
Description: Radiosurgery robots take cancer surgery far beyond what has been available, promising a cure for cancer. Radiology oncology surgical robots use mechanical mobility and continuous image guidance to remove tumors. The Accuray CyberKnife® robotic system follows the oncology target throughout treatment, intelligently delivering sub-millimeter precision, sparing healthy tissue.

A robotic manipulator and a compact, lightweight linear accelerator, can deliver beams from thousands of non-coplanar, isocentric or non-isocentric angles. Treatments have excellent tumor coverage, steep dose gradients, and tight dose conformity.

The radiation oncology market is growing globally due to a number of factors centered around the aging of the population and the benefits accrued from new technology. The number of new cancer cases diagnosed annually is projected to increase from 14.9 million in 2015 to 20 million by 2025. The increase in new cases is due to a steadily aging population. Both developed and developing countries have aging populations.

Technology advances improve the precision and applicability of radiotherapy and radiosurgery. Expanding uses of radiotherapy and radiosurgery equipment occur because the units are able to treat a broader range of cases. Advances in hardware and software are creating a market for replacing an aging installed base. New designs are able to deliver higher standards of care.

The rise in cancer cases, together with the increase in sophistication of new treatment protocols, have created demand for more automated products. Automation depends on integration of several devices into clinically practical systems. Integrated systems make treatments rapid and cost effective.

Technology advances lead to improvements in patient care. The availability of advanced, automated and efficient clinical tools in radiation therapy has brought more precise forms of radiotherapy treatment (IMRT, IGRT, VMAT, SRS, SBRT, brachytherapy and proton therapy). Technology includes the EDGE™ and Truebeam™, and the Accuray TomoTherapy H Series and CyberKnife M6 platforms that enable treatments that reduce treatment times and increase patient throughput.

International markets are under-equipped to address the growing cancer incidence. Patients in many foreign countries must frequently endure long waits for radiotherapy. 9,000 additional treatment machines will be required by 2020 in developing countries. China, India and Brazil are estimated to require over 3,800, 1,200 and 400 additional machines. Demand in emerging markets, coupled with ever increasing incidences of cancer, represent additional drivers for continued growth.

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