Over-dentures

Dr Anagnostopoulos presents an interesting case

When I was in dental school, one of the teachers who was known to be very successful professionally, revealed that the key of his success was his knowledge over the “secrets of the dentures”. It did not make sense to me at the time as good denture making was thought to be a process shared between the ritual of the sequence of the production stages and a “good technician”. A non-successful denture was always to be blamed on the ability and/or willingness of the technician or perhaps the lower standards of their cheaper service. Having gained experience as a dentist, I now know that my teacher was right.

Patient Experience

From the beginning of my practice, I have seen patients requesting a new set of dentures while they were already holding a relatively new set which they never actually managed to use. Despite the fact that this set would appear to have reasonable suction and restore some of the lost features, such as vertical dimension, teeth to show when they smiled etc., the patient would find it uncomfortable and would therefore not use it. Chatting about their problem, they would talk about the various other sets made which had simply ended up in the bed side drawer.

Most bizarrely and invariably they would end up wearing their old set with the completely worn down teeth, badly discoloured, without any trace of stability and teeth “smiles” drawn under the lips. Features such as angular cheilitis, deep diagonal lines from the corners of the mouth to the chin and massively reduced vertical dimensions were overlooked as part of the ageing process. In some instances these sets had even been used for two decades, without any maintenance being done to compensate for the gradual changes of the underlying tissues and in particular the bone resorption. Problems were usually more dramatic with the lower denture due to the centrifugal pattern of resorption. The denture was left with unnecessary long flanges to sit over the melted away ridge, causing sores over the coronally moving muscle attachments. The result was: unhappy patients who were unable to maximise the use of the - anyway limited - potentials of the full dentures.

In many cases problems like social avoidance and varying degrees of eating disorders would follow. As for the aesthetics, premature ageing occurred due to unsupported re-modelling with deep lines at the peri-oral region and dentures would move even when the patient was talking. The list of the facts causing frustration is endless. So, what can be done? Is there something that could alleviate or - even better - remove all the frustration?

Well, the answer is that a lot can be done. For those patients who are unfortunate enough to lose all of their teeth at one or both jaws, the answer is to start as a minimum with a good set of dentures. This set should then have to be maintained every two-three years by means of a reline. It should eventually be replaced with a new set every six-seven years. This is the minimum to compensate for changes that naturally occur due to bone resorption and the space gradually developing between the tissues and the denture base. Following these guidelines, you can maximise the maintenance of the original facial features and muscle functionality. Do not forget that the changes occur slowly but steadily and, before you know, those teeth have disappeared under the lips, the lower jaw moving forward as the body adapts.

Implant Placement

The only way to maintain the alveolar bone is the placement of dental implants which, by stimulating, will be kept there with a much slower rate of change. Using dental implants we can retain a denture.
For instance, two implants with ball attachments, placed around the canine positions of the mandible, can dramatically improve the retention (resistance to vertical movements) as well as the stability (resistance to horizontal movements). This intervention can put in place the “wild” lower denture over the flat ridge and restore the patient’s confidence (Figs 1-5).

In case of high expectations with regard to reduced functionality, four implants would support an over-denture which improves retention and stability, almost functioning as a bridge or as a conventional bridge, depending on budget.

For the maxilla, a minimum of four implants splinted with a cast or milled bar, bearing ball attachments will provide a secure highly retentive platform for an over-denture. Additionally, the use of Cr-Co reinforcement can allow the freeing of extensive palatal coverage.

Take the case of a healthy 50-year old male with edentulous maxilla. Due to advanced chronic periodontitis, the patient’s upper teeth were inevitably removed. Her consequently developed social avoidance and an eating disorder with devastating knock-on effects. The solution we offered, which was highly beneficial to the patient, is as follows. Without additional complex surgery and utilizing the anteriorly available bone, we placed four implants and a bar to support his Cr-Co over-denture. The extremely retentive and stable prosthesis has restored the previously lost
functionality to a great extent. The free palate has assisted him to overcome serious gagging reflexes, so that he finally can enjoy his life again (Figure 4-31).

Already confirmed to speak are:

Nasser Barghi, Eddie Scher, Wyman Chan, Julian Satterthwaite, Jason Smithson, Trevor Burke, Julian Webber, Bob McNeilland, Eddie Lynch, Wolfgang Richter, Liviu Steier, Peet Van Der Vyver, Tiff Qureshi, James Russell

About the author

The author of this article, Dr Evangelos Anastopoulos, provides implant dentistry to practices through Medimatch Dental Laboratory. With their long term work relationship they have managed to achieve high standards of success with a variety of challenging cases. For further enquiries, please contact Medimatch on 08444993888 (option 5).