

Orthopedic Biomaterials Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The Orthopedic Biomaterials Market is expected to register a CAGR of 7.5% during the forecast period, 2022-2027.

Due to nationwide lockdowns in 2020, private and public transportation were restricted, resulting in fewer road accidents and injuries. As a result, the focus of the healthcare facilities switched from surgical procedures to COVID-19 patients, which had a short-term impact on the market in the initial pandemic phase, particularly in specialized hospitals. In addition, orthopedic centers and hospitals worldwide were closed or were operating with limited resources, while other hospitals were transformed into containment facilities and treatment units for COVID-19 patients. For instance, the research article published in August 2020, titled "Impact of COVID-19 on orthopedic surgery: Experience from Saudi Arabia", stated that orthopedic residency training was adversely affected by the COVID-19 pandemic. The inevitable pausing of all elective surgeries has limited hands-on practice and exposure to several procedures. Thus, such factors greatly impacted the demand for orthopedic biomaterials during the COVID-19 pandemic globally.

Moreover, the rising number of sports injuries, an increasing number of cases of trauma from accidents, and growing orthopedic surgeries like joint reconstruction and joint arthroplasty are also creating a massive demand for orthopedic biomaterials, thus driving the growth of the orthopedic biomaterial market.

The rising geriatric population, growing incidences of musculoskeletal injuries, and rising numbers of patients opting for knee replacement, construction, and other joint-related orthopedic procedures are expected to drive market growth. According to the United Nations Department of Economic and Social Affairs, World Ageing Population: 2020 Highlights, there were 727 million people aged 65 or older in 2020, which is expected to double and reach 1.5 billion by 2050. As the growing geriatric population worldwide is more susceptible to joint problems and ultimately surgeries, the adoption of orthopedic biomaterials is likely to

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increase over the coming years. Additionally, according to the World Health Organization's update of July 2022, approximately 1.71 billion people have musculoskeletal conditions worldwide. Such a high burden of musculoskeletal conditions results in increased musculoskeletal injuries, which in turn drives the growth of the market for orthopedic biomaterials.

Furthermore, the advancements in the field are also propelling the growth of the market. For instance, in September 2020, Evonik developed a new osteoconductive polyether ether ketone (PEEK) for the medical technology market that improves the fusion between bone and an implant.

Thus, the aforementioned factors are expected to boost the growth of the market throughout the analysis period. However, the lack of reimbursement policies associated with the procedures may hamper the market's growth to a certain extent.

Orthopedic Biomaterials Market Trends

The Ceramics & Bioactive Glasses Segment in Orthopedic biomaterial is Estimated to Witness a Healthy Growth in Future.

The ceramics & bioactive glasses segment by material type is estimated to witness healthy growth in the future. This is attributed to the increasing adoption of several spine surgeries and interbody fusion procedures. In addition, an increase in synthetic cages and pedicle screws during fixation procedures drives the segment growth. Synthetic cages and pedicle screws maintain stability in the target patient pool and increase allograft fusion rates.

Several in vitro and in vivo studies have evaluated the biocompatibility, biodegradability, and improved osseointegration of ceramics and bioactive glasses as orthopedic biomaterials. For instance, the article titled "Biomaterials in orthopaedics: the past and future with immune modulation" published in BMC (Part of Springer Nature) in February 2020, stated that while first-generation ceramics were accompanied by regular component damage, the second-generation bioinert ceramics, namely alumina augmented with zirconia, are extensively used in Korea and have almost replaced ultra-high molecular weight polyethylene (UHMWPE) as the material of choice in total hip arthroplasty. These materials are anticipated to be used constantly for joint replacement. Thus, higher efficiency of the ceramic and bioavailability of glass material in orthopedic procedures are expected to boost the segment's growth.

Additionally, in February 2022, Orthofix Medical launched a synthetic bioactive bone graft solution, Opus BA, a mix of carbonate apatite bone mineral, bioactive glass, and Type 1 collagen carrier for cervical and lumbar spine fusion procedures. Acting as a scaffold, Opus BA allows the bone to grow across the surface and is reabsorbed and replaced with a natural bone while healing. Such launches are propelling the growth of the market segment.

Thus, owing to the abovementioned factors, the market segment is expected to show growth over the forecast period.

North America is Expected to Hold a Significant Share in the Market and Expected to do Same in the Forecast Period

North America is expected to hold a significant market share in the global orthopedic biomaterials market due to the increasing number of the target population, surge in the geriatric population, high adoption of advanced products associated with orthopedics, and the presence of a large number of pharmaceutical companies dealing in orthopedics. According to the Rural Health Information Hub 2020 report, in the United States, there are more than 46 million older adults aged 65 and up; by 2050, that number is expected to rise to nearly 90 million. The number of older adults is expected to increase by almost 18 million between 2020 and 2030. Thus, the rising geriatric population in the country is expected to boost the studied market due to the increasing prevalence of diseases like osteoarthritis and osteoporosis, which can seriously impair the well-being of elderly individuals.

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The United States owns the largest share of the orthopedic biomaterials market in the North American region. Furthermore, well-established healthcare infrastructure, rising healthcare expenditure, and the high frequency of sports injuries in the United States fuel the market's growth. Likewise, in March 2020, the National Association for the Advancement of Orthotics and Prosthetics (NAAOP) issued an alert that state and local health authorities in the United States should consider orthopedic and prosthetic practices as an essential service that must remain accessible to patients in need of orthopedic and prosthetic care during the pandemic. Such developments have led to an increase in orthopedic surgical procedures within the region, thereby augmenting the demand for biomaterials during the pandemic phase.

Additionally, the approval from the regulatory authorities is also propelling the growth of the market. For instance, in June 2022, CeramTec received the United States Food and Drug Administration breakthrough device designation for a novel ceramic total knee replacement device. Such approvals are boosting the growth of the market.

Thus, owing to the abovementioned factors, the market is expected to show growth in the region.

Orthopedic Biomaterials Market Competitor Analysis

The orthopedic biomaterials market is moderately competitive and consists of several major players. Some companies currently dominating the market are Koninklijke DSM N.V., Zimmer Biomet, Stryker, Invibio Ltd., Evonik Industries, DePuy Synthes, Cam Bioceramics, Exactech, Inc., and Globus Medical Inc., among others.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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