70 patients were conditioned without TBI; most of them received busulphan and cyclophosphamide. TBI was delivered by a 10 MV linear accelerator. The inhomogeneity of dose distribution to the lung was compensated by patient arms. No patient developed interstitial pneumonia after TBI; 7/70 patients developed pulmonary complications after busulphan. 3 cases of cataract occurred after single dose TBI. In our experience TBI proved to be less dangerous than chemotherapy conditioning regimens; even in single dose TBI we did not observe pulmonary complications.