The current knee replacement market is a crowded arena that has become increasingly mature over the years. The value of the US market is estimated to be $4,124m. By the end of the forecast period (2012–2019), knee replacement market sales are expected to reach $4,536m, with a Compound Annual Growth Rate (CAGR) of 1.4%.

The key drivers of the knee replacement market during the forecast period are as follows:

- The growing prevalence of symptomatic arthritis due to the pandemic of aging and obesity
- The major underserved population for joint replacement in late-stage arthritis in the emerging markets driving procedural numbers up for the knee replacement market
- The need to address the knee revision market as primary knee volumes continue to rise
- Continued technological advancements in joint reconstruction surgeries, such as computer-assisted systems, keep pushing the frontier

**Barriers Impede Market Growth**

While medical innovations that cater to younger, more physically active patients have led to an expanded adoption of knee replacement in treating degenerative knee diseases, the modest growth in procedure volume has been largely offset by the lingering softness in the global economy. In most developed countries, the economic slowdown is forcing patients to reconsider elective surgeries like knee replacement when conservative medical treatments such as viscosupplementation may ease the pain. In the US, as downward pricing pressures continuously offset the rise in procedure volume and cost-containment initiatives directly impact the adoption of premium-priced devices, the
Executive Summary

The knee replacement market is very likely to be mired in stagnancy for a while.

Key Players in the Global Knee Market

The three top players in the global knee replacement market are Zimmer, DePuy Synthes, and Stryker, which together comprise almost 65% of the market. Following them are Biomet and Smith & Nephew, together representing 25% of the market. The remainder of the market is occupied by several small- to mid-cap orthopedic companies, with Wright Medical and Exactech leading the pack. Market share globally for knee replacement surgery is expected to remain in the hands of the five orthopedic giants as they continue to enhance their product mix and optimize their operational efficiency. Nevertheless, GlobalData anticipates some dramatic shifts in market share in the future among the remaining players as the influx of “generic” implant makers adds an extra dimension of complexity to the current competitive landscape.

The US Knee Market Future Outlook

The knee replacement market represents the largest joint reconstruction market in the world and has continued to grow at a steady rate in procedure volume over the years. Yet as health executives are scrutinizing purchases and using multiple channels to procure orthopedic devices at highly competitive prices, profit margins have been negatively affected, and thus revenue growth is dwindling in the US knee space.

As the economy slowly recovers, the procedure volume of knee replacements is expected to experience increase further, primarily due to the demographics of an aging population, a trend towards early surgical intervention in younger patients, and further improvements in insurance coverage in emerging countries. In the years to come, launching and marketing a comprehensive knee portfolio with a clear value proposition will remain critical to companies’ success as they jockey for market position. Meanwhile, a long-term foothold within the global knee market hinges on how well companies can align themselves with the primary market force buffeting healthcare today — the need to deliver top-notch, cost-effective care.

What Do Physicians Think?

In the current economic environment, orthopedic implant makers realize that while incremental enhancements in implant designs are necessary to improving competitive edges, they may not generate the same amount of traction among surgeons as they used to.

“When you look at the implant innovations, to an experienced joint replacement surgeon, it’s almost like looking at new current models and trying to decide if there’s any significant advantage between one model and the next. More likely, there are usually not significant different advantages.”

Key Opinion Leader
Executive Summary

“The way I explain to the companies is I think it’s a natural evolution. But we are not willing to pay more for them, as they are not dramatically different. So, we think they should provide those implants at the same price.”

Key Opinion Leader

“In my hospital system, any of the surgeons who are doing volume surgery and who are sensitive to the amount of financial outlay that comes with branded implants would be the potential adopters of generic implants.”

Key Opinion Leader

“Clinical evidence shows there’s really no difference in those technologies, and economic buyers are not paying premiums for them anymore. So, unlike in the hip, we still have large premiums that hospitals will pay; those are pretty much washed out in the knee market.”

Industry Key Opinion Leader

Orthopedic surgeons hold varied opinions regarding the adoption of computer-assisted technologies in knee replacement surgeries.

“When you talk to a hospital administration, anything that doesn’t provide savings and similar experiences in the operating room isn’t really worth the expenditure.”

Key Opinion Leader

“As the US healthcare system is under increasing pressure to create efficiencies across the entire supply chain, a growing number of newcomers are bringing in the concept of “generic” implants. However, whether an increasing number of orthopedic surgeons will embrace these implants remains to be seen.

“We are looking at them, but that probably has more to do with what kind of services they are going to provide. The sort of generic, or “off-the-shelf,” implant companies don’t come with the same services as the branded implants. So, if we can develop a service model in our hospital where we can provide service from within, then that’s a possibility. But right now, no.”

Key Opinion Leader

“Medicare gives us codes for navigation, and we would routinely get paid for navigation. Usually, once Medicare accepts the code, private insurance companies accept the code. It’s debatable as to what they are reimbursing.”

Key Opinion Leader

“I think patient-specific cutting blocks for implants may well have a role in the long-term future. Those are probably more valid than the computer-assisted [technologies]. So, I will keep an open mind on that, and that’s something I might well take up in the next two to three years. But I think the jury’s out, still.”

Key Opinion Leader
Executive Summary

Based on GlobalData’s key opinion leader (KOL) conversations, high-volume surgeons tend to pay closer attention to the flexibility of instrumentation.

“So, what the orthopedic surgeon has to deal with is reproducibility and his familiarity with the instrumentation, so that he can generate consistent result[s]. In my experience, what I look at more is innovations in instrumentation, as opposed to innovations in the implants, because innovations in the implants are usually more to excite the public and inexperienced surgeons. But the results are more based on how you perform the procedure.”

Key Opinion Leader

While knee replacement technology has developed significantly over the decades, there is still room for further improved design rationales.

“Moving to ACL [anterior cruciate ligament]- and PCL [posterior cruciate ligament]-sparing models, where the knee is more physiologically normal. Although I think implants are less of an issue in comparison to other clinical unmet needs, like pain management, there are some long-term improvements we would like to see in the implants as well.”

Key Opinion Leader
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Introduction

2 Introduction

Following the clinical success of hip replacement in the 1960s, attempts were made to design knee replacements. Over the decades, a better understanding of kinematics in the global orthopedic community, coupled with continued innovation by manufacturers, has led to sustained growth in the knee replacement market. Today, the knee replacement market represents the largest joint reconstruction market in the world.

The current knee replacement market is a crowded space, with an increasing number of companies offering a myriad of partial, primary/total, and revision prostheses to meet orthopedic surgeons’ demands in the management of knee diseases, primarily osteoarthritis (OA). Worldwide, the primary/total knee segment represents about 80–90% of the entire knee market, with the remainder being partial knee and revision knee. Overall, clinical data show that short- to medium-term survivorship is excellent after almost all common types of knee replacement, regardless of fixation, constraint, and bearing type. Future competition among vendors will be more likely to center on the instrumentation and the ancillary equipment, such as patient-specific instruments (PSIs), navigation systems, and robotic systems.

The expanding patient population for surgical treatments, widespread appreciation of the clinical efficacy of knee replacements, and technological advancement from the supply side have all contributed to a stable increase in the procedure volume of knee replacements. However, the recent global economic downturn has resulted in intensified budget constraints in the US healthcare systems, with a particular focus on limiting spending on high-volume surgeries. As the downward pricing pressures continuously offset the rise in procedure volume, and cost-containment initiatives directly impact the adoption of premium-priced devices and technologies, the market revenue is only going to grow at a slower pace.
KNEE REPLACEMENT – US ANALYSIS AND MARKET FORECASTS

Introduction

2.1 Catalyst

The global knee replacement market is an established orthopedic market that has witnessed several waves of technological breakthroughs in implant designs over the decades. This report focuses on the knee replacement market in the US. GlobalData evaluated the currently-marketed knee replacement prostheses, identified the unmet needs in the market, and provided an understanding of surgeons’ perceptions of the latest advances, such as computer-assisted technologies. As healthcare executives are scrutinizing purchases and are using multiple channels to procure orthopedic devices at highly competitive prices, the future of the knee replacement market lies in the ability of manufacturers to provide implants at a lower cost while continuing to provide the same level of clinical efficacy. Meanwhile, product development needs to focus on better mimicry of natural knee kinematics and portfolio expansion to include a comprehensive knee revision platform, as the number of patients requiring revision surgery gradually increases over the next decade. Additionally, the major opportunity lies within the emerging markets, which are the countries that have a higher Compound Annual Growth Rate (CAGR) in the knee replacement market and will provide the key for growth and gaining market share.

2.2 Related Reports

Appendix

10.6 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 the UK. Each report includes input from experienced physicians and key opinion leaders (KOLs). Running throughout each report in the series, “What Do 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.

10.7 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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