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RESPONSE TO LETTER FROM INDRA DAS

To the Editor,

1. Unfortunately there is a printing error in the Materials and Methods section of the article 'Backscatter radiation at the tissue-titanium interfaces. Analysis of biological effects from ^{60}Co and protons' (Acta Oncol 1991; 30: 859-66). We have not previously noticed that. The thickness of the Pd-layer was 10-50 μg/m^2 and not 10-50 μg/mm^2. The Pd layer was only a few atomic layers thick!. The correct thickness is given in our other reports (Acta Oncol 1993; 32: 73-7, and Int J Radiat Biol 1980; 37: 267-79.

The presence of a thin Pd-layer makes the biological microenvironment similar for the cells growing on titanium and plastic. Thus, differences in the growth pattern due to the support of the cells are minimized!

2. We are, as Dr. Das, surprised that there was no extra radiation effect on the cells due to the presence of the titanium/plastic interface when ^{60}Co was applied while there was a significant effect when the low energy photons (65 kVp) were applied. However, there is nothing strange with the cells because the applied cell-lines are often used (see for example Radiother Oncol 1993; 28: 44-51 and Int J Radiat Biol 1994; 65: 631-9 and are known to give reproducable results.

Thus, we cannot explain why no effect was seen in the ^{60}Co case. The only way to get more knowledge is by doing more experiments. We like to encourage those interested to also carry our experiments at higher photon energies such as 10-50 MV, since such energies are nowadays mostly used for tumour therapy.

3. Finally, we like to thank Dr. Das for his correspondance and hope that he, and others, can help to reveal more about the importance of metal-tissue interface.

JÖRGEN CARLSSON
BENGT ROSENGREN

We regret the printing error in the article by Rosengren et al. in Acta Oncologica 1991; 30: 859-66. The thickness of the Pd-layer was 10-50 μg/m^2 and not 10-50 μg/mm^2. However, also a printing error can obviously generate an interesting correspondence and we thank Drs Das, Carlsson and Rosengren.

The Editor

SINKING FLOOR FOR CHOICE OF ISOCENTER HEIGHT ON LINEAR ACCELERATORS

To the Editor

Linear accelerators currently available on the market have isocenter heights of between 118 and 135 cm. Most of them have isocenter heights exceeding 124 cm. The working levels are between 160 and 180 cm. This work involves the use of accessories such as lead blocks on shadow trays or wedges. The accessories are often heavy and the working environment in this respect is difficult and straining. Many oncology nurses suffer from painful shoulders. Large isocenter height also results in considerable inconvenience, since the oncology nurses have to check patient positioning and the light field on the patient, even though we already have low-positioned lasers for patient set-up. Short staff members have to use a foot-stool on some accelerators.

Demands for improved ergonomics led us to investigate what the optimal isocenter height would be before we installed a new accelerator in 1991. We asked ten oncology nurses (height 155-185 cm) on an individual basis which isocenter height they preferred. We simulated different isocenter heights, using boards with different thicknesses to stand on close to the accelerators. The oncology nurses had to keep in mind the overview of fields, drawing on Plexiglas, the positioning of shield blocks etc. Their choice of the most convenient isocenter height was 116 cm, which all preferred as good or very good. Below 114 cm it became difficult to work with a gantry angle of 180 degrees.

The old solution of a sinking floor, used for instance with betatrons, has been further developed by the physicist N.-E.

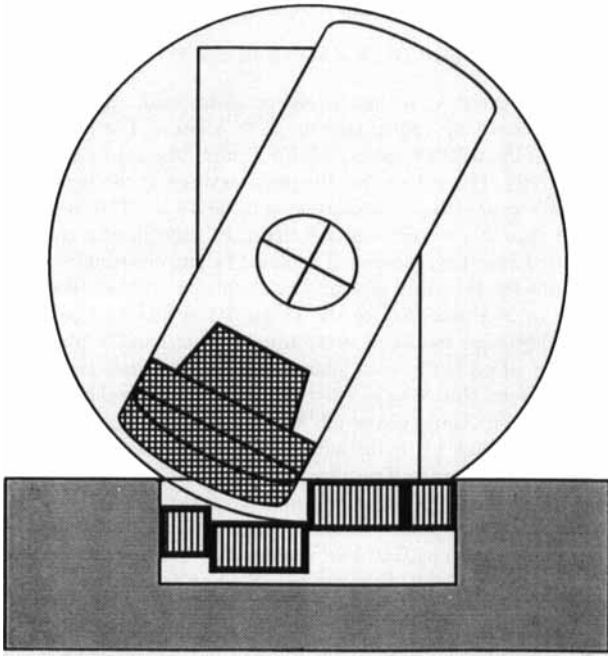

Fig. 1. The whole sinking floor construction is installed in a 40.0 cm deep depression in the floor under the gantry. Each drawer will sink automatically as the gantry approaches it to permit gantry clearance.