

Total Market:

Market Segmented:

Loaded unloaded bone

Dental

Medical Orthopedic, Reconstructive, Cosmetic

Veterinary Last to engage

Research Difficult to gauge

Bone Substitutes:

The global bone graft substitutes market generated USD 3.28 billion revenue in 2022 and is projected to grow at a CAGR of 6.18% from 2023 to 2032. The market is expected to reach USD 5.97 billion by 2032.

<https://www.linkedin.com/pulse/bone-graft-substitutes-market-size-share-forecast-2032-alvis-calisto-wlg8f/>

Personalized orthopedic implants are also in demand, and are expected to drive the market. Orthopedic implants are medical devices used to replace missing joints and bones, or to support damaged bones. A more holistic and personalized approach to bone and joint disorders is being offered by this therapeutic paradigm shift, which departs from conventional treatments.

<https://www.biospace.com/article/personalized-orthopedic-implant-market-increase-in-demand-for-patient-specific-implants-is-expected-to-drive-the-market/>

Some of the key players operating in the global personalized orthopedic implant market are:

- Stryker Corporation
- Smith & Nephew Plc.
- Zimmer Biomet Holdings, Inc.

- DePuy Synthes
- Medtronic Plc.
- Wright Medical Group N.V.
- Japan MDM, Inc.
- NuVasive, Seikagaku Corporation
- KYOCERA Corporation.

The global medical 3D printing market, valued at \$1.5-2 billion in 2020, is projected to experience substantial growth at a lucrative rate of 15-20% from 2023 to 2027. This surge is attributed to the increasing adoption of patient-specific 3D-printed implants and the growing utilization of point-of-care printing.

<https://www.linkedin.com/pulse/medical-3d-printing-market-witness-impressive-15-20-ysimf/>

The dental implants market was valued at \$4.15 billion in 2022 and is projected to reach \$6.95 billion by 2030, with a compound annual growth rate (CAGR) of 6.7% from 2023 to 2030. The US dental implant market is estimated to reach \$4.15 billion by 2033, with a CAGR of 10.43% from 2024 to 2033. This growth is driven by an increase in demand for advanced dental procedures and a growing aging population.

<https://www.fortunebusinessinsights.com/industry-reports/dental-implants-market-100443>

Future Outlook

The guided bone regeneration market is expected to continue its growth trajectory in the coming years. Technological advancements, an aging population, and increasing awareness about the benefits of GBR procedures are likely to drive the market forward. However, addressing challenges such as cost and regulatory compliance will be crucial for sustained growth.

Market Segmentation

- By Material: Bone Graft Substitutes, Allograft, Xenograft, Synthetic Bone Graft, Others, Barrier Membranes, Expanded Polytetrafluoroethylene (e-PTFE), High-density Polytetrafluoroethylene (d-PTFE), Titanium Mesh and Titanium-reinforced PTFE**
- By Application: Implantology, Periodontology, Oral and Maxillofacial Surgery, Others**
- By End User: Hospitals, Dental Clinics, Academic & Research Centers, Ambulatory Surgical Centers**
- By Region: North America, Latin America, Europe, South Asia, East Asia, Oceania, Middle East & Africa (MEA)**

Market can be created

Expansion into orthopedics, Cosmetics, reconstructive.

The global orthopedic implants

market is expected to grow from \$43.1 billion in 2023 to \$61 billion by 2030, at a compound annual growth rate

(CAGR) of 5.1%. The market is projected to grow due to medical innovation and an aging demographic.

<https://finance.yahoo.com/news/orthopedic-implants-market-size-worth-113000998.html>

Why You Should Use Autologous Bone in Bone Grafting Applications

https://trinityorthodevice.com/the-gold-standard-lp/?gad_source=1&qclid=CjwKCAjwoPOwBhAeEiwAJuXRh_5i8vQcHDkH_F0hM2oCz4HKxa9e3p_ajsF8XMolVhT9m8sVRTJyYxoCBC8QAvD_BwE

According to the National Library of Medicine (NLM), more than 5 million dental implants are placed in the United States each year. However, clinicians only place 2.5 million dental implants annually. The American Academy of Implant Dentistry

(AAID) says that 3 million people in the United States have implants, and that number grows by 500,000 each year.

According to a study, more than half of sextants (50.3%) require a bone graft for implant installation, and about 77.2% of anterior maxillary sextants do. In general, it is estimated that half of implant placement procedures require bone grafts.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4819798/>

More than four million bone graft and bone replacement procedures are performed globally each year, with the demand expected to increase dramatically over the coming decades as life expectancies rise. In the United States, over 500,000 bone graft procedures are performed annually.

<https://www.uptodate.com/contents/basic-principles-of-bone-grafts-and-bone-substitutes>

A bone graft is also needed for 1 of every 4 implants [23]. They are generally used as scaffolds and fillers to accelerate bone augmentation.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8977324/>

Dental Milling Machines Market Size to Hit \$3.39 Billion, by 2028 with 8.5% CAGR – Exclusive Report by The Insight Partners

The global dental milling machines market size is driven by growing demand for cosmetic dentistry, increasing product launches and product developments and increasing geriatric population.

- Global 3D Printed Medical Implants Market Size Likely to Reach at a CAGR of 19.2% By 2033

<https://www.custommarketinsights.com/press-releases/3d-printed-medical-implants-market/>

Dental Implantology Software Market Outlook (2022-2032)

[190 Pages Report] The global dental implantology software market is expected to enjoy a valuation of US\$ 214.2 Mn by the end of 2022, and expand at a CAGR rate of 2.7% between 2022 and 2032. Sales in the dental implantology software market are set to reach ~US\$ 278.2 Mn by 2032. In terms of product type, the design software segment led the market with a share of about 75.0% in 2021.

<https://www.futuremarketinsights.com/reports/dental-implantology-software-market>

According to a 20-year retrospective analysis, between 2001 and 2017, 20,391 patients in the United States sustained mandibular fractures, which is 2.0% of all trauma reported in the database. This represents 2–2.5% of all trauma reported in the database throughout the 21st century.

<https://pubmed.ncbi.nlm.nih.gov/37291803/#:~:text=Results:%20Mandibular%20fractures%20represent%202,78%25%2D80%25%20of%20fractures.>

According to one study, the number of orbital floor fractures in the United States increased by 47% from 2006 to 2017, from 7.7 per 100,000 people in 2006 to 11.3 per 100,000 people in 2017.

<https://www.sciencedirect.com/science/article/abs/pii/S016164202030676X#:~:text=From%202006%20to%202017%2C%20there%20were%20an%20esti%20741%20625,largest%20increase%20in%20incidence%20was>

According to a 2012 study, 552 out of 642 patients treated for zygomatic fractures had zygoma fractures, while 90 had zygomatic arch fractures. The study also found that 309 cases involved the left zygoma, while 243 involved the right zygoma.

[https://pubmed.ncbi.nlm.nih.gov/23111970/#:~:text=Materials%20and%20methods:%20A%209,in%20243%20cases%20\(44%25\).](https://pubmed.ncbi.nlm.nih.gov/23111970/#:~:text=Materials%20and%20methods:%20A%209,in%20243%20cases%20(44%25).)

According to a 2022 study, 150 Le Fort surgeries have been performed, with 52% performed on the maxilla. UPMC Children's Hospital of Pittsburgh performs dozens of LeFort 1 surgeries each year.

[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10442987/#:~:text=The%20mean%20age%20of%20the%20patients%20was,the%20maxilla%20and%2072%20\(48%\)%20are%20in](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10442987/#:~:text=The%20mean%20age%20of%20the%20patients%20was,the%20maxilla%20and%2072%20(48%)%20are%20in)

In the United States, surgeons perform an estimated 500,000 to 600,000 bone grafting procedures annually. Worldwide, an estimated 2.2 million orthopedic procedures involving bone grafting take place annually, with the incidence rate projected to increase by 13% each year.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7118872/#:~:text=With%20more%20than%205.5%20million%20fractures%20and,the%20advent%20of%20possibilities%20from%20bone%20substitutes%2C>