Customized Mandible
Reconstruction Plate
Patient Specific Design Powered by BluePrint Technology
We’re putting the control in your hands

Customized Mandible gives you the flexibility you’ve been looking for. Based on patient specific anatomical data (CT scan) and input from the surgeon, the Stryker Customized Mandible Recon Plate is designed to meet the individual needs of patients and surgeons. Patient specific solutions are created by selecting specific plate design features like profile height, length and run of the plate, number and position of screw holes as well as individual bar strengthening. These customized plates are manufactured to the planned patient outcome, eliminating the time needed for intraoperative adaptation.

In collaboration with Medical Modeling, Virtual Surgical Planning can be used if desired. Their expertise in surgical planning, guide/template design and additive manufacturing combine to offer a product useful for improving surgeon confidence and enhancing outcomes.

Intended Use and Indications

The Customized Mandible Recon Plate Kit is intended to be used for rigid internal fixation of primary and secondary mandibular reconstructions.

The Customized Mandible Recon Plate Kit is indicated for use in:

- Primary mandibular reconstruction with bone graft
- Temporary bridging until delayed secondary reconstruction
- Secondary mandibular reconstruction

Customized Care.
Quality Results.
One Patient At A Time.

— Stryker CCI (CMF Customized Implants)
Customized Mandible Workflow

Within the design session, the surgeon can interface with a design engineer using the proprietary BluePrint software to select specific plate design features such as profile height, length and 3D run of the plate to create patient specific solutions. Additionally, the designer can pass the control to the surgeon so that together they can define screw hole positions to avoid interference with nerves, tooth roots, osteotomies and existing or future implants.

Upon approval, the plate design is virtually unfolded and milled out of titanium, eliminating the need for in-plane bends. The plate is then heat treated and contoured using specially designed instrumentation to ensure a precise fit and efficient transfer of the virtual plan to the operating room.

Timeline

- **Initiate case request and upload CT scan**: 4-6 working days
- **Online design session**
- **Design proposal delivered, reviewed and approved**
- **CAM and 2D milling**
- **Heat treatment and plate bending**: 8 working days
- **Anodizing and packing**
The value of true customization

**Patient Specific Design Derived From Patient CT Data**

The Stryker CMF Customized Implant Team creates a virtual mandible reconstruction and an individual plate design with optional online participation of the surgeon. Plate design is based upon a CT scan of the patient.

**Customizable Design Features**

Selecting specific plate design features like profile height, length and run of the plate allow for the creation of patient specific solutions.

Specific screw hole positions are defined individually to avoid screw interference with nerves, tooth roots, osteotomies and existing or future implants.

**Customized Strength Optimization**

2.0mm and 2.8mm plate profile heights combined with increased individual bar widths may improve the fatigue strength by approximately 40% compared to standard Universal Mandible reconstruction plates. SMARTLock technology enables rigid plate-to-screw construct.
Primary Mandible Reconstruction (2.0mm)

- Full: 78-31020: CMRP, Full
- Hemi: 78-30020: CMRP, Hemi

Secondary Mandible Reconstruction (2.8mm)

- Full: 78-31028: CMRP, Full
- Hemi: 78-30028: CMRP, Hemi
Plate Design

Choose Plate Profile
Customized Mandible Plates are available in two profiles:
- 2.0mm thick
- 2.8mm thick

Determine Screw Hole Location
- Planned osteotomy or resection site
- Patient anatomy, such as tooth roots and nerves
- Existing or future implants

Define Individual Bar Width
- Bar width between two screw holes can be defined individually to ensure plate strengthening where desired
SMARTLock Technology
• SMARTLock technology enables up to 10 degrees of angulation
• Stryker’s proven technology has a long history of clinical effectiveness

Additional Features
• Surgical guides utilizing VSP are available if desired
• Guides further assist in the transfer of the virtual plan into the OR
References

1. Dynamic Testing. Reports available at Stryker Leibinger GmbH & Co. KG

2. Evaluation of hardware-related complications in vascularized bone grafts with locking mandibular reconstruction plate fixation, Arch Otolaryngol Surg, 2007

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