

Computed Radiography for Portal Imaging and Quality assurance in radiation Therapy  
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Computed Radiography (CR) systems provide good sensitivity and extended dynamic range for X ray photons in the diagnostic energy range and have the added advantage of being digital. A CR system modified for the high energy photons was evaluated for imaging performance (contrast to noise ratio and latitude) and found to be superior to the regular port films. Preliminary use of this system for the portal imaging of patients showed superior image quality with the added advantage of digital image processing. The use of CR is being extended for routine quality assurance of high energy accelerators. Quality assurance includes aspects such as radiation field flatness, field symmetry and depth doses. For flatness and symmetry the CR performance is compared with the results obtained from film scanner and water phantom. The depth dose data obtained using a PTW probe and automated water phantom scanner for high energy photon beam is compared to the data obtained from a polystyrene step phantom and CR. Preliminary evaluation of the extension of the use of CR to radiation therapy indicates that it is a promising cost effective digital modality with improved patient care.