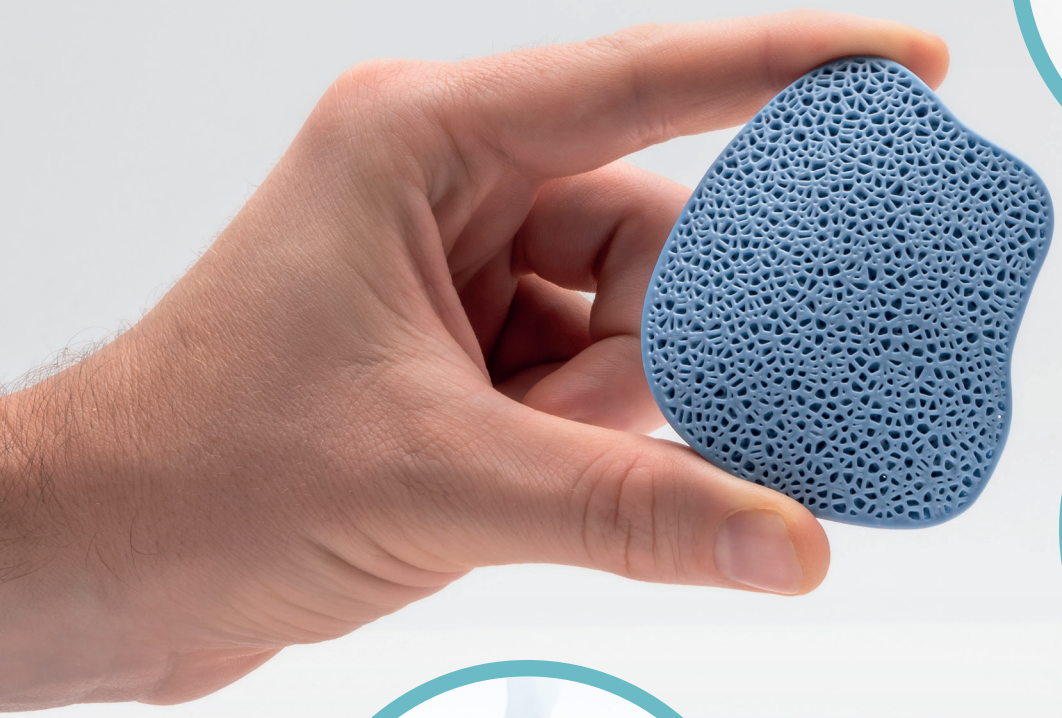
LITHOZ®

We are ceramic 3D printing.

Ceramic 3D Printing for Bone Healing



– EVERY PATIENT DESERVES UNIQUE SOLUTIONS –

Your system provider for the 3D printing of high-performance ceramics.

Visit us on lithoz.com

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Ulnar wedge implant, hydroxyapatite (LithaBone HA 480)

Bioresorbable Ceramic Implants

Ceramic implants have a **long** and **trusted history** in medical applications. Ceramic materials, such as tricalcium phosphate (TCP) or hydroxyapatite (HA) and mixtures of these are **osteoconductive** and exhibit very similar characteristics to human bones. During the healing phase, these implants will be resorbed by the body and **replaced by native bone tissue,** meaning that a painful second surgery for the removal of the implant once the defect is healed is not necessary.

Mandibular cage, zirconia (LithaCon 3Y 210) and hydroxyapatite (LithaBone HA 480)

"We at KLS Martin have been producing more than 100 implants (mostly CMF implants) for human use on our Lithoz CeraFab printer since 2015, achieving the best possible results in terms of accuracy of fit, tolerability and hearing success."

FRANK REINAUER
SENIOR DIRECTOR DIVISION IMPLANTS
KLS MARTIN

Critically Sized Bone Defects

Critically sized bone defects are the results of incidents, such as trauma and tumor removals, where **the body can no longer heal itself.** Left untreated, such defects can lead to the patient's mobility being permanently limited. Bone implants today usually use grafts from other areas of the body, with bone being taken, for example, from the hip and implanted in the defect. However, **bone** tissue is of course a **limited resource** in the patient's body and this process requires more than one surgery site, making it more costly and traumatic for the patient. Therefore artificial bone replacement materials are an ideal alternative.

Zygomatic implant, tricalcium phosphate (LithaBone TCP 300)

3D-printed Implants

The bone defect is scanned in order to determine the necessary shape of the implant. The **inner structure** of the implant is then **specifically designed** for the body area, allowing an optimized bone healing process. After being printed and sintered, the implant is now ready for the patient and the **medical benefits** of **ceramic implants** come into play once inserted.

Clinical Data

Case report of a alveolar ridge augmentation with 3D-printed LithaBone TCP 300 scaffolds (beta tricalcium phosphate) including a **two year follow-up** with excellent peri-implant health. Read the full scientific publication at: https://doi.org/10.1186/s40729-024-00541-2

If you are interested in more scientific data on 3D-printed bone replacement please contact our Medical Solutions team.

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Access the full paper here.