

Technology Offer

New Mandibular Distraction Device

BRIEF SUMMARY: An innovative approach is presented by the use of mandibular distraction osteogenesis in children and adult patients suffering from obstructive sleep apnea (OSA). OSA is a prevalent condition (4-6% of the normal population, but recent studies suggest that incidence could be up to 25% of the adult population) that produces breath pauses during the night, and it is associated to daily somnolence and a more risk of accidentability. OSAS has been related to a higher incidence of cardiovascular diseases, cancer, stroke, diabetes, obesity and depression. In children, it is frequently diagnosed in those patients with ADHD (attention deficit hyperactivity disorder).

MAIN FEATURES: A new mandibular distraction device is designed by **Dr. Pilar Rubio - Bueno** to apply osteogenesis in these patients with the objective of curing the disease, avoiding the chronic use of CPAP (continous possitive airway pressure). The new distraction device prototype, miniaturized and made of titanium or resorbable material, is designed to avoid a second surgical procedure to remove after mandibular lengthening. Likewise, a remote activation system is proposed to avoid any external and visible part of the device.

CURRENT STATUS: In two extensive metanalysis, only 42% (Holty and Guilleminault, 2010)¹ and 38,5% (Knudsen et al, 2016)² of the patients were cured after surgery, respectively. Mandibular advancement by means of traditional techniques has been related to a low cure rate, probably due to a high incidence of relapse. An innovative and minimally invasive procedure is proposed by the authors, with the design of a new prototype to maximize the results.

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IPR STATUS: Patent application filed in Spain (priority date of November 29, 2016)

TYPE OF PARTNERSHIP CONSIDERED: In this phase we seek engineering partnerships, investors or licensees.

References

- 1.- Holty J-C, Guilleminault C. Maxillomandibular advancement for treatment of obstructive sleep apnea: A systematic review and meta-analysis. Sleep Med Rev. 2010 Oct;14(5):287-97.
- 2.- Zaghi S, Holty JE, Certal V, Abdullatif J, Guilleminault C, Powell NB, Riley RW, Camacho M. Maxillomandibular Advancement for Treatment of Obstructive Sleep Apnea: A Meta-analysis. JAMA Otolaryngol Head Neck Surg. 2016 Jan;142(1):58-66.