

A different approach

David Downes-Powell describes a simple but intelligent type of implant.

Most dental implants are characterised by the presence of a screw thread, intended to impart initial stability to the implant. This design was that chosen by Prof Brånemark and produced for him by the engineering department of his university. A screw thread looks effective, and reassures because many permanent fixtures in the world outside dentistry are threaded. However, another solution is the Endopore implant.

The first thing that you notice about an Endopore implant is that it has no screw thread. Next, that it is tapered, and finally that it is small.

In engineering, it is widely accepted that two of the most difficult operations are cutting a truly round hole, and tapping a truly fitting thread.

Before looking at the benefits that these qualities confer, let us look at the disadvantages of the screw-threaded types of implant.

In engineering, it is widely accepted that two of the most difficult operations are cutting a truly round hole, and tapping a truly fitting thread; and that is in metal, a homogeneous material. It is much more difficult to attempt to perform these operations in a non-homogeneous material such as bone, which can vary in density from a marble-like hardness to the constitution of a Crunchie bar across a few millimetres. Every implantologist who has used a parallel screw implant has had



● Endopore Implant showing the unique three dimensional bone interlock.

the experience of the tip of the drill meeting the cortical bone in the mandible, and being deflected sideways into the softer cancellous bone, leaving an oval hole.

A further problem of the screw

form is that to screw in continuously, the core form must be parallel.

Taper can only be slight, or restricted to the top of the implant. Parallel implants do not fit well into alveolar bone, which frequently

David Downes-Powell

runs a single handed practice in Kent.

implants

narrows from the point of insertion of the implant to the deeper tissues, as do the tooth roots that it was created to contain. The parallel implant has to be placed as the bone allows rather than as the prosthetist would wish, and such systems have a plethora of angled abutments to get around the problems of the imperfect placement.

Solution

The Endopore implant overcomes these problems in a simple and intelligent way. Rather than being a screw, it is a nail. Being tapered and driven into a tapered hole, it creates its own fit by compression of the softer bone around it. Being tapered, it fits the bone profile better, and can usually be placed at the required angle. Being a smaller implant (sizes run from 5mm to 12mm) also makes for easier and better-angled placement.

The Endopore form-drills that create the tapered hole cut at their tip like the twist drill used to create the hole for a screw-threaded implant and they are side-cutting. Where a sloping cortical plate would deflect the twist drill, the Endopore form-drill can be biased against the hard bone and will cut into it, maintaining the position and roundness of the prepared hole.

The tapers of the different lengths of implant and of their form-drills vary, and that allows for sequential cutting in dense bone, which again improves the accuracy of the preparation.

Prosthetically, the system is very simple. It is normal to attach a crown or bridgework directly to the top of the implant using a substantial bolt torqued to 30Ncm. By doing away with transmucosal abutments, the problem of the smaller secondary screw breaking, common to such

Follow-up and careful attention to a patient's oral hygiene are essential.

systems, is removed. The system does have other abutments available, as well as different types of denture retainers, and the top of the implant is identical to a Brånemark 3.75mm platform.

Practical use

All of this is well and good, but how does the system perform in the real world? As a result of the slighting references made to the system at a meeting of the Association of Dental Implantology, I recently conducted an audit into my success with the implant. At a time when I was placing implants into patients who smoked, I had some failures, and

these were almost always in the smoking group. Since I stopped placing implants into smokers, out of 190 implants placed I have had two failures; one an unexplained failure to integrate, and the other a single loss in a patient taking Amlodopine.

In my experience the Endopore implant is very well tolerated, and failures of integration are very rare, as are long-term losses. As with all implants, follow-up and careful attention to a patient's oral hygiene are essential. Although lacking the mechanical lock of a screw thread, I have had, to date, 100 per cent success with those cases where I have loaded the implant or implants immediately, both in bridge and single crown applications. As always, careful case selection and experience are needed.

If you are looking for a good, simple, and reliable implant system you might do worse than re-read the above, and consider the Endopore. In implantology, it is better not to screw up. ■

For information contact Sybron Implant Solutions at Suite 5, Tadcaster House, Kempton Road, Pershore, Worcs. WR10 2AT. Call 01386 561845 or visit www.innovallife.com

Major step forward in Cornwall

The Peninsula Dental School in Truro has taken a major step forward with the news it has achieved planning permission for its new building at the Knowledge Spa.

The go ahead to establish the Peninsula Dental School was won by the Peninsula Medical School in January 2006, when it was awarded 64 of the 100 new dental student places on offer from the Government. Key to the award was the anticipated contribution the school will make to dental care services in an area where NHS dental cover is identified as poor.

The new building will be built alongside the

Knowledge Spa, which is currently home to the Peninsula Medical School and Faculty of Health and Social Work in Truro. The building will include 32 dental chairs, four single surgeries for individual requirements, research and office provision.

Treatments begin when the facility opens early in 2010. It will be available for routine treatments for NHS patients. Details regarding access to treatments will be announced nearer the time.

The facility represents an £11.5m investment for Truro and the county of Cornwall. It is estimated that the Peninsula Dental School in Truro will, at its peak, be able to treat up to 128 patients a day. ■