

Knee Replacement Market to reach USD 20.83 Billion by 2035 at 4.69% CAGR

Knee Replacement Market to Expand from USD 13.79B in 2026 to USD 20.83B by 2035-By Aging Global Demographics, Robotic-Assisted Surgical Platform Adoption

NY, CA, UNITED STATES, July 7, 2026 /EINPresswire.com/ -- As per Market Research Future, the [global Knee Replacement Market size](#) to reach USD 20.83 Billion by 2035 from USD 13.79 Billion in 2026, at a CAGR of 4.69% during the forecast period 2026–2035. The market base was estimated at USD 13.17 Billion in 2025.

The 4.69% CAGR—anchored by structural orthopedic demand rather than discretionary healthcare spending—is driven by three converging forces: a global population aged 65 and older that the United Nations projects will surpass 1.6 billion by 2050, rising obesity rates that the WHO estimates now affect more than 890 million adults worldwide, and outpatient reimbursement reforms that have catalyzed the migration of primary knee procedures from inpatient hospitals to ambulatory surgical centers.

National governments and multilateral health organizations are amplifying this momentum. The World Health Organization estimates that more than 528 million people worldwide lived with osteoarthritis in 2019, a figure that has grown by over 113% since 1990. In the United States alone, the American Joint Replacement Registry projects primary knee procedures could exceed 3.5 million per year by 2030. Global capital expenditure on robotic knee surgery systems approached USD 1.8 billion in 2024. Together, these initiatives are creating the surgical infrastructure and delivery innovation on which the Knee Replacement Market depends.

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Key Market Trends & Growth Drivers

Aging Population and Osteoarthritis Burden

The World Health Organization estimates that more than 528 million people worldwide lived with osteoarthritis in 2019, a figure that has grown by over 113% since 1990. Knee osteoarthritis accounts for the largest share of that burden, and the correlation with age is stark—incidence roughly doubles with each decade of life after 45. As the global 65+ population swells, the

volume of patients reaching end-stage joint degeneration is expected to strain surgical capacity in every major geography. In the United States alone, the American Joint Replacement Registry projects primary knee procedures could exceed 3.5 million per year by 2030.

Extended survival and improved life expectancy create a larger prevalent population requiring sustained orthopedic intervention. Longer lifespans transform knee osteoarthritis from an age-limited condition into a chronic disease with sustained implant utilization. National joint registries in India and Brazil are also capturing higher detection rates as screening programs mature, feeding into the Knee Replacement Market growth pipeline across emerging economies. Each percentage point of aging population gain translates into measurable surgical volume for knee replacement therapy, and the joint replacement treatment schedule embedded in routine orthopedic care makes this driver structurally durable through 2035.

Robotic-Assisted Surgical Platforms

Legacy manual surgical techniques, long the default instrumentation modality, are giving ground to robotic-assisted platforms that deliver finer alignment tolerances and shorter recovery windows. Stryker's Mako platform has surpassed 3,000 cumulative installations globally, while Zimmer Biomet's ROSA and Smith & Nephew's CORI systems are rapidly gaining traction in mid-tier facilities. Clinical registries report that robotic-assisted procedures reduce outlier alignment by 40–60% compared to manual instrumentation, supporting shorter hospital stays and faster rehabilitation.

Global capital expenditure on robotic knee surgery systems approached USD 1.8 billion in 2024. OEMs are coupling hardware with AI-enabled preoperative planning software that maps patient-specific implant location. The economic case is strengthening as per-procedure costs decline with higher utilization rates, making robotics a central growth driver for the Knee Replacement Market. The convergence of diagnostic imaging with robotic surgical planning is creating precision platforms that personalize knee replacement at scale. By 2030, integrated AI-navigation platforms are expected to become the standard of care in high-volume centers, reducing operative variability and shortening learning curves for robotic systems.

Outpatient Reimbursement Reforms and ASC Migration

CMS removed total knee replacement from the Medicare inpatient-only list in 2020, a regulatory shift that catalyzed the migration of straightforward primary cases to ambulatory surgical centers. Bundled payment models such as CJR (Comprehensive Joint Replacement) have further incentivized efficient care delivery, rewarding facilities that achieve same-day or next-day discharge. By 2024, an estimated 35% of primary knee replacements in the US were performed in outpatient settings, up from less than 5% in 2018.

The economics of same-day knee replacement are compelling—facility costs in ASC settings run 30–45% lower than traditional inpatient episodes, while patient satisfaction scores remain

equivalent or superior. By 2028, an estimated 50% of primary knee replacements in the US will be performed on an outpatient basis. This trend is expanding the Knee Replacement Market by lowering per-episode costs and broadening patient eligibility. International adoption is following, with pilot programs underway in the UK, Australia, and South Korea. This structural shift will redistribute revenue from large hospital systems toward physician-owned ambulatory networks, reshaping the Knee Replacement Market.

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Market Segment Insights

BY PRODUCT

Total Knee Replacement: Dominant segment with ~65.5% revenue share in 2025. Reflecting sustained preference among surgeons for full condylar solutions. Total knee replacement systems dominate because the majority of surgical candidates present with diffuse tricompartmental disease that requires full surface resurfacing. These systems range from posterior-stabilized and cruciate-retaining designs to more constrained hinged configurations for complex revision cases. Manufacturers compete on implant survivorship data, instrument ergonomics, and compatibility with robotic platforms—factors that drive surgeon preference and hospital standardization contracts.

Partial Knee Replacement: Fastest-growing product segment at 5.95% CAGR (2026–2035). Driven by improved patient selection criteria and longer survivorship data. Partial knee replacement is experiencing renewed interest as MRI-based patient selection tools improve the identification of candidates with isolated medial or lateral compartment disease. Five-year survivorship rates for unicompartmental implants now exceed 95% in appropriately selected patients, narrowing the historical gap with total knee systems. The segment's faster CAGR reflects growing confidence among surgeons that partial procedures deliver superior functional outcomes and faster recovery for the right patients.

Patellofemoral Replacement: Niche segment generating approximately USD 0.42 billion in 2025. Isolated patellofemoral arthritis in younger patients drives residual demand.

Others (Revision Systems, Tumor Prostheses): Growing segment at 4.10% CAGR (2026–2035). Growing revision burden from aging primary implants sustains demand.

BY SURGICAL TECHNOLOGY

Manual: Dominant technology with ~48.0% revenue share in 2025. Established surgeon workflow and lower capital cost sustain volume. Manual instrumentation remains the workhorse of the Knee Replacement Market in cost-sensitive healthcare systems where capital budgets cannot

support robotic platform acquisition. Conventional manual systems carry a lower per-case cost and require no specialized infrastructure beyond standard operating room equipment. Surgeons trained exclusively in manual techniques—particularly those approaching retirement—represent a significant installed base that will sustain this segment through mid-decade.

Robotic-Assisted: Fastest-growing technology segment at 11.85% CAGR (2026–2035). Precision alignment and competitive hospital positioning drive demand. Robotic-assisted surgery is reshaping competitive dynamics as hospitals use robotic capabilities as a marketing differentiator and surgeon recruitment tool. Clinical evidence linking robotic assistance to more consistent component positioning is strengthening, with registry data showing lower early revision rates in robotic cohorts compared to manual controls. As lease-based financing models reduce the upfront capital barrier, adoption is extending from tertiary academic centers into community hospital networks across North America and Europe.

Computer-Navigated / Others: USD 1.15 Billion in 2024. Transitional technology for cost-conscious facilities sustains residual demand.

BY END USER

Hospitals: Largest segment with ~57.5% share in 2025. Comprehensive orthopedic service lines and complex revision case volumes dominate volume. Hospitals continue to perform the majority of knee replacements globally, particularly revision procedures and complex primary cases involving significant deformity or bone loss. Large academic medical centers with dedicated joint replacement programs often achieve superior outcomes through high-volume surgical teams and integrated rehabilitation services, which reinforces their role in the Knee Replacement Market.

Ambulatory Surgical Centers: Fastest-growing end-user segment at 9.25% CAGR (2026–2035). Outpatient shift and cost optimization drive demand as same-day discharge protocols and bundled payment incentives expand. ASC-based knee replacement volumes in the US grew by an estimated 45% between 2021 and 2024. ASCs offer lower overhead costs, higher patient throughput, and satisfaction scores that match or exceed hospital settings. Physician-owned ASC networks are emerging as a new distribution channel for implant manufacturers, reshaping the competitive landscape of the Knee Replacement Market.

Specialty Orthopedic Clinics / Others: USD 0.78 Billion in 2025. Physician-owned facilities in high-volume markets drive demand for coordinated knee replacement therapy.

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Regional Outlook

North America — Dominant Market (~37.8% Share, 2025)

The United States generates approximately 82.3% of North American Knee Replacement Market revenue, driven by Medicare coverage expansion, commercial insurance reimbursement for robotic-assisted knee replacement, and bundled payment incentives under the CJR model—a single policy ecosystem that converted a hospital-dominated market into one with a structural outpatient surgery tail. CMS reimbursement reforms continue to shape procedural mix, with outpatient volumes now exceeding 35% of all primary knee procedures. The US dominates through a combination of high per-patient spending, robust payer coverage, and rapid robotic platform adoption.

Europe — Second Largest (USD 3.71 Billion, 2025)

Europe's Knee Replacement Market reflects divergent national strategies—Germany leads regionally with the highest per-capita knee replacement rate in Europe, contributing approximately 28.4% of regional revenue and performing approximately 190,000 knee replacements annually, while the UK historically used selective joint replacement targeting before broadening coverage through NHS elective recovery programs at 5.12% CAGR. France contributes through national HTA-driven implant procurement at USD 0.46 Billion in 2025. Italy contributes ~12.5% of regional revenue on an aging population concentrated in northern regions. Spain is growing at 4.85% CAGR on rising obesity rates and private insurance growth.

Asia-Pacific — Fastest-Growing Region (13.45% CAGR, 2026–2035)

Asia-Pacific is the engine of the Knee Replacement Market. China holds the largest regional share with ~34.2% of regional revenue, driven by volume-based procurement and domestic OEM scale-up—China's centralized volume-based procurement program has driven knee implant prices down by over 70% since 2021, dramatically expanding patient access while squeezing foreign manufacturer margins. India is growing at 15.75% CAGR on the back of Ayushman Bharat surgical coverage expansion, where government insurance coverage for joint surgery now extends to approximately 500 million citizens. Japan contributes USD 0.52 Billion through NHI pricing for next-generation implants at steady pace, supported by a super-aged demographic where nearly 29% of the population is over 65. South Korea is growing steadily on national health insurance implant reimbursement.

Middle East & Africa — Emerging Opportunity (5.85% CAGR, 2026–2035)

The Middle East & Africa is bifurcated between well-funded Gulf states and resource-constrained Sub-Saharan nations. Saudi Arabia leads the region with Vision 2030 healthcare infrastructure investment, contributing ~31.8% of regional share—new specialized orthopedic hospitals in Riyadh, Jeddah, and Dammam have created pockets of excellence for knee replacement. The UAE is growing at 6.10% CAGR on medical tourism hub strategy, with facilities in Dubai and Abu Dhabi attracting knee replacement patients from across the GCC and South Asia. South Africa

contributes USD 0.11 Billion on private-sector orthopedic network growth.

South America — Growing Presence (6.8% Share, 2025)

Brazil anchors South America's Knee Replacement Market at ~62.5% of regional revenue, with the Unified Health System (SUS) expanding coverage for elective orthopedic procedures, providing a stable demand floor that smooths regional forecasts. Access to robotic platforms remains limited by capital import dependencies, though the private hospital sector accounts for the majority of advanced implant utilization. Argentina is growing at 5.25% CAGR on economic stabilization improving device imports.

Competitive Landscape and Recent Developments

The Knee Replacement Market displays medium concentration, with the top five companies holding an estimated 65–70% combined revenue share. The market's Herfindahl-Hirschman Index sits in the moderately concentrated range (about 1,200–1,500), reflecting a mix of multinational orthopedic leaders and specialized implant developers. Patent expirations and generic implant entry are gradually fragmenting legacy segments, though pipeline innovation in robotic platforms and patient-specific instrumentation sustains competitive moats for first-movers.

The competitive landscape is stratified between full-line OEMs serving global knee replacement markets with integrated robotics and digital surgery suites, patient-specific instrumentation specialists capturing niche high-value segments, and regional manufacturers consolidating the value-tier implant segment.

KEY COMPANIES AND RECENT MILESTONES

Zimmer Biomet Holdings (November 2024): Received FDA approval for the Oxford Cementless Partial Knee, becoming the only cementless partial knee replacement implant approved in the United States. The system demonstrates 94.1% implant survival rate at 10 years and is set for nationwide launch in Q1 2025. Full-line OEM with integrated robotics and digital surgery suite, commanding ~18–22% of global Knee Replacement Market revenue.

Stryker Corporation (2024–2025): Mako platform has surpassed 3,000 cumulative installations globally. Robotic market leader with the largest global installed base, holding ~16–20% of global revenue. The company benefits from the structural robotic surgery tail created by expanded capital investment in precision alignment platforms.

Future Outlook: 2026–2035

By 2030, precision robotic and AI-integrated knee replacement will become the operating system of orthopedic joint management. The convergence of AI-powered surgical planning and robotic-

assisted execution will reshape the Knee Replacement Market through the late 2020s. By 2030, integrated AI-navigation platforms are expected to become the standard of care in high-volume centers, reducing operative variability and shortening learning curves for robotic systems.

Machine-learning algorithms trained on registry data from over 2 million knee procedures are now capable of predicting optimal implant sizing, rotation, and ligament balance with accuracy that matches experienced surgeons. This convergence will reinforce growth in the Knee Replacement Market by lowering complication rates and improving patient-reported outcomes.

Personalized 3D-printed implant systems and smart implants with embedded sensor technology will reframe cost structures by the early 2030s. Additive manufacturing is moving from prototyping into full-scale implant production. Patient-specific tibial and femoral components fabricated from CT-scan data can optimize bone-implant interface geometry, potentially improving long-term fixation and reducing revision rates.

Instrumented knee implants capable of monitoring tibial loading, range of motion, and ligament balance in real time represent a USD 800 million incremental opportunity by 2033. Continuous post-operative data transmission enables early detection of loosening or infection, which could reduce revision surgery rates by an estimated 15–20%.

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