

DETERMINING THE EFFICIENCY OF A COMMERCIAL BELLY BOARD DEVICE IN REDUCING SMALL BOWEL VOLUME IN RECTAL CANCER PATIENTS

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Abstract – The purpose of this treatment planning study was to evaluate the efficiency of a commercial belly board device in reducing the irradiated volume of the small bowel.

In this study 10 patients with rectal carcinoma receiving postoperative radiotherapy were included. For each of them we made two computer tomography series in prone position. In the first one the patients were lying on the flat table top, and in the second one they were lying on the belly board device which is under investigation. On both series we calculated and optimized plans according to the standing protocol of our department. From the dose-volume histograms of these plans we compared the volumes of the small bowel irradiated to three dose levels – 15, 30 and 45 Gy.

The results showed that the absolute irradiated volumes were significantly smaller in the plans with the belly board device.

Based on these results we believe that the employment of this belly board device will reduce the acute and late small bowel toxicity. This should be verified with a clinical study.