Poorya Heydari, J Nucl Med Radiat Ther 2017, 8:4 (suppl)
DOI: 10.4172/2155-9619-C1-011

The function principles of modern radiation therapy system, cyberknife and tomotherapy

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Taking advantage of science and technology to improve human life is one of the best and most beautiful knowledge applications. In today's world there are humanitarian applications of high-tech knowledge in the whole world, especially the developed countries. In this case, the health and treatment field is so important. To use the increasing development of technology for the treatment of chronic diseases, many efforts have been made. Cancer is one among them. With several years of efforts by researchers and scientists, today a small number of patients lose their lives due to cancer. Creating advanced equipment such as Linear Accelerators for the non-invasive treatment of tumors is a great achievement to treatment of cancer. With the passage of time and researcher's activities, high-tech equipment such as cyberknife and tomotherapy system, have come to help cancer patients. The advent of these equipment is so effective and successful step in the treatment of cancer. In this project addition of the cancer and the treatment options such as Brachytherapy, Gamma Knife, X-Knife, Radiotherapy and Stereotactic Radiosurgery, etc., tried to investigate completely the function principle of modern Radiation therapy system. As well as the Synchrony–Cyberknife Respiratory Technology, Monte Carlo Dose Calculation and Automated Patient Positioning System (RoboCouch) are such important parts of the project.

Biography

Poorya Heydari is pursuing her BS in Biomedical Engineering at Sahand University of Technology, Tabriz. His research interests include both Meidal Physics and cyberknife and tomotherapy Education. He has many publications, abstracts and presentations combined.

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