Cantilevered Premolar: The Implant Supported Molar

Although the implant supported mandibular molar is very controllable the restoration of the single posterior implant presents its own unique set of problems. The most obvious problem is that the mesiodistal width of a molar is significantly greater than that of the standard 3.75 mm diameter implant. A wider diameter implant would reduce this discrepancy but is reliant on available bone which due to resorption is often insufficient. (Figure 1)

Ideally the implant should be positioned in the centre of the edentulous space but if a standard diameter implant is used as a result of limited buccolingual bone width the crown will be grossly over contoured. (Figure 2) Another option would be to place two standard diameter implants but this requires a minimum mesiodistal space of 14mm. Apart from the difficulty of sufficient space to accommodate two implants there is also an associated cost implication.

An alternative restorative option in this region of the mouth is the cantilever premolar which requires only a single implant for support. (Figure 5) The implant is positioned distally and used to provide support for a mesial cantilever premolar pontic. This type of restoration is indicated where the remaining dentition is sound, the occlusion stable and the mesial distal space is between 11-14mm.

Implant Site Preparation

Following a mid-crestal incision and exposure of the residual alveolar ridge a 2mm pilot bar is used to cut the ostectomy site to the predetermined depth. (Figure 3) The tapered implant is self-drilling as well as self tapping it is not necessary to use any additional burs to enlarge the site prior to implant insertion. (Figure 4) This preserves bone and improves primary stability as well as speeding up the insertion procedure cutting back on surgical stages. As the implant is screwed down into position the bone is expanded improving ridge contour and the emergence profile of the definitive restoration.

Implant Positioning

It is important for the stability of the bone margin that there is 2mm bone on the bucal aspect of the implant. There should be 1.5mm bone between the circumference of the implant and root of the adjacent tooth. If the implant is placed closer to the root than 1.5mm the biologic width is violated and periodontal health of the tooth jeopardised. If the distance is greater than 1.5mm the definitive restoration will be over contoured predisposing to hygiene and maintenance problems. The implant should also be submerged by 1mm beneath the bone crest in order to provide sufficient space to develop the emergence profile.

Transmucosal Healing

Tissue closure is not required as the placement protocol ensures that primary stability is sufficient to permit the placement of a healing abutment after implant insertion. Instead the flaps are gently sutured around the healing abutment. Once soft tissue healing is complete after three months impressions can be taken for the definitive restoration. (Figures 6, 7 and 8)

Cantilevered Premolar

Providing the long axis of the implant is parallel to the occlusal plane a friction fit abutment may be used. A friction fit abutment does not require a screw thus eliminating micro leakage associated with the micro gap. The crown is made from a composite restorative material (gradia) that is bonded directly to the friction abutment. This type of restoration delivers a premolarised posterior occlusion with a narrow occlusal table with low cusp angles reducing lateral load. (Figures 9 and 10) The cantilevered premolar is amenable to routine oral hygiene procedures and is very well tolerated by patients.

Dubai Health Authority Supports AEEDC and DUPHAT Conferences and Exhibitions

More than 50,000 Visitors Expected to Attend AEEDC and DUPHAT form 120 Countries

Dubai – Index Conferences and Exhibitions Organisation Est., member of Index Holding announced today the launch of two major events during March; the UAE International Dental Conference and Arab Dental Exhibition (AEEDC Dubai) and the Dubai International Convent and Exhibition Centre. AEEDC and DUPHAT are two prestigious events hosted by the Dubai Health Authority as they are held under the patronage of H.H Sheikh Hamdan Bin Rashid Al Maktoum, Deputy Ruler of Dubai, Minister of Finance and President of the Dubai Health Authority.

The announcement came at a press conference held today at the Dubai Health Authority Headquarter and was presided by H.E. Obaid Al Muroodhid, Director General – Dubai Health Authority, Dr. Tariq Khoury, the Director of the Dental Department at the Dubai Health Authority and the Honorary Chairman of AEEDC Dubai, Dr. Nasser Malik, the Conference Chairman, Dr. Ali Sayed, the Director of Pharmaceutical Services Department at Dubai Health Authority and Chairman of DUPHAT Conference and Mr. Abdul Salam Al Madani Executive Chairman of AEEDC and DUPHAT Conference and Exhibition and President of Index Holding.

Dr. Tariq Khoury praised the significance increase at AEEDC Dubai every year, in terms of the number of companies and dentists participating in the conference and exhibition. Dr. Tariq also mentioned that this large turnout is due to the global status of Dubai as a regional hub for all international companies looking to market and promotes their products to all the region through Dubai.

Dr. Tariq also mentioned that AEEDC Dubai strives to raise the high standard of medical services in general and dentistry in specific, especially after the World Dental Federation WFD announced last year that AEEDC Dubai is the fifth largest conference and exhibition of its kind in the world, where key oral health professionals from the Middle East and Eastern Asia meet.

Dr. Nasser Malik, the Conference Chairman said that this year, we have brought the radiography to the scientific programme, this subject has been a controversial one for all dentists, and this year we are hosting the world’s key specialists to talk intensively about it. The courses will raise the dentists’ efficiency and will display the latest technology used in the medical field. AEEDC Dubai introduces for the first time the International Orthodontic Meeting and the GCC meeting, in addition to the annual Dubai World Dental Gathering which will be held before the event.