

Mini Dental Implants and Oral Orthotics for Patients Who Cannot Tolerate CPAP

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Received: April 08, 2017; **Published:** April 24, 2017

The gold standard for the treatment of OSA we are told is CPAP. Unfortunately, over 50% of the patients who are prescribed this form of therapy do not use it for a variety of different reasons. Oral appliances have help many in this population of non-CPAP compliance overcome the problems associated with sleep apnea. The vast majority of this patient group have their teeth which provide retention for the vast variety of oral appliances that are used today.

But what do you do when the patient wears dentures, has sleep apnea and cannot tolerate CPAP. The following is a case report of a patient who was referred to my office by his ENT physician for treatment of CPAP intolerance. James is a 65-year-old male who suffers from sleep apnea. His sleep study indicated that he had moderate OSA. He was prescribed a CPAP but could not tolerate it even after trying different masks and straps. He has been wearing dentures for years with the resulting progressive bone loss in the maxillary and mandibular arches. The loss of alveolar bone in the mandibular arch was greater than that in the maxilla. His lower denture had no retention. When I first looked at what I was faced with I felt that there was no way that I could help him with is CPAP non-compliance.

I knew I could help him stabilize and retain his lower denture with reduced diameter implants (mini implants). If they could retain his lower denture why could they not help retain the mandibular portion of an oral appliance. After presenting the treatment plan to him he agreed to have mini implants placed in the mandible and an oral appliance made.

The first stage of the treatment was to place 4 2.0 reduced diameter implants into the intra-foraminal area of the mandible. Due to the degree of resorption a full flap was reflected so that the mandible could be visualized. This was done using only a local anesthetic. Visualizing the mandible, I was able to accurately place and parallel 4 implants. The flaps were then replaced and sutured. Prior to the procedure his denture was relined. After placement of the implants his relined denture was retrofitted with 4 retentive housings and seated. The mini implants provided immediate retention for his denture and he was able to function without any of his previous problems. After total healing had occurred treatment with an oral appliance for his sleep apnea was started. Impressions were taken to fabricate bite rims. Using these rims the protrusive position was determined. The models, bite rims and 4 retentive housing were sent to the Respire lab in New York for fabrication of the oral appliance.

The appliance was then delivered to the patient. The orthotic fit the implants and they provided the necessary retention needed to retain the appliance during function. The patient went through a break in period requiring adjustments to both the maxillary and mandibular appliances similar to that experienced with full dentures. The amount of protrusion has been adjusted forward one time to get the desired results. The patient's wife reports that he no longer keeps her up with snoring and his day time sleepiness has resolved. He also feels that he has a lot more energy and that the appliance has changed his life for the better. I usually allow for a 2-month trial period before I send them back to their sleep physician for another sleep study.

Because of the success that I have had with this case and others like it I am seeing a lot more denture patients being referred to me for orthotics that need to be implant retained. The reduced diameter implants have been able to change the quality of life for these patients in two ways. One by providing retention for their denture and also allowing them to have an alternative to CPAP.

Volume 10 Issue 1 April 2017

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