MatrixWAVE® Maxillomandibular Fixation System

DePuy Synthes MatrixWAVE® Maxillomandibular Fixation (MMF) System for closed treatment of multiple concurrent mandibular fractures

A clinical study demonstrating restoration of occlusion, no signs of nonunion or malunion, and no major complications with the DePuy Synthes MatrixWAVE® Maxillomandibular Fixation (MMF) System for closed treatment of multiple concurrent mandibular fractures has been published (Kiwanuka et al., 2017).¹ The following provides a summary of the patient population, surgical treatment, and clinical outcomes:

Patient Population
- Eight consecutive patients with multiple concurrent mandibular fractures after blunt trauma to the mandible, either through assault or motor vehicle accident, were treated between 2015 and 2016.
- The mean age of the patients was $27.3 \pm 10.5$ years (range 18–51 years). None of the patients had any significant medical comorbidities.

Surgical Treatment
- The DePuy Synthes MatrixWAVE MMF System Plate was contoured and cut to fit the maxillary arch. The bar was stretched or compressed to avoid damaging teeth roots and other critical anatomical structures.
- The more prominent screws and horizontal malleability allowed manipulation and reduction of the fractured bones and stabilization with strategic wire placement.
- There were no intraoperative wire-stick injuries with insertion of the system.
- The system was easy to use, and the plate could be placed quickly in patients with a variety of fracture types.

Clinical Outcomes
- Clinical evidence of healing was demonstrated by resolution of pain and tenderness over the mandibular fractures. All patients reported restoration of occlusion. Clinical exams and postoperative radiographs did not demonstrate any signs of nonunion or malunion.
- There were no major complications associated with the use of the MatrixWAVE MMF System.
  - Postoperative Panorex scans did not reveal any evidence of damage to tooth roots.
  - Lip irritation from the hardware was reported in one patient and was treated with orthodontic wax.
- None of the patients reported problems with oral hygiene during their treatment. None of the screws became embedded in the mucosa secondary to overgrowth; the arch bars were successfully removed in an outpatient setting without local anesthesia in all of the cases.

The DePuy Synthes MatrixWAVE® MMF System is the only bone-borne maxillomandibular fixation system with prominent screw anchor heads and horizontal malleability¹,²,³, allowing for closed treatment of patients with multiple concurrent mandibular fractures.
Designed for adaptability, versatility, and patient comfort

Adaptable

- Wave design and two plate heights help to avoid interference with definitive plating and incision location.
- Post-application adjustability: the plate can be adjusted in situ if additional manipulation of the bone segments is required.

Versatile

- Wave design enables the surgeon to stretch or compress a plate to optimize screw hole location.
- Flexible design and up to 15° screw insertion angulation aid in posterior fixation and occlusal control.
- Accessible screw heads offer additional anchor points for approximation of bone segments.

Patient Care and Comfort

- Design eliminates interdental wiring, which may reduce the risk of wire sticks.
- Screw and plate are designed to help protect soft tissue and enable the surgeon to avoid tooth root injury.
- Plate design covers less tooth surface than arch bars to provide the opportunity for better oral hygiene.
- Accessible screw head is designed to help minimize soft tissue overgrowth.

Click here to watch the MatrixWAVE® MMF Technique Animation

Should HCPs desire additional medical information pertaining to this subject, please follow the company's Medical Information Request (MIR) process which will direct them to Medical Affairs department. MIR request from HCPs can be obtained via email at: SciMedAffairs@its.jnj.com.

3. OmniMaxTM MMF System Form No. BMF00-4110*Rev 03k1609.

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