



IPS Implants®

Midface Orbita





Oral and maxillofacial surgery is our passion! We also want to continue our development along with our customers. Day in, day out, we work to develop innovative products and services that satisfy the highest quality demands and contribute to the patient's well-being.

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IPS® – Individual Patient Solutions

IPS Implants® Midface Orbita

The orbit is a multidisciplinary anatomical region that hosts intracranial extensions such as the retinal ganglion cells in the extracranial part of the midfacial skeleton. Six out of twelve cranial nerves work and function in and around the orbit. It is the interface between the inside and the outside of the visual processing of an individual. It allows every patient to visualize the world and this is why protection, reconstruction and rehabilitation of the orbit are the key points in craniofacial surgery.

The use of modern technologies opens up new options in the treatment of complex defect situations. With the development of preoperative virtual planning as well as patient specific implants, another possibility to re-establish the orbital volume and shape has been established. With IPS® we offer matched solutions for the computer-based planning of surgical procedures, the efficient design of customized treatment concepts and the realization of these concepts in the operating theater with functionalized implants.

Feature, Function and Benefit



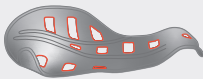





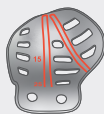
IPS® convinces by an easy and efficient process for individual patient solutions – from the planning up to the functionalized implant.

With IPS Gate®, we provide a platform which guides surgeons and users reliably and efficiently through the process of inquiring about, planning, and completing patient-specific products. The intuitive concept offers the user maximum mobility, flexibility, and functionality. With the “HTTPS” standard, IPS Gate® ensures encrypted data transmission, which is additionally certified by the TÜV Süd seal.

Patient-specific implants, planning aids, and anatomical models are made from various materials using state-of-the-art fabrication technologies. Thanks to computer-based planning and functionalized patient-specific implants, preoperative planning can be implemented in surgery with unprecedented precision.

The resulting advantages for patients are reduced complication rates, improved esthetic and functional results, shortened surgical time and faster rehabilitation.

IPS® Midface Orbita

			Feature and function	Benefit
Planning process			<ul style="list-style-type: none"> Simple and efficient interaction with the user via the IPS Gate® Planning, fabrication, shipping from a single source Range of options for planning <ul style="list-style-type: none"> Mirroring of the intact bones and adaptation to the prevailing anatomical environment Various fixation options (at the infraorbital rim, laterally inside the orbit, etc.) 	<ul style="list-style-type: none"> Maximum mobility, flexibility and functionality Complete service with the requirement for coordinating multiple services eliminated High degree of safety in planning
Implant			<ul style="list-style-type: none"> Implant based on the patient's individual CT data, already checked in the factory for optimum accuracy of fit 	<ul style="list-style-type: none"> Best possible three-dimensional accuracy of fit Round edges that are gentle on the patient, as no cutting or bending is no longer necessary
Standard	IPS® Midface Orbita	IPS® Midface Orbita Lite		
	✓	✓	<ul style="list-style-type: none"> Atraumatically rounded rim 	<ul style="list-style-type: none"> Soft tissue protection
	✓	✓	<ul style="list-style-type: none"> Perforated design 	<ul style="list-style-type: none"> Allows drainage towards the sinuses
	✓	✓	<ul style="list-style-type: none"> Special posterior ledge design 	<ul style="list-style-type: none"> Avoids harm to the contents of the posterior third of the orbit Prevents tilting of the plate during screw fixation
	✓	✓	<ul style="list-style-type: none"> Pre-defined left-out place for the fossa lacrimalis 	<ul style="list-style-type: none"> Avoids harm to the fossa lacrimalis
	✓	✓	<ul style="list-style-type: none"> Extra extension to the lateral wall 	<ul style="list-style-type: none"> Stable and better anatomic positioning of a two-wall orbital implant
	✓	✓	<ul style="list-style-type: none"> Various fixation options 	<ul style="list-style-type: none"> Maximum flexibility and freedom for the preferences of the user
Optional				
	✓	✗	<ul style="list-style-type: none"> Integration of various vectors and navigation aids is possible 	<ul style="list-style-type: none"> Assistance in determining the optimal implant position and working with intra-operative navigation

Step by Step to Optimal Treatment

Indications

Primary and secondary reconstruction of the orbit following trauma

Reconstructions of the orbit due to infections, tumors, ulcers or cysts



Isolated orbital reconstruction

- Orbital floor
- Orbital wall
- Orbital roof
- Multi-wall defects



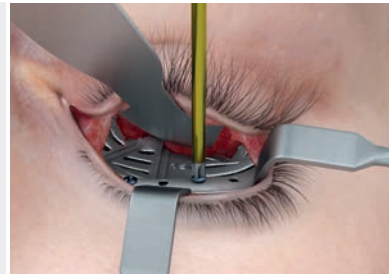
Orbital reconstruction with
involvement of other areas
of the skull

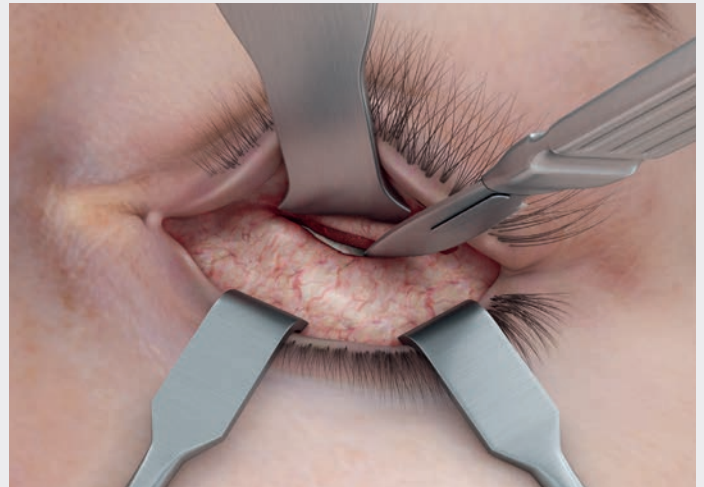
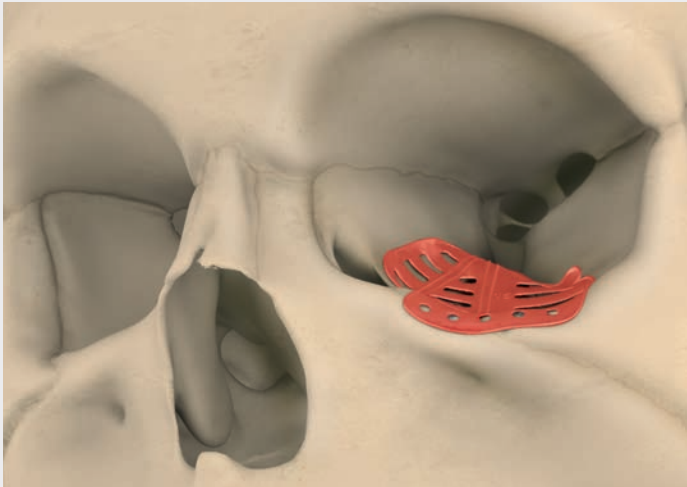


Surgical technique

**Primary post-traumatic reconstruction
of a multi-wall orbital defect with an
additively manufactured titanium implant**

Pages 10-11





Virtual planning

To create the case the patient data and other case-related information are uploaded to the web-based platform IPS Gate®.

The data is prepared for case planning on the basis of the user's requirements and information. An integrated chat function and web meetings are available for direct communication between the IPS® developer and user.

If possible, the intact opposite orbit is virtually mirrored.

A patient-specific optimized implant is then generated.

At the end the user approves the design for production.

Note:

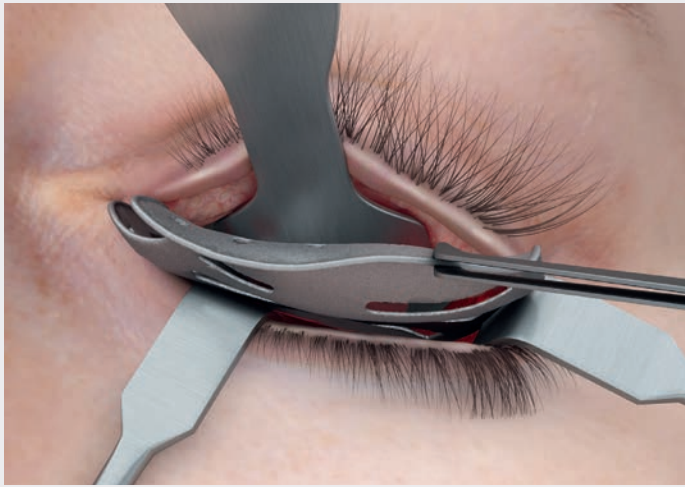
More detailed information on how to prepare patient data for virtual planning can be found in our brochure "IPS Implants® Scan Protocol Cranium / Midface / Midface Orbita / Mandible / Mandible Reconstruction".

Transconjunctival approach

The transconjunctival approach is performed according to the state of the art.

After a successful approach, the destroyed orbit is exposed and reduced.

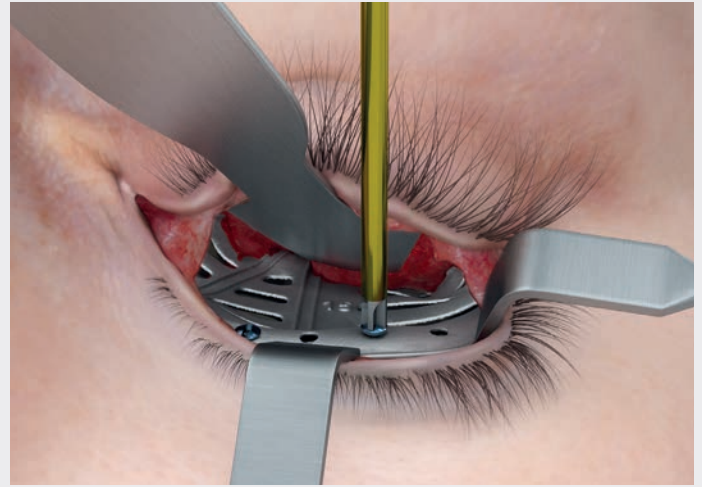




Placement of the implant

After reduction, the IPS® orbital plate is inserted.
Correct placement is essential.

As an option, the anatomically correct seat can be ensured with navigation support via the vectors in the plate.



Fixation of the implant

The IPS® orbital plate is fixated to the orbital rim with osteosynthesis screws (e.g. with maxDrive® screws 1.5 mm). Alternatively, other fixation methods (e.g. laterally inside the orbit) can be chosen during planning.

Note:

In addition to the IPS® implant, the required osteosynthesis accessories (KLS Martin osteosynthesis screws in the planned diameters as well as the corresponding screwdriver and twist drill) must be available in sterile condition. They are not included in the IPS® package.



Orbital reconstruction with additively manufactured titanium implant. Fixation to the infraorbital rim with standard screws 1.2 mm.



Orbital reconstruction with additively manufactured titanium implant. Fixation laterally inside the orbit with standard screws 1.2 mm.



Orbital reconstruction with additively manufactured titanium implant in mesh design. Fixation to the infraorbital rim with drill-free screws 1.5 mm.



Orbital reconstruction with additively manufactured titanium implant including zygoma mesh. Fixation with standard screws 1.5 mm.



Orbital reconstruction with two-part additively manufactured titanium implant. Fixation to the infraorbital rim with standard screws 1.5 mm.



Orbital reconstruction with additively manufactured titanium implant. Fixation to the infraorbital rim with drill-free screws 1.5 mm.



Orbital reconstruction with PEEK implant. Fixation to the infraorbital rim with standard screws 1.5 mm.

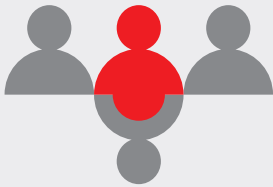
Osteosynthesis accessories



In addition to the IPS® implant the following osteosynthesis accessories in sterile condition are required for the surgical treatment:

- A sufficient number of KLS Martin osteosynthesis screws in the planned diameters and suitable lengths.
- A screwdriver to fit the planned osteosynthesis screws
- If no drill-free screws are used:
A twist drill suitable for the planned osteosynthesis screws

The IPS® product range



IPS CaseDesigner®

The IPS CaseDesigner® makes virtual 3D surgical planning easier and faster than ever before. With this flexible software tool, orthognathic procedures can be efficiently and reliably planned and simulated, and then applied to treatment in the operation in a customized manner.



IPS Gate®

The web-based platform and app guide surgeons and users reliably and efficiently through the process of inquiring about, planning and completing custom-made devices. With the HTTPS standard IPS Gate® guarantees encrypted data transmission, which is additionally certified by the TÜV Süd seal.



IPS Implants®

Custom-made devices, planning aids, and anatomical models are made from various materials using state-of-the-art fabrication technologies. Thanks to computer-based planning and functionalized custom-made devices, preoperative planning can be implemented in surgery with unprecedented precision.



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