Benefits of CT scanning

Dr Avik Dandapat discusses the need for training in dental CT scanning

Dental CT scanning is becoming rapidly the gold standard in pre-diagnosis used in implantology. The technology gives the operating surgeon a huge amount of useful data to use. But with this technology comes both responsibility to prescribe the scans correctly using specific clinical criteria and the ability to interpret the images and relate this important to the surgical field.

At present there is little training available specifically in interpretation of the scan data and how to manipulate the data to gain the most out of a scan image which is probably why many implant dentists are still resorting to traditional 2D images and surgical guess work. The CT scans tend to be taken by those dentists doing larger implant cases but the planning can benefit even the single implant case when there is a clinical doubt.

In order to promote the use of the 3D information which also allows dentists to plan efficiently, the dimensions of the implant to be placed and the proximity to sensitive structures such as the sinus floor or inferior dental nerve one must gain an understanding of how the technology of CBCT works and how the computer lays the information on screen.

So the specific areas we have to look at training in are:

**Before surgery**
1. Prescribing a CT scan (when, why and how).
2. Referral Criteria.
3. Risk Versus Benefit analysis for a CT scan.
4. The exposure levels for the numerous machines available.
5. Hospital medical CT Vs In practice CBCT exposure.

**Interpretation**
1. How Simplest works.
2. What the graphic designer does to produce the 3D image.
3. How this can be manipulated and used effectively.
4. How distance can be accurately calculated on a CT scan.
5. Slice angle analysis.
6. When to refer a scan for radiological assessment by a radiologist.
7. The use of radio-opaque markers to orientate the implant surgeon.
8. Understanding of good data and bad data from a scan.

**Surgery**
1. Bring the whole thing together for accurate surgery.
2. The use of stents – materialise 3D stereolithographic stents.
3. Pros and cons of the use of these.

What it all means
Hence as dentists we must provide sufficient information to the patient to give us the best chance of success in our implant plans. CBCT is here to stay and is a technology dentists consider placing implants should think about as an integral part of the treatment process.

**Training centre opens**

Digital imaging company Vatech & E-woo recently opened its new training facility in Feltham, Middlesex. A new initiative, the imaging centre’s facilities are available to dental professionals and their teams. Its purpose is to help the profession better understand dental digital radiography, its potential and its capabilities.

The company which manufactures products such as the E-woo Pax-Reve 3D, is also offering CT user training courses for the dental team. Upcoming course dates for 2009 are June 26, July 51, August 28, September 25, October 50 and November 27.