GlobalData

MediPoint

TRAUMA FIXATION – US ANALYSIS AND MARKET FORECASTS
Executive Summary

**Trauma Fixation, Key Metrics in Major Markets**

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<th>(2012) Incidence of Fractures Treated in Hospitals</th>
<th>2.3 million</th>
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<td>2012 US Market Sales for Trauma Fixation Devices ($m)</td>
<td>$3,142m</td>
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**Key Events (2012–2019)**

- **(2013) Smith & Nephew acquires Adler Mediequip Pvt. Ltd. and Pró Cirurgia Especializada**  
  Impact: ↑↑↑

- **(2013) Johnson & Johnson DePuy Orthopedics completes acquisition of Synthes for a monumental $21.3bn**  
  Impact: ↑↑↑

- **(2012) Biomet acquisition of Johnson & Johnson DePuy Orthopedics Trauma Unit for $280m**  
  Impact: ↑↑

- **(2013) Continued growth of pipeline products from Asian players entering US market and low-cost US manufacturers**  
  Impact: ↑↑

**Competitive Assessment**

- Number of Devices in Marketing Phase: 100+
- 2019 US Market Sales for Trauma Fixation Devices ($m): $4,959m

Source: GlobalData, primary research interviews with leading orthopedic trauma surgeons in 10 markets (US, France, Germany, Italy, Spain, UK, Japan, Brazil, China, and India).

Note: 5EU = France, Germany, Italy, Spain, and the UK; Asia-Pacific = Japan, India, and China.

**Sales for Total Fixation Devices**

The total trauma fixation sales market in 2012 is estimated to be $3,142m in the US market covered in this report.

By the end of the forecast, the trauma fixation sales will grow to over $4,959m with a compound annual growth rate (CAGR) of 6.76%.

The key drivers for the market in the forecast are:

- The growing prevalence of traumatic injury through motor vehicle accidents and sports
- The growing prevalence of symptomatic osteoarthritis arthritis due to the growing aging segment of the population causing low-energy fractures
- The movement towards more minimally invasive techniques through locking and hybrid systems and headless screws, creating growth in internal fixation
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As of 2012, the US consisted of the largest piece of the trauma fixation market with a global market share of 58%, and is expected to remain stable throughout the forecast period. GlobalData expects the market to grow in procedural volumes and revenue with the procedural volume CAGR to be 4.5% over the forecast period globally for the major market segments, external fixation, plates and screws and intramedullary nails. Adoption rates have grown steadily in internal fixation for locking and hybrid screw technology due to the marked clinical improvement, a trend that is seen in the emerging nations as well. The revenue CAGRs are also growing as prices have steadily increased with new technological advancements. The overall trauma market revenue CAGR in the US is 6.7%. The growing concern for multinational companies will remain the need to better target the fast-growing markets like India and China and better combat the dominant local manufacturing landscape.

Technological Trends

Trauma fixation technology took a sharp turn in the early 2000s with the quick adoption of locking screw technology, polyaxial screwing, and intramedullary nail improvements. With that, computer navigation systems to improve accuracy of nail entry have also won the approval of orthopedic surgeons. Newer products have evolved to include biodegradable screws, plates as well as orthobiologic products that stimulate bone growth and fill bone voids to achieve lower complication rates within trauma. Materials development has also been a key interest with physicians as they look for stronger and lighter materials to implant in patients.

The external fixation market is the only area that is seeing less growth due to the increasing difficulty in getting patient acceptance, though it is still posting moderate growth. This growth is due to the ability to use this technology for fracture stabilization and the trend of using it as a conjunctive therapy.

Orthopedic surgeons have also seen dramatic growth in joint replacements with the mass development and improvement of existing technology in that field. While it is one area that can hinder growth in trauma fixation, being a substitute procedure, it has also complemented trauma. Trends such as custom implants, materials development for biocompatibility and minimally invasive techniques benefit trauma fixation and drive growth.
Executive Summary

Additionally, trauma fixation is an area that is surgically less costly, which will continue to foster adoption. The technological developments in trauma fixation will essentially continue to result in positive growth.

Key Players in the Trauma Fixation Market

The dominant player in this market remains DePuy Synthes, with Stryker, Smith & Nephew, Zimmer and Biomet all strong players within trauma fixation. DePuy Synthes remains a strong leader in plates and screws primarily, and IM nails second, with the other four also holding significant shares. Within the US, DePuy Synthes holds up to 56% share in plates and screws showing market dominance in that sub-segment. The external fixation market is dominated once again by DePuy Synthes, followed by Stryker and Orthofix.

Based on primary research interviews by GlobalData, the trauma market is still dominated by the top manufacturers in the US. The emerging markets remain a challenge for the multinational firms, as in countries like China and India, around 70%–80% of the product market share in trauma fixation is held by local manufacturers whose products are one-third the cost of imported products. These local manufacturers all manufacture locking plates and screws, polyaxial screw products, and intramedullary nail technologies. As quality has not been heavily compromised, surgeons in these markets choose the domestically available products as there are clear reimbursement benefits in doing so.

The ongoing trend in trauma fixation would lead to the top players potentially losing some market share in the US, as this trend is already evident in emerging markets.

Trauma Fixation Market Future Outlook

The economic downturn has been a continued concern with pricing wars in other sectors of orthopedics. While trauma fixation is a market that can be susceptible to this, it has affected this market only partially. Only elective procedures within trauma have seen a drop in volumes, as cases that require emergency care have not been considerably impacted.

The market outlook looks strong with continued high volumes of procedures in plating and nailing across the long bones. Other niche areas of development include hand fixation, digits fixation and the small joints. The extremities market has been a major driver in trauma fixation growth. Within extremities, shoulder replacement is seeing extraordinary growth, and this has also driven development in plating in the shoulder, which includes humeral and clavicle systems. Other areas of growth include the ankle, which is often prone to trauma.

The trauma fixation market is a moderately growing market with a CAGR of 6.76%. It is an orthopedic sector that is expected to continue to grow with the continual technological developments and emerging markets’ acceptance of products.
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The market is based on and will be driven by the rising prevalence of osteoarthritis and the rising aging population for low-energy fractures. The hip fixation market consists of up to 19% of the entire trauma fixation pie, with extremities also at 19%. GlobalData expects moderate growth in this mature market.

What Do Physicians Think?

Physicians expect cost of implants to be a growing concern for practices and hospitals.

“In the past, when I was younger in my career, we chose purely based on the senior surgeons’ relationship. That’s evolving and the hospitals are getting much more involved in that process. And really just asking us as surgeons, can you provide safe adequate care with these product lines? And if you can, they are going to pick it based solely on price. Little bit of service, but mostly price.”

Key Opinion Leader

“In an economic downturn, we need to be able to show that what we do is cost-effective. Many hospitals, for example, have capped down the number of procedures that can be done in a year.”

Key Opinion Leader

With regards to the fragmentation and generic manufacturers vying for market access.

“Medicare only has so many dollars. The smaller players are filling that niche that the government and FDA needs. They are always looking at the fact that ‘If I get enough market share, someone will buy me. We will make a lot of money.’ And that has been proven quite a bit.”

Industry Key Opinion Leader

“So I don’t think anybody is selling direct. The model there is that people are buying the Chinese companies. Medtronic and Zimmer have all bought the top three players... It is a tremendous opportunity but it will require some strategic partnerships or some other complicated way. The whole return on investment is going to be a much longer play.”

Industry Key Opinion Leader

Physicians still expect growth in trauma fixation through aging and traumatic injury in the young.

“There is a lot of...five years ago I observed that there is an increase in elderly patients. And now we have a high number of older people and we observe a higher increase of persons with fractures of older people. And this is new for us.”

Key Opinion Leader
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“In cases of patients enjoying private insurance we still do screening, and depending on severity we might let patients be redirected to private hospitals. But usually car/scooter accidents require immediate intervention at our hospital unit, those with private insurance would be asked later on by the government for a reimbursement through their insurance plan. The rates have clearly been going up over the last five years and believe will keep growing in the future.”

Key Opinion Leader

Physicians discuss adoption trends of newer products.

“The trend seems to be for growth in adoption of new fixation devices due to growing complexity of trauma, particularly across plates and screws for long bones. Also due to the fact that government campaigns are not focused on accident prevention but on lowering scooters’ prices, which cost a quarter of cars’, as almost all workers can’t afford cars [but] only scooters or bikes. I also use bioabsorbable screws for anterior ligament reconstruction in knee surgery. I would prefer full systems. And regarding plates I definitely prefer locking plates, which have been around for quite a while now. I use bioabsorbable screws for reconstruction of the anterior ligament of the knee. We hardly use dynamic compression plates [DCT] plates anymore these days, the tendency is for increasing use of locking plates which was a world trend in the last 10 years.”

Key Opinion Leader

“I mean, we have seen and documented a trend of increasing use of intramedullary nails for the treatment of hip fractures. A massive increase there. Certainly there you would see an increase in nails. I think that one of the most interesting technology advancements has been locking plates, and we are seeing an upswing in plating and some fractures perhaps have been nailed or plates seem to be more effective. I don’t know if we have already seen that effect or if it will continue to swing one way or another. I personally used more plates before and I tend to find myself transitioning back to use some nails in situations because I think they heal a little bit better. My personal practice, my nail use is increasing slowly compared to plates.”

Key Opinion Leader

“I think nails for the elderly is probably the trend. For the young, depending on the fracture pattern it is more plating.”

Key Opinion Leader

“Composite materials, and even some biopolymers that are beginning to emerge. The whole notion of the biopolymer market is to essentially allow something to turn into bone. And that is very, very exciting technology right now.”
Physicians are interested in solid clinical studies to prove outcomes in products.

“In orthopedics, there are a couple of things always constant. Number one, is that to clinically prove that something is better than something else, whether it is a material or a design, or surgical technique, it takes literally years to prove something clinically that something is more efficacious than something else… And to prove that something is clinically better than something else takes a very, very long time. So that is one thing that we are always faced with when we have new materials or designs of devices. Secondly, the human body is such a unique laboratory that works very well in vitro, but often does not work in vivo at all.”

Key Opinion Leader

Strategic partnerships are the key to product adoption.

“So many of us have gone [to] AO [Foundation] basic courses, which is affiliated with Synthes. Synthes has been a great familiarity to more orthopedic surgeons in the country. Just from their training programs and also their penetration in the market.”

Key Opinion Leader
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Introduction

2 Introduction

Traumatic injury patients that come into the Emergency Room (ER) experience orthopedic injury in the form of fractures 60% to 65% of the time, based on GlobalData’s conversations with key opinion leaders. Of this population, 45%–50% are operable and require fracture repair techniques in the form of external or internal fixation. As the global population continues to grow in the emerging markets, with overcrowding and economic growth, some of the drivers for trauma fixation include motor vehicle accidents and aging.

The trauma fixation market can generally be segmented into the two buckets of high-energy fractures from the young patient under age 45, or the elderly population above age 65 that experiences low-energy fractures. For the aging, osteoarthritis has become a global public health concern with no cure. This is an indication that is growing rapidly, afflicting all joints. As hip fixation continues to be up to 20% of the trauma market, this segment is expected to continue to grow. The extremities segment also continues to drive growth, which consists of approximately another 20% of the market. Sporting injuries, vehicular accidents, violence and falls are the primary factors that make this trauma fixation market grow at a rate of 6.8%, far higher than that of the joint replacement markets within the hip and knee space.

Generally, fixation devices such as plates, screws, intramedullary nails and external fixation are far cheaper than joint replacement, and are thus a preferred treatment methodology when clinically feasible. The major breakthrough in internal fixation has been the locking screw technology that was developed and launched by Synthes in 2000, which significantly reduced the prices of standard plates and dramatically reduced complication rates. Nevertheless there is continued room for growth in this industry with new technologies that have potential, such as drug-eluting plates, flexible synthetic nails and bioabsorbable implants. As with other orthopedic markets, materials development is critical, as physicians are looking for lighter implants that are stronger and can be inserted using minimally invasive techniques. As people live longer and with younger patients also receiving implants, the physical demand on the implants will increase. Surgical adoption will be heavily based on training sessions and clinical data demonstrating improved outcomes.
Introduction

This report focuses on the trauma fixation market, which includes internal and external fixation devices. The orthopedic trauma market has been estimated in this report covers the US. The report provides unmet needs, future adoption and compound annual growth rates (CAGR). GlobalData's analysis shows that while the orthopedics implant market is mature, where products have become commodities, trauma fixation is one that has room for more technological development and adoption. The future of the market lies in the ability of manufacturers to provide implants with significant clinical improvement and being minimally invasive to stabilize fractures while doing so at a low cost. With the market in the APAC regions being highly fragmented with local players, there will be a continued battle for market share by the top five leaders through technological innovation and investment in establishing strong distribution networks. The major opportunity lies within the emerging markets such as India and China, which have a large patient population, and the key for growth will be realigning with the local distribution network and acquisitions of local market players.

2.1 Catalyst

As the orthopedic market continues to be a mature market in sectors such as large joint replacement, the driving markets within this therapy area continue to be the extremities, with far higher CAGRs and more room for design improvement and development. The trauma fixation market is one of these, with developments in screw technology, plating and intramedullary nails. The other segment within trauma, external fixation, is one that experiences slower growth, as today it is more reserved to fracture stabilization in patients with large-scale multiple trauma.

The 2000s saw a shift in the plating technology with the move from standard plates to locking plates, and today the market is facing developments in bioabsorbable materials and antibiotic-coated implants. As the younger and older patient segments grow with both high- and low-energy fractures, GlobalData expects the market to continue to see growth, with a focus on technological advancement for minimally invasive techniques and driven by both the extremities and hip markets.

Materials research within polymers and lighter implants with long-term data confirming the clinical efficacy of the products being addressed will allow surgeons to continue to adopt new products. Additionally, the emergence of many local players, where the innovation in products lies, will drive large manufactures to focus on mergers and acquisitions.
Introduction

While cutbacks in reimbursement have led to a decline in revenue with joint replacements, the trauma fixation market is not expected to see as much pricing pressure; nevertheless, a focus on cutting costs for manufacturers will be pertinent in maintaining growth.

This report addresses the various unmet needs, presents the current technology and the drivers for the future and market growth in the US. Adoption rates are examined, as well as the market dynamics that decision makers need to know in order capture market share.
11.6 About MediPoint

MediPoint is the flagship product for GlobalData’s Medical team. Each MediPoint report is built from the ground-up by our team of healthcare analysts in the US and UK. Each report includes input from experienced physicians and leading Key Opinion Leaders (KOL). Running throughout each report in the series, “What Physicians Think” quotes provide a unique insight into how healthcare professionals are reacting to events within the industry, and what their responses could mean for industry strategists.

11.7 About GlobalData

GlobalData is a leading global provider of business intelligence in the Healthcare industry. GlobalData provides its clients with up-to-date information and analysis on the latest developments in drug research, disease analysis, and clinical research and development. Our integrated business intelligence solutions include a range of interactive online databases, analytical tools, reports and forecasts. Our analysis is supported by a 24/7 client support and analyst team. GlobalData has offices in New York, Boston, London, India and Singapore.

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