

Radiology Oncology Surgical Robots -- Markets Reach \$7.3 Billion By 2022

LEXINGTON, Massachusetts (January 6, 2016) – WinterGreen Research announces that it has published a new study *Radiology Oncology Surgical Robots: Market Shares, Strategy, and Forecasts, Worldwide, 2016 to 2022*. The 2016 study has 557 pages, 82 tables and figures. Worldwide Radiology Oncology surgical robot markets are poised to achieve significant growth as next generation systems provide a way to improve traditional open surgery and use radiology for cancer surgery. New systems pinpoint the delivery of radiation precisely, eliminating the radiological overdosing that has been such a problem previously, limiting the quantity of radiation that can be delivered.

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.



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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.

Radiology oncology surgical robot market driving forces relate to an opportunity to achieve change in medical practice regarding the treatment of cancer. Change would lead to utilization of stereotactic body radiosurgery more regularly as an alternative to surgery or other treatments. Radiosurgery is poised to revolutionize the treatment of cancer by eradicating tumors while not harming surrounding healthy tissue.

The ability to use high doses of radiation to precisely eliminate a tumor while leaving healthy tissue unharmed is compelling. It means that high doses of radiation can be delivered without killing the person, that doses of radiation delivered can be enough to kill the cancer without killing the person, this represents a change in what has been possible previously.

The Varian, Elekta, and Accuray radiology oncology surgical devices offer robust clinical treatment capabilities. Flexibility of the Accuray InCise™ Multileaf Collimator and robotic delivery permit treatment of tumors previously thought untreatable. With radiosurgery and SBRT cancer can be treated efficiently and effectively. The device offers accuracy.



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According to Susan Eustis, lead author of the study, “Existing open brain and abdominal cancer surgery can be replaced in large part during the forecast period by robotic radiological oncology surgery. Radiologic robotic surgical approaches complement existing open surgery techniques, but will replace them as more physicians and surgeons become skilled in manipulating the x-ray devices. Soon, all oncology surgery will be considered in the context of what part of the oncology procedure will be undertaken with at least some aspects of robotic radiologic surgery replacing or complementing open cancer surgery.

The aging US population has supported demand for robotic Radiology Oncology surgery. Since the occurrence of health issues that require medical devices is higher in the elderly population the more astute baby boomers have been looking to understand what surgical alternatives are open to them. . Buoyed by strong demand and sales, industry profit margins have increased considerably during the past five years.

Hospitals are adopting robotic surgical devices to improve their outcomes numbers. Hospitals are measured on outcomes, robots for surgery, when used by a trained physician are improving outcomes significantly. Hundreds of universities worldwide have research programs in robotics and many are awarding degrees in robotics. These “roboticists” are increasingly being hired by Global 2000 organizations to link mobile robots (mobile computers) into existing IT systems.

Robot-assisted surgery gives the surgeon better control over the surgical instruments and a better view of the surgical site. Surgeons no longer have to stand throughout the surgery and do not tire as quickly. Hand tremors are filtered out by the robot’s computer software. The surgical robot can continuously be used by rotating surgery teams.

Radiology Oncology surgical robot device markets at \$4 billion in 2015 are anticipated to reach \$7.3 billion by 2022 as next generation devices, systems, and instruments are introduced to manage cancer surgery through radiation excision that eliminates open cutting in the body. Patients tolerate the surgery well, walking out of the hospital after the procedure no longer bothered by healing or infection from an incision.



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The complete report provides a comprehensive analysis including procedure numbers, units sold, market value, forecasts, as well as a detailed competitive market shares and analysis of major players' success, challenges, and strategies in each segment and sub-segment. The reports cover markets for Radiology Oncology robotic surgery medical specialties and sub-specialties.

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