PATIENTS DESERVE A BETTER IMPLANT SOLUTION
OSSDSIGN® CRANIAL PSI
BRINGING LIFE TO CRANIOPLASTY

OssDsign is an innovator, designer and manufacturer of personalized bone replacement technology for cranial repair. We are surgeons, scientists and engineers – committed to improving outcomes in cranioplasty.

THE CHALLENGE: Eliminate lifelong risk

There are two principal types of cranioplasty techniques – the use of synthetic implants or the use of autologous bone flaps. Common complications following the use of conventional synthetic implants in large cranial defects includes infections and skin ruptures, which may lead to explantation. Furthermore, resorption of autologous bone is common among younger patients and frequently exceeds 20% of cases\(^1\), sometimes reaching as high as 35%\(^2\). For many patients the result is a lifetime of uncertainty and distress over infections, deflation, and additional surgeries, as well as high healthcare costs – all of which could be avoided. There is a need for a better performing technique in cranioplasty.

OUR SOLUTION: OSSDSIGN® Cranial PSI

Focused on the challenges in cranioplasty, surgeons at the Karolinska University Hospital in Stockholm, Sweden, in collaboration with biomaterials researchers at Uppsala University, developed a novel cranioplasty device based on an innovative design and a biocompatible material composition – OSSDSIGN Cranial PSI – which have been in regular clinical use in Europe since 2014. By combining a stable and patient-specific titanium skeleton mesh and a biocompatible calcium phosphate material, OSSDSIGN Cranial provides a solution for a variety of cranioplasty needs.

References


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INNOVATIVE MATERIAL MEETS FUNCTIONAL DESIGN

OSSSIGN Cranial is a biocompatible patient-specific implant, based on a mosaic-designed ceramic tile structure reinforced by a rigid, non-exposed titanium skeleton. Every implant is tailored to the individual patient’s cranial defect based on CAD technology and 3D printing. The result is a precise fit of custom-designed implants for a variety of cranioplasty needs.

Perfect aesthetics regardless of complexity based on CAD design and 3D printing.

Stability and protection based on the 3D printed titanium skeleton.

Easy handling and fixation with predesigned, customizable fixation arms.

Mosaic tile design with inter-tile spacing that allows for fluid movement through the device.

OSSSIGN Cranial delivers a precise fit of patient-specific implants for a variety of cranioplasty needs.
EASY AND RELIABLE
ORDERING, HANDLING AND FIXATION

OSSDsign Cranial represents an innovative and insightful approach to cranioplasty. Uniquely designed for every patient, OSSDsign Cranial reconstructs the skull defect, protects the brain and enhances the patient's cosmetic appearance. Delivered sterile and ready to use, in any shape or size (<200 cm²) desired, it provides a solution for a variety of cranioplasty needs.

OSSDsign Cranial is easy to fixate to the skull with standard micro screws through the pre-designed low-profile fixation arms. The titanium skeleton is embedded in the core of the implant’s calcium phosphate tiles which are manufactured, cured and immobilized – ready for surgery.

The OssDesign CAD-design team have extensive experience in designing implants for cranial defects of various complexity. During the design process we work in close collaboration with you to ensure that we achieve an optimal solution for you and your patient. Our communication often includes the length, number and location of the fixation arms, as well as the aesthetic outcome, where we can provide you with recommendations based on our experience and knowledge.

1. CT-scan
Prepare your CT data and upload it together with details about your case into our secure online system (HIPAA compliant).
For the best possible results we recommend that you follow our CT scanning guidelines, available for download at www.ossdsign.com/us/order.

2. Design and communication
Within 2 working days we will provide you with a digital design proposal. You will have complete insight and ability to influence the design in order to achieve the optimal solution for you and your patients. Once you have approved a final design, the manufacturing process will be initiated.

3. Delivery
Your OSSDsign Cranial implant will be delivered 5 weeks after the final design have been approved. The implant is delivered sterile and ready for surgery.

For optimal results the scan thickness should be less than 1.0 mm.

CAD design and 3D printing ensures a perfect fit with pre-designed and easy to use fixation arms.

All implants are delivered sterile five weeks after design approval.
About OssDsign

OssDsign is a Sweden-based medical technology company dedicated to creating regenerative implants for improved healing of bone defects. By combining the latest clinical insights and implant designs with a proprietary technology platform based on clinical development at Karolinska University Hospital in collaboration with material science experts at Ångström Laboratory at Uppsala University, OssDsign supplies an expanding range of tailored solutions for cranial repair. ossdsign.com

Always read Instructions for Use which accompany the product for indications, contraindications, warnings and precautions.