Spinal Surgery Devices Market to 2018

New Entrants and Technological Advances to Intensify Competition in the Spinal Fusion Segment

GBI Research
Global Business Intelligence

GBI Research Report Guidance

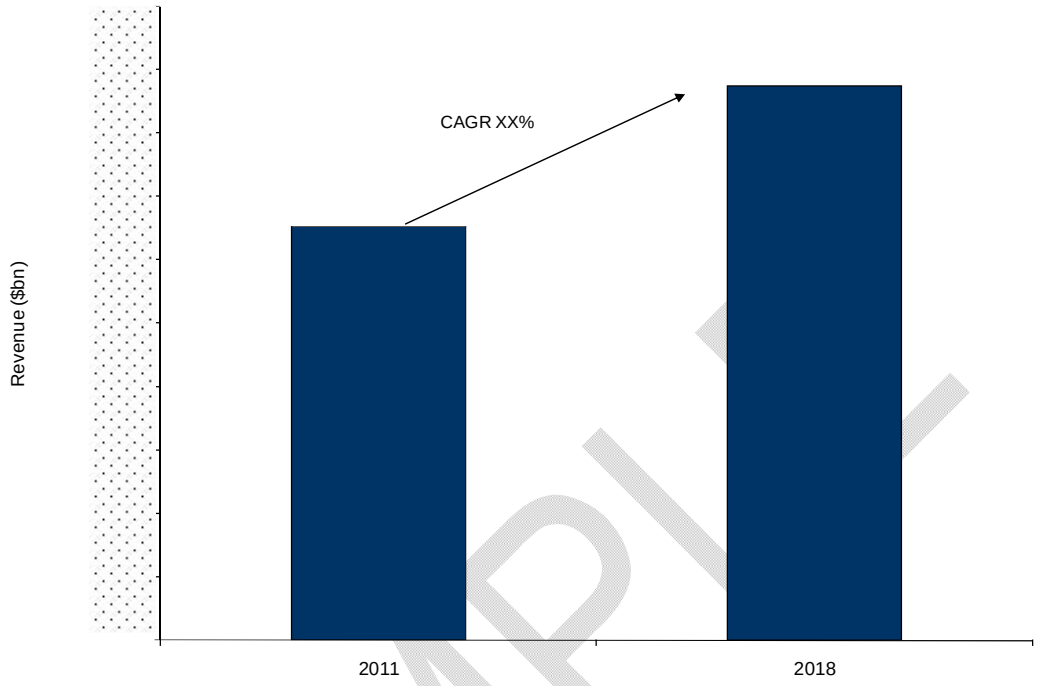
- The report begins with an executive summary capturing the key points that determine the dynamics of the spinal surgery devices market. Competition in the industry and key segments and geographical regions are also outlined.
- Chapter four provides information on market size for the 2004-2011 historic period and the 2011-2018 forecast period. It also has information relating to spinal surgery devices market trends, market dynamics and the competitive landscape. In the market dynamics section, comprehensive information is provided on market drivers and restraints.
- Chapter five discusses spinal fusion and spinal non-fusion segments, and gives information on market size for the 2004-2011 historic period and the 2011-2018 forecast period, as well as information on market dynamics and competition. However, company shares for the segments have not been covered.
- Chapter six gives information on market size for the 2004-2011 historic period and the 2011-2018 forecast period for the US, Canada, the UK, France, Germany, Italy, Spain, Japan, China, India, Australia and Brazil, as well as a cross-country analysis of each.
- Chapter seven profiles the leading spinal surgery device companies and looks at their products' features and benefits.
- Chapter eight focuses on the pipeline products in the two segments. Key pipeline products are listed and discussed in detail and product approval and expected launch dates are provided where available.
- Chapter nine discusses the consolidation landscape in the spinal surgery devices industry, and looks at the deals that took place between 2007 and 2011

Executive Summary

The Global Spinal Surgery Devices Market is Forecast to Increase by XX% over the Forecast Period

The global spinal surgery devices market is expected to increase from $XX billion in 2011 to $XX billion in 2018, driven by a large patient pool and an increase in procedure volumes

Spinal Surgery Devices Market, Global, Revenue ($bn), 2011-2018



Source: GBI Research ' s proprietary database [accessed on October 31, 2012]; primary research interviews with marketing managers and other industry experts

The global spinal surgery devices market is expected to grow at a Compound Annual Growth Rate (CAGR) of XX% during the 2011-2018 period from $XX billion in 2011 to $XX billion in 2018. An increasing preference for Minimally Invasive Spinal Surgery (MISS) is resulting in a high demand for spinal surgery devices. A large patient pool due to a rapidly growing elderly population and an increase in the spinal surgery procedure volumes, are important factors driving the global spinal surgery devices market.

Increasing Demand for Minimally Invasive Spinal Surgeries to Increase Adoption of Spinal Surgery Devices

MISS is rapidly finding acceptance as it has a number of clinical benefits over traditional open-spinal surgery and can be used to treat conditions such as disc herniation, spinal stenosis, degenerated disc diseases and compression fractures, among others. Spinal deformities and instability can also be rectified using the minimally invasive approach.

Open spinal surgeries are associated with a number of drawbacks, namely large incision scars and surgical complications such as excessive blood loss and severe post-operative pain, all of which lead to longer hospital stays and a longer overall recovery period.

These shortcomings can be minimized or eliminated through MISS techniques, which require an incision of only XXcm. It uses advanced techniques and devices such as endoscopes, lasers and sophisticated computer-aided navigation systems to minimize the risk of unwanted adverse events such as severe blood loss and tissue injury.

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2 Introduction

Spinal surgery devices are used for the treatment of low back pain caused by various spinal pathologies such as degenerative disorders, spinal fractures, trauma, and sports injuries. The market for spinal surgery devices is driven by a number of factors such as a rapidly aging population, technological advances in spinal surgery techniques and an increasing preference for Minimally Invasive Spinal Surgery (MISS).

Spinal fusion surgery is the major revenue-generating segment in the spinal surgery market, with greater adoption by both surgeons and patients due to safer procedure outcomes, faster recovery and availability of clinical information. Improving medical reforms in the US and in developing countries such as China are additionally resulting in increased health insurance coverage, leading to an increase in procedure volumes.

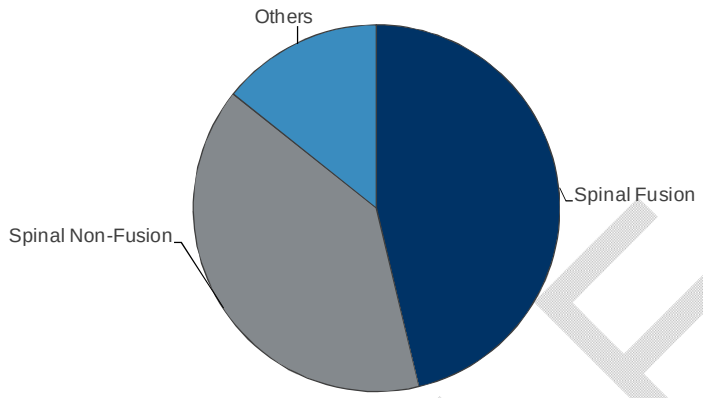
Spinal non-fusion procedures are motion-preserving techniques employed when preserving motion is of particular importance, such as in cervical surgeries. Artificial Disc Replacements (ADRs) are now seeing more adoption as a result of a gradual shift in surgeon preference for spinal non-fusion procedures, due in turn to factors such as maintenance of mobility in patients undergoing spinal non-fusion surgeries and an increase in supportive clinical data driving adoption.

8 Global Spinal Surgery Devices Market - Product Pipeline Analysis

The global spinal surgery devices market comprises XX products in the pipeline with the majority in the spinal fusion segment

The following figure shows the percentage of pipeline products in each segment of the spinal surgery devices category.

Figure 51: Spinal Surgery Devices Market, Product Pipeline Analysis, 2012



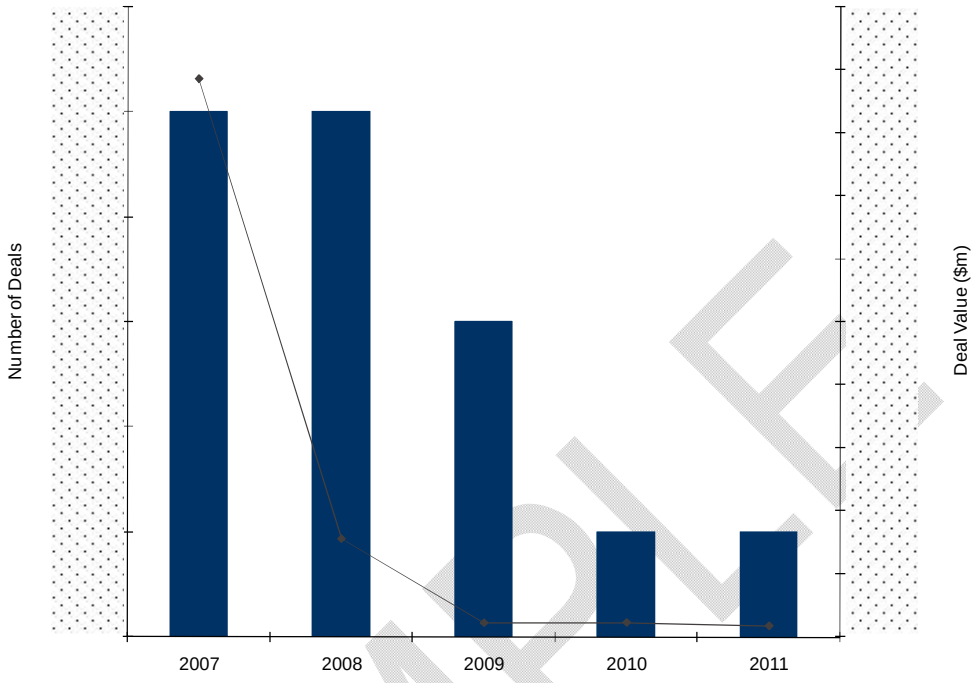
Source: GBI Research ' s proprietary database [accessed on October 31, 2012]; primary research interviews with marketing managers and other industry experts

The global spinal surgery devices market comprises XX products in the pipeline with the majority in the spinal fusion segment (XX products accounting for approximately XX% of the pipeline). Surgeon preference for less complicated spinal fusion procedures and technology advances is resulting in a number of companies developing products based on the spinal fusion technology platform. Spinal non-fusion makes up XX% of total pipeline products, with other spinal surgery devices accounting for XX'%.

9 Global Spinal Surgery Devices Market - Consolidation Landscape

9.1 Spinal Surgery Devices Market: Number of Deals and Deal Value, 2007-2011

Figure 38: Spinal Surgery Devices Market: Number of Deals and Deal Value, 2007-2011



Source: GBI Research, Company Annual Reports

Table 73: Spinal Surgery Devices Market: Number of Deals and Deal Value, 2007-2011

	2007	2008	2009	2010	2011
Number of deals					
Deal value					

Source: GBI Research, Company Annual Reports

The global spinal surgery market saw XX deals in the 2007-2011 period. Although not high, it is nonetheless significant as they accounted for a total value of $XXm, attributed to the various market opportunities and strategic agreements that took place. A growing demand for technologically advanced products and a large patient pool are expected to lead to intense competition and drive M&A activity in the spinal surgery market.

10 Appendix

10.1 Definitions

10.1.1 Spinal Surgery Devices

Spinal surgery devices include devices used in the surgical treatment of diseases such as DDDs, intravertebral fractures and scoliosis. Spinal fusion and non-fusion devices are included in this category.

10.1.1.1 Spinal Fusion

Spinal fusion is a surgical procedure that involves joining two vertebrae in the spine using certain devices in order to relieve pain. Interbody cages, pedicle screw systems and spinal plating systems are covered under this segment.

Interbody Cages

Interbody cage fusion uses a hollow threaded titanium or carbon fiber cylinder to fuse two vertebrae together to treat DDD. During the process the diseased disc is removed and two interbody cages are placed in the opening. One unit consists of one cage

Pedicle Screw Systems

Pedicle screws are used in spinal fusion procedures to provide extra support and strength to the fusion while it heals. They are placed above and below the vertebrae and are made from a variety of materials such as stainless steel, titanium alloys, and unalloyed titanium. The device consists of a combination of anchors (such as bolts, hooks, and/or screws); interconnection mechanisms incorporating nuts, screws, sleeves, or bolts; longitudinal members (such as plates, rods, and/or plate/rod combinations); and/or transverse connectors. One unit consists of four screws, two rods and anchors such as bolts and hooks.

Spinal Plating Systems

Spinal plating system is an implant used to treat patients with DDD affecting the spine. One unit consists of two plates and four screws.

10.1.1.2 Spinal Non-Fusion

Spinal non-fusion surgery involves restoring spinal mobility by implanting an artificial disc in place of the diseased or damaged disc. The devices covered under this category are ADRs, dynamic stabilization and IPD devices.

Artificial Disc Replacement

ADR or disc arthroplasty is a surgical procedure during which an artificial disc replaces degenerated intervertebral discs. It is used both for the cervical spine and lumbar spine. One unit consists of one artificial disc.

Dynamic Stabilization

Dynamic stabilization systems include a superior component for attachment to a superior vertebra of a spinal motion segment and an inferior component for attachment to an inferior vertebral of a spinal motion segment. One unit refers to one dynamic stabilization device.

Interspinous Process Decompression Devices

IPD is a surgical procedure in which an implant is placed between spinous processes in the back of the spine. They are mostly used for spinal stenosis procedures. One unit refers to one IPD device.

10.2 Acronyms

ADR: Artificial Disc Replacement

ALIF: Axial Lateral Interbody Fusion

ASD: Adjacent-Segment Degeneration

BMP-2: Bone Morphogenetic Protein-2

CAGR: Compound Annual Growth Rate

CRDM: Cardiac Rhythm Disease Management

DDD: Degenerative Disc Disease

DLIF: Direct Lateral Interbody Fusion

FBSS: Failed Back Surgery Syndrome

FDA: Food and Drug Administration

HPAN: Hydrolyzate Polyacrylonitrile

IDE: Investigational Device Exemption

IPD: Interspinous Process Decompression

LADR: Lumbar Artificial Disc Replacement

LIF: Lateral Interbody Fusion

LSS: Lumbar Spinal Stenosis

MAS: Maximum Access Surgery

MIS: Minimally Invasive Surgery

MISS: Minimally Invasive Spinal Surgery

MRI: Magnetic Resonance Imaging

PEEK: Polyetheretherketone

PLIF: Posterior Lumbar Interbody Fusion

POD: Physician-Owned Distributorship

SCS: Spinal Cord Stimulator

TDR: Total Disc Replacement

TLIF: Transforaminal Lumbar Interbody Fusion

UHWMPE: Ultra High Molecular Polyethylene

VBR: Vertebral Body Replacements

VCF: Vertebral Compression Fracture

XLIF: eXtreme Lateral Interbody Fusion

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10.4 Research Methodology

GBI Research's dedicated research and analysis teams consist of experienced professionals in marketing and market research with consulting backgrounds in the medical devices industry and advanced statistical expertise.

GBI Research adheres to the codes of practice of the Market Research Society (www.mrs.org.uk) and the Society of Competitive Intelligence Professionals (www.scip.org).

All GBI Research databases are continuously updated and revised. The following research methodology is followed for all databases and reports.

10.4.1 Secondary Research

The research process begins with exhaustive secondary research on internal and external sources being carried out to source qualitative and quantitative information relating to each market.

The secondary research sources that are typically referred to include, but are not limited to:

- Company websites, annual reports, financial reports, broker reports, investor presentations and SEC filings.
- Industry trade journals, scientific journals and other technical literature.
- Internal and external proprietary databases.
- Relevant patent and regulatory databases.
- National government documents, statistical databases and market reports.
- Procedure registries.
- News articles, press releases and web-casts specific to the companies operating in the market.

10.4.2 Primary Research

GBI Research conducts hundreds of primary interviews a year with industry participants and commentators in order to validate its data and analysis. A typical research interview fulfills the following functions:

- It provides first-hand information on the market size, market trends, growth trends, competitive landscape and future outlook.
- It helps in validating and strengthening the secondary research findings.
- It further develops the analysis team's expertise and market understanding.

Primary research involves email correspondence, telephone interviews and face-to-face interviews for each market, category, segment and sub-segment across geographies.

The participants who typically take part in such a process include, but are not limited to:

- Industry participants: CEOs, VPs, marketing/product managers, market intelligence managers and national sales managers.
- Hospital stores, laboratories, pharmacies, distributors and paramedics.
- Outside experts: investment bankers, valuation experts, research analysts specializing in specific medical equipment markets.
- Key opinion leaders: physicians and surgeons specializing in different therapeutic areas corresponding to different kinds of medical equipment.

10.4.3 Models

Where no hard data is available GBI Research uses modeling and estimates in order to produce comprehensive data sets. The following rigorous methodology is adopted:

Available hard data is cross referenced with the following data types to produce estimates:

- Demographic data: population, split by segment.
- Macro-economic indicators: Gross Domestic Product, Inflation rate. .
- Healthcare Indicators: health expenditure, physicians base, healthcare infrastructure and facilities.
- Selected epidemiological and procedure statistics.

Data is then cross-checked by the expert panel.

All data and assumptions relating to modeling are stored and are available to clients on request.

10.4.4 Forecasts

GBI Research uses proprietary forecast models. The following four factors are utilized in the forecast models:

- Historic growth rates.
- Macro indicators such as population trends and healthcare spending.
- Forecast epidemiological data.
- Qualitative trend information and assumptions.

Data is then cross-checked by the expert panel.

10.4.5 Expert Panels

GBI Research uses a panel of experts to cross verify its databases and forecasts.

GBI Research's expert panel comprises marketing managers, product specialists, international sales managers from medical device companies; academics from research universities, KOLs from hospitals, consultants from venture capital funds and distributors/suppliers of medical equipment and supplies.

Historic data and forecasts are relayed to GBI Research's expert panel for feedback and adjusted in accordance with this feedback.

10.6 Disclaimer