

AbstractID: 1294 Title: External Couch Support for Treating Radiotherapy Patients Whose Weight Approaches Tolerance

Typically, linac manufacturers state that the weight distributed uniformly over the surface of a treatment couch should not be greater than 400 pounds. Occasionally, patients with weights close to this value need to be treated, and while their weight may not exceed the couch tolerance, nevertheless it may be prudent to devise some additional support for the couch, particularly if it is older. There are two components of the couch that need to be addressed: friction between the couch top and base, and the overall support of the couch base that is typically cantilevered over a pivot point in the pit. The base issue is controlled by adding a length of wood between the base and floor at the foot of the couch. This prevents any compression of the base when the patient sits down on the couch. Issues to consider when supporting the couch top as it extends over isocenter are: gantry rotation interference, scatter/attenuation to the treatment area, ease of operation, and permitting couch top movement. Our approach includes modifying a commercially available counterweighted lift with adjustable forks operated with a sensitive handcrank. Two metal rollers covered with a thin soft cover were added to the forks to allow for the couch top extension into the field with the couch supported. Also incorporated is a tray to allow port films to be taken. This mechanism is positioned close to the couch and based on its design allows substantial gantry rotation before repositioning of the support becomes necessary.