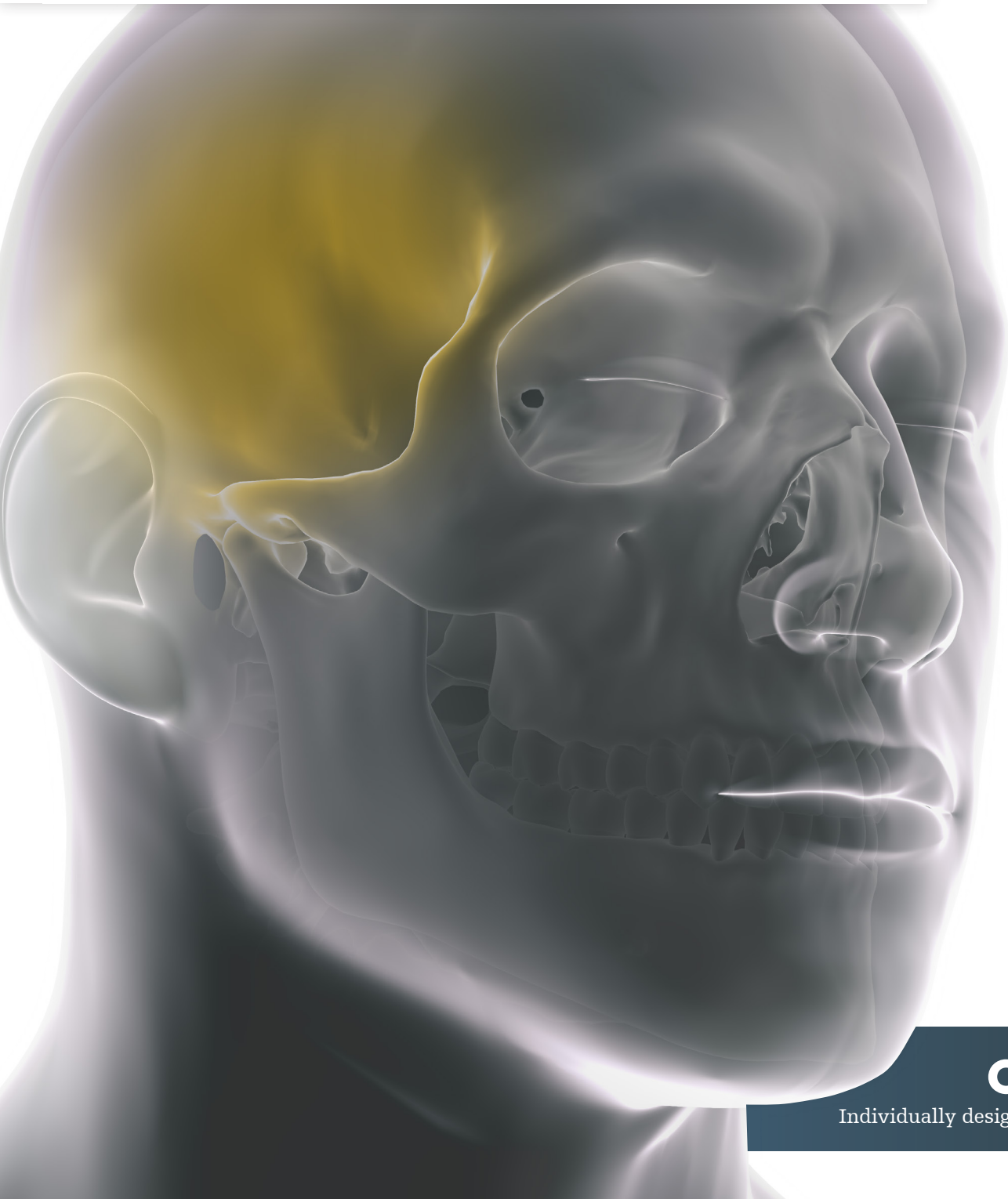


stryker

Plan ahead with
Pterional PLUS



Cranial iD™

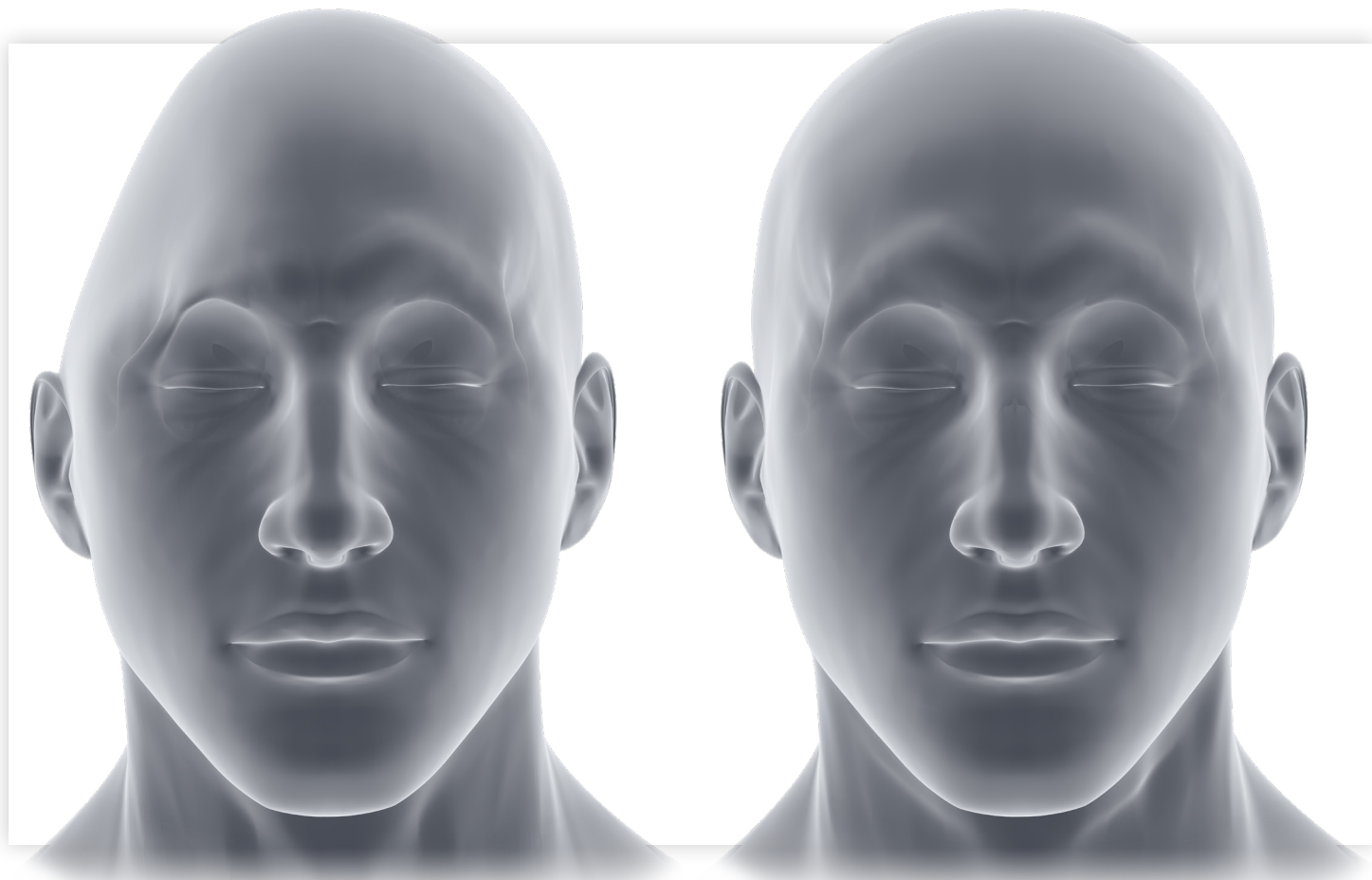
Individually designed. Personalized care.

Pterional PLUS

A dual-purpose, patient specific implant for prevention and correction of PTH, addressing hard and soft tissue deficiencies.

Pre-op

Post-op



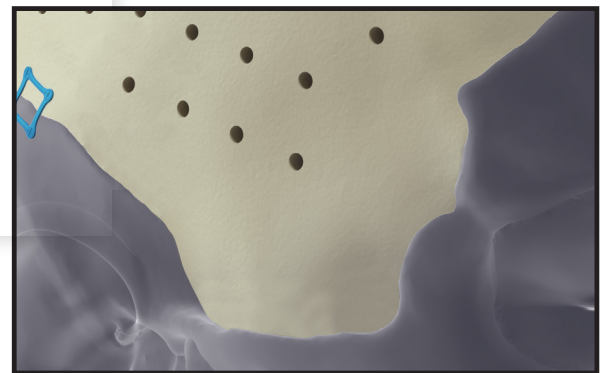
Historically, 10% of CAD/CAM implant surgeries resulted in revisions due to temporalis muscle displacement and/or temporal fat pad atrophy.¹

\$39,641¹

the average cost of revisions related to PTH

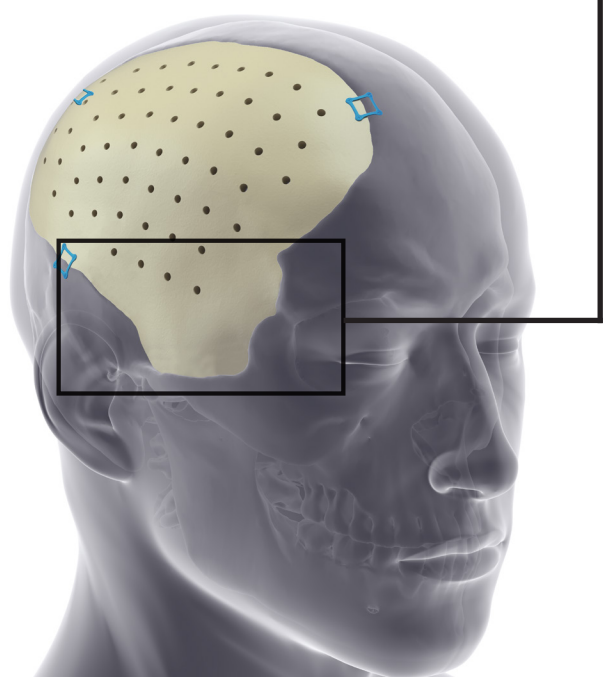
Cranial iD

Our customized cranial implant portfolio, Cranial iD, allows you to address your patient's desire for complete restoration and aesthetic results. Your input on material selection partnered with our Design Engineer drives the artistry of the implant. All information gathered from this session aids in delivering an exceptional anatomical fit, contour and positive post-operative patient experience.



**Standard
implant**

**PEEK Pterional
PLUS implant**



A personalized approach to correcting and preventing **persistent temporal hollowing**.

Traditional methods for cranial reconstruction do not account for post surgical hard and soft tissue atrophy that occurs over time, leading to persistent temporal hollowing (PTH). PTH causes drastically altered appearances and could possibly cause patients to seek revision surgery for an improved quality of life.

Pterional PLUS uses the design process and materials already proven for customized cranial implants that are designed to enhance the post operative results over time. Repeat procedures using our Pterional PLUS implant experienced no PTH.¹ Therefore, patients who receive a PLUS implant may not require a revision surgery to correct PTH; surgeons may be more efficient, and healthcare could be more cost-effective.¹

PEEK PLUS

Part number	Description
78-70010	Customized cranial implant - small
78-70020	Customized cranial implant - medium
78-70030	Customized cranial implant - large
78-70040	Customized cranial implant - XL

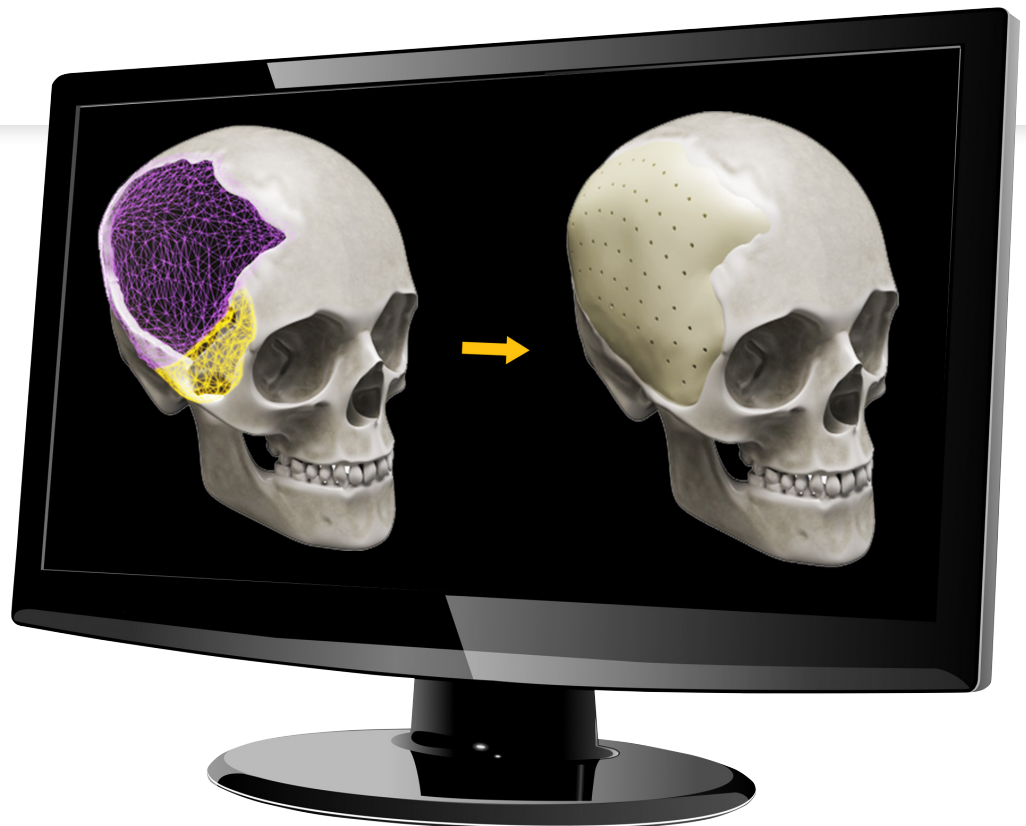
MEDPOR PLUS

Part number	Description
5444-1-110	Customized cranial implant - small
5444-1-210	Customized cranial implant - medium
5444-1-310	Customized cranial implant - large
5444-1-410	Customized cranial implant - XL

On average, Pterional PLUS added 1.5cm^3 of additional implant volume. The difference between the contralateral native cranium thickness and implant thickness ranges from 0.39 to 1.06cm.

The implant design is adjusted to provide the additional volume needed to prevent PTH. On average, this means 8-10 millimeters of augmentation.²

Together, you and our Designer look at the contralateral side of the soft tissue window and decide on an appropriate amount of augmentation to provide cranial symmetry.



Cranial iD customized implants

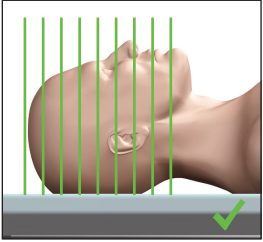
CT scan protocol

Phone: 855 479 5224

Email: CMFcustomizedimplants@stryker.com

Mail scan to: Attn: CI

Stryker Orthopaedics
325 Corporate Drive
Mahwah, NJ 07430

Patient positioning	
Head alignment	Remain straight in neutral position.
Gantry tilt	0° gantry tilt.
	
No oblique angle of locator/survey lines. No gantry tilt (CT).	
Scan length/Field of view (FOV)	
Scan length	For cranial defects, encompass the entire skull , including at least 2 slices superior to the skull.
FOV	For mandibular defects, encompass the entire mandible. Select FOV to include all surrounding anatomy.
Scanning process	
Patient movement	Avoid patient motion. If the scan shows motion artifacts, the scan cannot be used.
Acquisition	
Slice thickness	Maximum = 1.5 mm (1 mm preferred)
Beam collimation	Width and detector configuration necessary to achieve actual slice thickness.
Table increment	Constant table increment, no gaps. Smaller than or equal to slice thickness.
Sequential scanners	No overlap and no gap.
Single-slice helical scanners	Beam pitch = 1
Multi-slice helical scanners	Beam pitch < 1 (GE: High Quality; Toshiba: Detail)
Slice orientation	Axial slice orientation.
Algorithm (Kernel)	Bone algorithm.
Warning: DO NOT post process to alter slice orientation or thickness.	
Data	
Series ID	All images of a scan should be stored in one series.
File format	DICOM format. No raw data. No cone beam scans. Do not compress. Contrast not required. Inclusion of CT Viewer not recommended.
No raw data	Archive only the relevant examination in uncompressed DICOM (CD-R preferred).
Data storage	Recommendation: Save raw data for at least 14 days after scan.

Craniomaxillofacial

References

1. Asemota, A., Santiago, G.F., Zhong, S., Gordon, C.R. (in press). "Comparative Cost Analysis of Single and Mutli-Stage Temporal Deformity Correction Following Neurosurgical Procedures". Journal of Craniofacial Surgery [2018].
2. Stryker partnered with Dr. Chad Gordon of Johns Hopkins University on this project.

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