

## Case presentation

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The conical seal design and the fluoride enhanced surface of the Astra Tech implant system has been lauded to provide reduced integration times, excellent maintenance of bone levels and enhanced soft tissue response. The advent of zirconia abutments over the last 10 years has also increased the options to provide improved aesthetics especially in the so-important anterior region of the mouth.

This patient, who is a DSA of one of our local GDPs, was referred to me by her Principal, following the fracture of her upper right lateral incisor at gingival level, leaving no coronal tooth structure left at all. The options of root filling, followed by post and core crown preparation, as well as orthodontic extrusion followed crown preparation was discussed, but it was decided that replacement with an implant retained crown on a zirconia abutment would give the best long term aesthetic solution.

Immediate implant placement has several advantages, such as reduced number of surgical procedures, preservation of alveolar bone, reduction in the period of edentulism, and increased patient acceptance.

There are many factors which must be considered to assess the suitability of a failing tooth for immediate replacement.

- An intact socket is required and can be determined by taking a full relevant clinical history, radiography, clinical examination including periodontal probing and any signs of fistulae or sinuses.
- There must not be any acute pathology present, and this can be assessed generally by the



Figure 1: Incisal fracture.



Figure 2: Extracted root.



Figure 3: Implant installation.

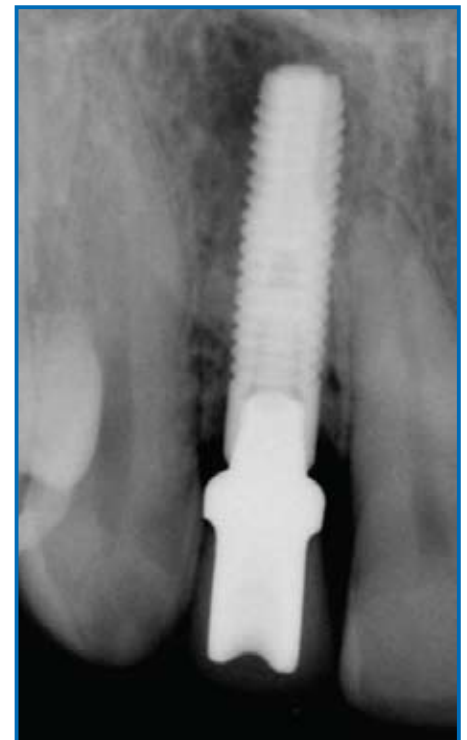


Figure 4: Implant with Zirconia abutment.

presence of pain.

- Are there acceptable soft tissue contours?
- Is there adequate bone for good primary stability?
- Bruxism-this is an added complication when considering immediate placement. The loads on the implants must be controlled, not just occlusally, but also from adjacent teeth i.e. lateral loading.
- Root fracture?-root fracture can lead to rapid and severe loss of the surrounding bone. This may force extraction and delayed placement, but if the fracture is caught early, then it may be possible to immediately place the implant within several days of the fracture occurring.

We were fortunate that all the criteria

for immediate placement were met, and the root was extracted gently with a periosteal elevator, leaving an intact buccal plate, and an Astra Tech 3.5ST 15mm fixture placed, with a 3mm zebra transmucosal healing abutment. The gap was temporised with a removable partial denture, and left to heal for 3 months to integrate.

Following this healing phase, a direct impression of the fixture head was taken using a long fixture head



impression coping and special tray, using Impregum dispensed from a Pentamix. The success of cases in the aesthetic zone hinges on accurate shade analysis, especially when trying to match adjacent teeth, and a single tooth replaced in the arch can be very difficult to match accurately. However, with input from both the patient and laboratory, a favourable acceptable outcome was achieved.

A customised zirconia abutment was chosen and prepped by our Laboratory (Swift Dental Group, Manchester) and the definitive Procera crown made.

The abutment was torqued to 25ncm using a torque wrench, and the procera crown cemented, using a modified glass ionomer cement.



Figure 5: Zirconia Abutment.



Figure 6: Crown.



Figure 7.

Dr Philip Hayter, with business partner Dr Sanjay Chopra, run 2 Specialist referral centres in Essex, accepting referrals for implant treatment, surgical dentistry, sedation, endodontics, periodontics and orthodontics. For further information, or details on implant courses please visit [www.highlandview.co.uk](http://www.highlandview.co.uk) or call 01708 707050.

