

Spinal Surgical Robot -- Markets Reach \$2.77 Billion By 2022

LEXINGTON, Massachusetts (February 2, 2016) – WinterGreen Research announces that it has published a new study *Surgical Robots for the Spine: Market Shares, Strategy, and Forecasts, Worldwide, 2016 to 2022*. The 2016 study has 313 pages, 111 tables and figures. Worldwide spinal surgical robot markets are poised to achieve significant growth with the adaptation of robotic technology to the second most widely performed surgical procedure, spinal surgery. Aging of the population and hospital cost reductions through decreased length of stay are key market driving forces. Spinal surgical robots increase spine surgery repeatability and accuracy.

Back conditions can result in instability and compression of the spinal nerves, causing back pain and/or radiating pain in the legs. Robotic procedures offer significant cost savings in terms of pre- and post-operation care costs and length of stay at hospitals. Technological advances and breakthroughs leverage new materials and new sensor configurations. Sophisticated software is further evolving product implementation.

In the United States, there are 1.34 million spinal operations performed annually, worldwide there are 4.83 million annually. Patients have problems with degenerative conditions and injury. 11 million people in the U.S. and 78 million people worldwide suffer from chronic back pain in 2015, indicating the potential for more surgery if the accuracy and pain relief can be alleviated with better surgery from robots.

Sacroiliac (SI) joint dysfunction is responsible for up to 30 to 35 percent of lower back pain. Surgery is performed to relieve the pain when other means do not work. Robots improve the accuracy of procedures and reduce the complication rates in spinal surgeries. The Mazor robots are flexible. Mazor Renaissance disposable kits are designed to easily adapt the RBT Device to a multitude of surgical applications and for the different mounting platforms utilized by the surgeon. Renaissance spine accessories are offered. Mazor Renaissance accessories include trays of reusable surgical tools.

Pre-operative planning of the procedure is used for intra-operative control of the system. The surgery is performed according to the pre-operative plan. Renaissance® provides increased safety and precision in corrective surgery. It allows surgeons to plan ahead before entering the operating room.



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Mazor Robotics advanced 3D planning software is used before surgery to create the procedure with modification and customization for each patient's condition. During the operation, the physician does the actual work; Renaissance® guides the surgeon's tools according to the predetermined blueprint to place the implants safely and with the highest level of accuracy in the exact planned locations.

Robot-guidance increases the accuracy and safety of surgical procedures. It allows these procedures to be performed with less intra-operative radiation exposure to patients and health care providers. Robot-guided spine surgery allows surgeons to perform less invasive surgical procedures with smaller incisions, less bleeding, faster recovery and shorter hospital stays.

Minimally invasive surgeries to increase repeatability and accuracy through the use of robots. Surgical robots improve the accuracy of procedures and thus reduce the complication rates in surgeries.

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Clinically efficient solutions
Clinically less complex surgery
Shorter length of stay
Minimally invasive surgery
Financially lower cost
Operationally more simple

Old people have trouble making their joints last as long as they do. The patient stability and the relief from pain provided by the robot surgery is compelling. The major suppliers are looking at providing spinal robots that are based on the Mazor state of the art devices.

Spinal surgery has evolved dramatically over the years as advances in technology have made it possible to improve surgical techniques. Mazor is the market leader by far in the spinal surgical robot market, the only company with measurable market share. Spinal surgery involves the modification of the affected area of the back bones and nerves.



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The implantation of one or more screws or components is a very delicate surgery. The robot can achieve better precision than can a skilled surgeon. The robot is more consistent.

Reconstructive spinal surgery depends on precision instruments. Robots are expected to grow significantly in surgery.

Once, the penetration of spinal robots achieves the level of 35% of penetration in a country, all spinal surgeons will demand that hospitals offer spinal surgical robot capability because the outcomes are more predictable and better. The surgeons can give better pain relief to their patients, so naturally, given a choice of hospitals, they will pick the one that has the robot that gives superior outcomes.

Spinal surgical markets have been impacted by the reduction in insurance payments. Payment reductions have forced hospitals to act as businesses. The cost of delivering care has become as much a factor as providing quality care when making decisions about patient improvement in condition. Cost-cutting has been made in the supply chain. Suppliers are examined closely for quality and cost.

The number of suppliers is sure to increase. As Mazor grows its penetration of the market, the larger market participants in spinal surgery equipment will surely follow. Mazor is positioned to continue to dominate the market. As the first providers it builds a strong base of surgeons who are trained in using the equipment these surgeons will continue to purchase updated robots as they are offered to the market.

The new are pressured to improve prices and efficiencies. Hospitals, physicians, and care providers have been financially incentivized to create accountable care organizations (ACOs). Coordinated patient care plans and value-based purchasing were rewarded. The med device buyer shifted from physicians to the ACOs and smart buying groups.

According to Susan Eustis, lead author of the study, "Use of the robotic spinal surgery represents a key milestone in reconstructive surgery. Robots provide an opportunity to transform orthopedics. New materials and new designs are bringing that transformation forward. By furthering the growth of innovation with spinal surgery robots, patients can get better treatment. By enhancing the surgeon and patient experience is is likely that the entire market will grow rapidly."



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The worldwide market for spinal surgical robots is \$26 million anticipated to reach \$2.77 billion by 2022. 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 surgery medical specialties and sub-specialties.

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