First, do no harm
Howard Gluckman and Jonathan Du Toit pull back a case from the brink of disaster to demonstrate the importance of understanding and treatment planning.

Peri-implant maintenance
By Susan Wingrove

Single implant placement
By David Furze and Kerstin Kress

Leader of the pack
How to get ahead with the digital dental revolution

Star power
Why you can't afford to miss Stars of Dentistry in June

PROMOTING THE DEVELOPMENT OF IMPLANTS IN GENERAL PRACTICE
Precise implant placement in limited space

David Burgess describes the use of computer-guided dynamic navigation to place a dental implant into the optimum position in a narrow gap between two teeth.

A 70-year-old male patient attended Carbis Bay Dental Care with concerns about the impact of recent tooth loss. His lower left second premolar had been missing for several years, but losing two molars prompted him to explore options for improving his ability to chew effectively.

Implants were planned for the lower left second premolar and second molar sites, to restore full masticatory function to the lower left quadrant against an intact upper left arch (Figure 2).

An initial assessment was made from two-dimensional periapical radiographs to ascertain the likelihood of adequate bone depth and space between adjacent teeth (Figure 3).

Planning and treatment were carried out using the Navident computer-guided dynamic navigation system. Four weeks before implant placement, a detailed three-dimensional assessment of the proposed sites was carried out with a Morita 3D CBCT system, which produces high-resolution images that are ideal for the diagnosis and planning of implant cases.

The scan was taken with a radiographic marker attached to a custom-made, tooth-borne support, known as the Navistent. Fabrication of the Navistent is quick, easy and takes place chairside, using thermo-plastic material that is moulded directly onto the patient’s existing dentition (Figure 7).

Dr David Burgess BDS DIPS(ADSc) MScConSed has been principal of Carbis Bay Dental Care in Cornwall since 1988. He has placed more than 2,000 implants, and is a leading pioneer of new technology, particularly in the field of digital dentistry. David was the first UK clinician to introduce the Navident dynamic navigation system into his implant treatment workflow.

Assessment and planning

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The drill axis and tip were quickly calibrated and verified (Figures 5 and 6), initial preparation of the site was planned, so that subsequent restoration would be as ideal as possible.

The positions of the crowns and implants were digitally plotted onto the scan in order to fill both spaces and to restore occlusal interaction with the opposing teeth (Figure 4).

Figure 1: The patient’s lower left second premolar had been missing for several years but losing two molars prompted him to explore options for improving his ability to chew effectively.

Figure 2: Implants were planned for the lower left second premolar and second molar sites, to restore full masticatory function to the lower left quadrant against an intact upper left arch.

Figure 3: An initial assessment was made from two-dimensional periapical radiographs to ascertain the likelihood of adequate bone depth and space between adjacent teeth.

Figure 4: The ideal positions of the crowns and implants were digitally plotted onto the scan.

Figure 5 and 6: The drill axis and tip were quickly calibrated and verified.

Figure 7: The path of the drill can be continuously monitored visually throughout preparation.

Figure 8: Site preparation with the pilot drill was within 0.1mm of the pre-planned position, with a maximum deviation of 0.6°.

Figure 9: A 2mm guide pin in place after pilot drilling.

Fabrication of the Navistent is quick, easy and takes place chairside, using thermo-plastic material that is moulded directly onto the patient’s existing dentition.
Dynamic navigation for freehand dental implant placement

See where the tip of the drill actually is, not where you think it is. Navident allows you to prepare the implant site completely freehand and with greater precision and confidence, using your CBCT data in real time as your virtual guide.

- **Precision guidance for increased accuracy within 0.5mm of treatment plan**
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- **Plans can be modified at any time, even during treatment**
- **Enables minimally invasive flapless drilling without a physical guide**
- **Provides even greater value from your CBCT data**

“**What makes Navident stand out is it precisely guides the surgeon to prepare and place the implant. The software shows the drill position on the scan in real time, as it enters the jaw.**”

David Burgess BDS DPDS MScConSed
Carbis Bay Dental Care, St Ives, Cornwall

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