

Implant abutment varieties

Harry Shiers runs through the different options available when restoring implants

We have previously discussed the difference between healing abutments and restorative abutments on implants. Here I will go through the variety of restorative abutments available; they are generally made from titanium, designed for different types of restorations and different positions within the mouth.

Abutments for single teeth

These can be:

1. **Standard abutments**, with limited scope for adjustment. This type is used for a satisfactorily positioned implant. There is little if any work required from the laboratory and consequently these are cost effective. Figure 1 demonstrates a standard abutment in the mouth (Astra Tech)
2. **Preparable abutments**, cut and shaped by the laboratory to approximate a crown preparation. If the restoration requires alteration of its alignment to give a suitable appearance, then this type may be used. The abutment is cut with burrs at the laboratory to achieve the desired shape. Figure 2 shows a preparable abutment on the cast (Astra Tech)
3. **Castable abutments**, using non-oxidising gold alloys. This type of abutment is waxed onto and cast onto (usually in gold alloy) by the laboratory. It will correct the orientation of a restoration placed on a mal positioned implant and is favoured by the laboratory as they are usually familiar with the casting technique. There are more materials involved in this type of abutment and the cost is therefore greater than using a standard abutment (Astra Tech) (Figure 3)
4. **Ceramic abutments**, using a non-metallic substance, such as zirconium. These abutments are used where the aesthetics of a case are a priority. They are cut and shaped at the laboratory to provide the correct shape and marginal height for the soft-tissue margin (Astra Tech) (Figure 4)
5. **Computer generated**. This technique involves having the cast of the patient scanned and an ideal abutment shape generated by machine. This is expensive and the technique not frequently used, however as digital information is recorded from the scan it can be processed and the abutment generated distant from the scanner.



Figure 1



Figure 2



Figure 3



Figure 4



Figure 5a



Figure 5b



Figure 6a



Figure 6b

Abutments for bridges

Abutments for bridges differ in the amount of leeway they provide in order to allow seating of a cast framework. If a bridge is to be retained on six implants, it is unlikely that the abutments placed into these will be exactly parallel. In order to place a cast framework onto the abutments, some tolerance will be required. This is achieved in the design of the bridge abutments, which can have tapers of varying degrees. Figures 5a and 5b demonstrate Astra bridge abutments in the mouth and in picture form respectively.

Abutments for over-dentures

Abutments for over-dentures differ in shape but essentially they perform the same function.

This is to connect the implants to the over-denture using ball type abutments that locate into spring mounts or rubber mounts in the fit surface of the over-denture.

Figures 6a and 6b demonstrate over-denture abutments in the mouth and in picture form. ■

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

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