

Conformal therapy techniques utilize fixed beams at various gantry and couch angles, to optimize tumor coverage and to minimize dose to healthy tissue. One component that may interfere with and attenuate the beam is the treatment table. While it is best to avoid such obstacles, this can't always be accomplished. It is necessary to quantify the table absorption properties. Though the majority of the treatment table attenuates the beam less than 5%, the steel table side edge and steel accessory rails attenuate substantially more. We will quantify the attenuation of these components on the Varian ETR and Exact couches, for 6 MV and 18 MV photon energies. Measurements with film in phantom placed orthogonal to the beam central axis were performed, and normalized to an open field. Transmission was measured at angles of 45° from the posterior, to represent a clinical situation, and 0° to represent a worse-case scenario, as the beam has to traverse the entire thickness of the table edge and accessory rails at this angle. Our data show that the ETR rails attenuate as much as 15% at 0° incidence. Surprisingly, the ETR table side edge attenuates as much as 17%. On the Exact couch, the table side edge attenuates no more than the rest of the table ($< 4\%$), while the accessory rails can be detached for treatments. We conclude that the ETR absorption is significant enough to warrant treatment planning consideration, while the Exact couchtop poses no attenuation problem.