

**Results:** The maximum oral opening obtained was 36 millimetres in a patient with unilateral total prosthesis and 42 millimetres in unilateral partial prosthesis. The period of chase most long is 10 years in partial prosthesis and 8 years total prosthesis. At present have been removed 2 partial prosthesis.

**Conclusion:** The reconstruction with TMJ prosthesis is a valid alternative in the treatment of adult patients with important degeneration of articulation, in who have been failed or not have been possible others therapeutic methods.

#### O.654 **Spring-Bite: a post-surgical device for active TMJ exercise**

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**Objectives:** Spring-Bite is a new temporomandibular joint (TMJ) exerciser that has been developed and clinically tested for the management of joint hypomobility and trismus. The peculiarity of this device is the active action it exerts on jaw muscles by means of an adjustable spring. This makes this tool utilizable also in non-collaborating or dystrophic patients.

**Methods:** The device consists of two mouth-pieces inserted inbetween the upper and lower teeth and a spring that exerts an opening force on the mouth-pieces. Two screws are also part of the device: the external one allows acting on the range of motion of the two mouth-pieces, while the internal one allows increasing the spring opening power. So far, Spring-Bite has been used in 11 patients operated for orthognatic or TMJ surgery, who were instructed to perform exercises for a 14–21 days post-surgical period. The Spring-Bite device has been tested also in non-collaborating patients affected by masticatory disorders.

**Results:** This new TMJ exercise appliance was convenient, durable and easy to use. Also thanks to its use, all patients recovered a good range of mouth opening in a few weeks after surgery. There were no mechanical failures and no complications related to the use of the device and all patients were satisfied.

**Conclusions:** Spring-Bite is a simple and economic device that allows performing active TMJ exercises. This instrument is an active device that can be used in patients who underwent TMJ or orthognatic surgery as well as in non-cooperating patients that have to spend a prolonged period in an intensive-care department.

#### O.655 **Surgical treatment protocol for dysfunctional painful TMJ**

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**Objectives:** Treatment protocol followed in our unit for medium/heavy TMJ disease (i.e. pain level 4 in a 1 to 10 V.A.S.; mouth opening less than 30mm) provides for the arthrocentesis as first step, followed by mandibular ramus osteotomy in the non-responding cases.

**Methods:** Only patients where conservative treatment failed were included in the study.

First treatment step was execution of arthrocentesis as described by D. Nitzan in 1991 and then defined precisely by Kaneyama et al in 2004 (lavage of upper joint compartment within 500 ml of Ringer solution, till inter-incisal opening reaches 40 mm). Afterwards, patient is asked to wear a bite around the clock and to perform physiotherapy daily.

In cases where this procedure failed to reach a clinical outcome, a sagittal split osteotomy for guided condilar distraction was performed, as described by Pruitt et al in 2002.

**Results:** 35 patients were treated with the current protocol during the last 3 years. 24 of them recovered completely after arthrocentesis and did not require further treatment. 7 patients had no clinical results and had thus a mandibular ramus osteotomy, with successful clinical outcome in 6 cases (pain score 4 in a 1 to 10 V.A.S.; interincisal opening more than 3 cm; absent or

negligible articular noises) and relapse of symptoms in 1 case. 4 patients refused further treatment, despite incomplete recovery after arthrocentesis.

**Conclusions:** Treatment protocol purposed in our unit for patients with TMJ painful disfunction gained satisfactory clinical outcome in 98% of patients treated.

#### O.656 **Surgical approach and fixation method in condilar fractures**

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**Objectives:** The incidence of mandibular condylar fractures is high, representing between 17.5% and 52% of all mandibular fractures. Mandibular condylar fractures can be classified as monocondylar or bicondylar mandibular fractures and they are subdivided, according to level, into intracapsular or extracapsular condylar fractures. We chose the conservative treatment for intracapsular condylar fractures, by means of the use of intermaxillary fixation for a time of 10/15 days followed by mobilization. In cases of extracapsular condylar fractures with dislocation of the condylar fragment, we think that the surgical reduction and fixation of the fracture, restoring the correct height of the ramus, avoids the appearance of post-traumatic facial asymmetry and allows a fast restoration of mandibular functionality. The principal method used in literature respects the concept of the stability of the osteosynthesis of Champy and Meyer in the positioning of two plates or trapezoidal plates. The aim of our work is to report the clinical and radiological results of patients affected by mandibular extracapsular condylar fractures, treated with two plates by means of the retromandibular approach.

**Methods:** From 2006 to 2008, 18 patients affected by extracapsular mandibular condylar fractures were treated surgically with two plates by means of the retromandibular approach in the Dept of Maxillo-Facial Surgery of Federico II University of Naples. The patients were submitted to a follow-up at 6 months after surgery with a clinical examination and a radiographic control by means of dental panoramic and CT. We evaluated the dental occlusion state, the restoration of mandibular functionality, the presence of facial nerve paralysis or Frey's syndrome, the repositioning of the mandibular condyle in the glenoid fossa, the restoration of the vertical height of the ramus, the presence of a gap in the fracture line and the stability of the osteosynthesis.

**Results:** The clinical oral examination has shown, in all patients the restoration of habitual dental occlusion pre-trauma, and mandibular functionality with a slight deficit of lateral movement in the opposite side to the trauma. Of 18 patients only 6 presented initial facial nerve paralysis which spontaneously resolved itself within 6 months. The cutaneous scars were not evident. There was only 1 case of Frey's syndrome. All patients presented a correct restoration of the vertical height of the ramus, the plates were entire and no loosening of the screws was observed.

**Conclusions:** We think that surgical treatment is the only therapeutic option in cases of extracapsular condylar fractures with dislocation of the condyle fragment. The results obtained confirm this opinion in accordance with international literature. The retromandibular approach allows us to have a cutaneous incision close to the line fracture and to obtain a not evident cutaneous scar and the parotid gland is not encountered. The presence of the facial nerve paralysis is caused by the anterior and superior raising of the parotid gland to search for the line fracture. The absence of complications, such as the fracture of the plates, the presence of a gap or the loosening of the screws, confirms the stability of the double plate technique.