The Rationale for Fractionation in Radiotherapy

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The use of radiotherapy as a cancer treatment is common, so an appreciation of the biologic effects of radiation at a cellular level is essential to help nurses prepare their patients for the challenging journey ahead using appropriate lay language. The four Rs of radiotherapy (repair, redistribution, reoxygenation, and repopulation) are well established with regard to the principles of radiotherapy; however, these concepts appear undeveloped in nursing literature. The current article aims to succinctly explain how radiation impacts cancer and provides rationale as to why radiation treatment is delivered during a number of sessions. Through receipt of this knowledge, oncology nurses will be better equipped to communicate more efficiently and effectively with their patients.

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