

# Restoration of a maxillary central and

Harry Shiers presents a case where he used an implant-retained crown at the central incisor and a metal ceramic site and metal ceramic crown on the lateral incisor



Figure 1: The UL1 on presentation

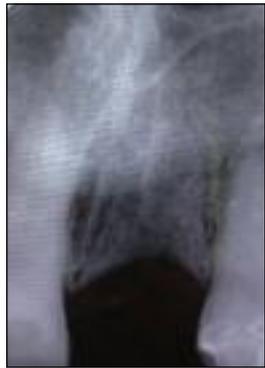


Figure 2: The peri-apical radiograph showing the area of bone at the UL1 site at the pre-operative



Figure 3: The implant with the cover screw in situ

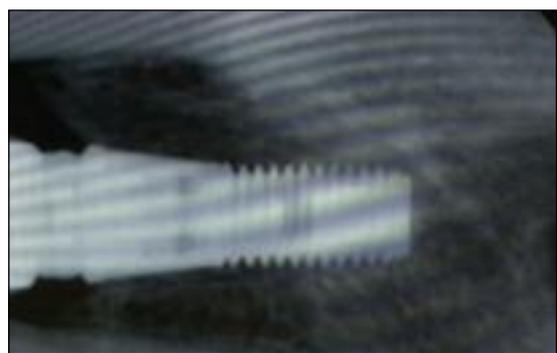


Figure 5: The radiograph at fit



Figure 6: The crowns at fit



Figure 7: The crowns at a higher magnification at fit



Figure 8: The crowns at a review appointment three months later



Figure 9: The implant at one-year review

The patient was a 48-year-old woman referred to the practice complaining of a failing left maxillary central incisor (in which her GDP had seen a root fracture). There was also a crown on the lateral incisor that was failing aesthetically due to gingival recession and an apparent crown gingival margin.

The medical history showed the patient had been taking a course of fosamax (one of the group of bisphosphonates), administered orally and prescribed by her general medical practitioner which she had finished three months previously. On contacting her GP, it was agreed that the surgical aspect of treatment should be delayed for a further three months to ensure that any residual bisphosphonates would be out of the patient's system. Figure 1 demonstrates the UL1 on presentation.

Three months later, the patient had a temporary acrylic maxillary partial denture constructed and the UL1 carefully extracted using periostomes and a luxator. The patient was reviewed about three months later and a digital peri-apical radiograph taken of the UL1 site showed good bone healing in the area. Figure 2 is this peri-apical radiograph showing the area of bone at the UL1 site at the pre-operative review.

An implant was selected of appropriate length and diameter and an appointment made for the patient for first-stage surgery. The implant chosen was an Astra Osseospeed 4.5mm diameter to be placed in a two-stage surgical

process. At the next appointment, the implant was placed and a small coronal dehiscence was repaired using autogenous particulate bone under a bio-guide membrane (Bio-oss Geistlich). The wound was closed using proline sutures, the patient given written post-operative instructions and asked to return for suture removal in two to three weeks time. At the following appointment, healing had been uncomplicated and the soft tissue appeared healthy when the sutures were removed.

#### Patient request

It was at this appointment that the patient asked if the lateral incisor crown could be replaced at the same time as the crown was placed onto the implant at the UL1 site. I explained to the patient that this should be replaced by her GDP – however, as she was quite insistent about the matter, I contacted her GDP to request her permission. Permission was given and changing the lateral incisor was incorporated into the treatment plan. After a further three months, second-stage surgery was completed and a 5.0mm diameter healing abutment placed. Figure 3 shows the implant with the cover screw in situ. Alginate impressions were made and the laboratory requested to make a special tray for recording the head of implant impression at the UL1 site. At the following appointment the lateral incisor was re-prepared and a head of implant impression made

using the manufacturer's impression coping. Figure 4 shows the impression coping in situ and the adjacent lateral incisor after the retraction cord had been removed. Notice the staining on the teeth brought about by the regular post-operative rinsing with chlorhexidine mouth rinse. The work was sent to the laboratory requesting one cement-retained crown for the implant and a ceramic crown for the maxillary lateral.

At the following appointment the temporary crown was removed from the lateral incisor and the preparation cleaned prior to trying in the permanent crown. Next the healing abutment was removed from the implant at the UL1 site and the definitive abutment placed using a transfer jig prepared at the laboratory. The abutment screw was tightened to 25Ncms with a torque wrench, and the cover screw protected with cotton wool and cavet. The crown was then tried in and the occlusion checked and finalised with shimstock.

The implant-retained crown was then cemented with Temp Bond and the crown for the lateral incisor cemented with zinc phosphate. Figure 5 shows the radiograph at fit, and Figure 6 the crowns at fit. Figure 7 shows the crowns at a higher magnification at fit and Figure 8 shows the crowns at a review appointment three months later. Figure 9 shows the implant at one-year review – note the satisfactory coronal bone levels.



Harry RBP Shiers BDS, MSc (implant dentistry), MGDS, MFDS, took his initial training in implants in 1989 with the Straumann Institute. He spent a year teaching undergraduates at The London Dental Hospital and since then has spent a year at the Eastman Dental Institute

studying implants prior to completing the two-year part-time Master of Science in implant dentistry at Guy's Hospital London. He currently runs the Harcourt House Implant Referral Centre in the west end of London where he places implants for referring GDPs.