Pioneering Planmeca Ultra Low Dose protocol—An even lower patient dose than in panoramic imaging

Planmeca ProMax 3D units offer the unique Planmeca Ultra Low Dose imaging protocol, which enables CBCT imaging with an even lower patient radiation dose than standard 2-D panoramic imaging. This pioneering imaging protocol is based on intelligent 3-D algorithms developed by Planmeca and yields a vast amount of detailed anatomical information at a very low patient dose.

Ultra-low-dose images are ideal for many clinical cases, such as:

1. Post-operative and follow-up studies in maxillo-facial surgery
2. Orthodontics:
   - Localisation of unerupted or impacted teeth
   - Detection of facial asymmetries
   - Defining orthodontic landmarks for cephalometric analysis
3. Otorhinolaryngology studies:
   - Sinus imaging
   - Airway measurements
4. Implant planning

Figs. 1a–d. An effective patient dose of only 14.7 µSV.
New imaging practices

The Planmeca Ultra Low Dose protocol has changed imaging practices at Tampere University Hospital in Finland. “We have been using the new Planmeca Ultra Low Dose protocol since last summer, and have found it to be very useful in many imaging indications. These include post-operative follow-up, orthodontic cases requiring localisation of impacted teeth and their effects on adjacent teeth, the detection of facial asymmetries, sinus imaging in otorhinolaryngology cases where sinusitis needs to be excluded, pharyngeal airway measurements in sleep apnoea patients, as well as many implant cases”, said Dr Jorma Järnstedt, specialist in oral and maxillofacial radiology.

“The new imaging protocol has already changed traditional imaging practices: in many cases, 2-D imaging can no longer be justified, since an ultra-low-dose 3-D image simply yields so much additional information at a similar radiation dose. Our patients are often concerned about radiation exposure, but once they hear that the dose is even lower than in traditional panoramic 2-D imaging, they are always relieved. In addition, referring physicians often specifically ask us to use the Planmeca Ultra Low Dose protocol. We take around 2,000 CBCT images per year, and the number is constantly growing. We have been using the new protocol for the imaging of both large and small areas. It has proven to be a very beneficial method that improves the quality of patient care and yields a vast amount of detailed anatomical information at a low radiation dose.”

Fig. 2. An orthodontic case with an effective patient dose of 4 µSv, which is a lower dose than in a panoramic image.

Fig. 3. Image from Planmeca ProMax 3D.

Dr Jorma Järnstedt, DDS, is a specialist in oral and maxillofacial radiology at the Department of Radiology of the Medical Imaging Centre at Tampere University Hospital.