

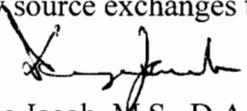
### **Quality assurance of HDR transfer tubes**

The HDR transfer tubes are made of rigid plastic material coupled with metallic attachments at both ends to connect to the applicator as well as to the HDR unit. Under normal circumstances the length of these transfer tubes does not change. These are usually hung vertically inside a locked cabinet when not in use and are not under any kind of pressure that causes a change in length.

In addition to the periodic measurements to ensure that the length of the transfer tubes have not changed, we make patient specific measurements of the treatment distances which includes the length of the transfer tube and the applicator connected to the transfer tube, using the source position simulator. These distances are known numbers and are compared to the measured distances, thus verifying that the length of the transfer tube as well as the applicator length has not changed.

Although the regulations require the measurement of the length of the transfer tubes during every full calibration, it was not regularly followed during all source exchanges partly because of the fact I misunderstood full calibration as an annual calibration, as in other therapy machines. Also because the lengths have been measured twice already this year during the previous source changes and no change in length was observed and no change in treatment distances were also observed during routine distance measurements.

I understand that this constitutes non-compliance to the regulations. From now on during every source exchanges the transfer tube lengths will be measured.

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Dayee Jacob, M.S., D.A.B.R  
Senior Medical Physicist, Radiation Oncology  
Christiana Care Health System.  
Newark, Delaware.