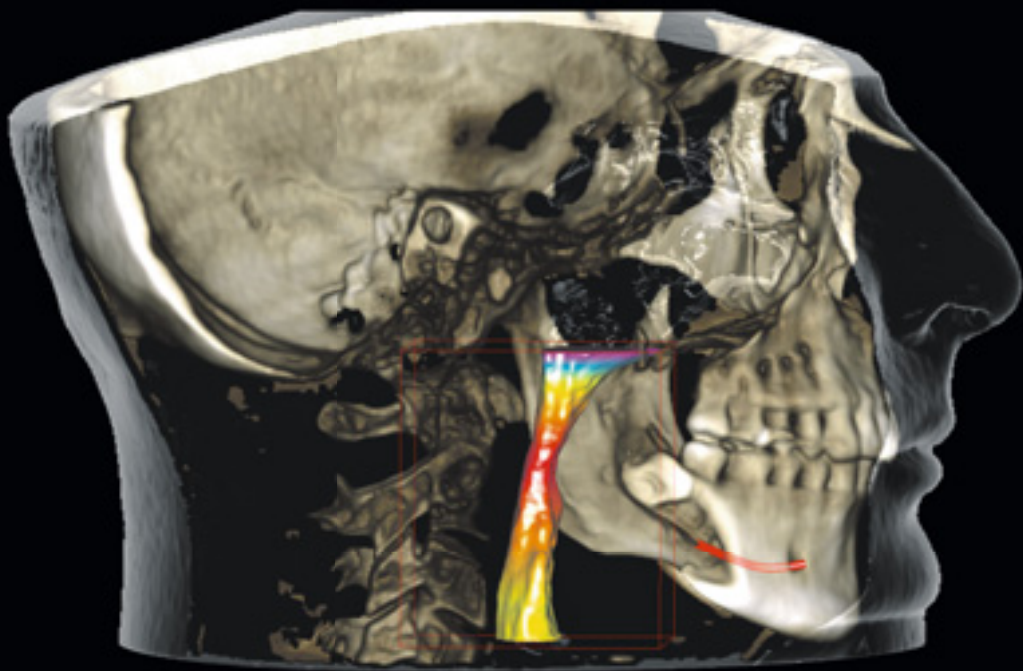


Planmeca Ultra Low Dose™



3D imaging with
an even lower dose
than panoramic
imaging

ENGLISH

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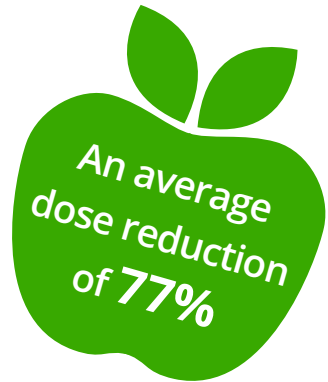
Pioneering low dose 3D imaging

Planmeca ProMax[®] 3D units offer a unique Planmeca Ultra Low Dose[™] imaging protocol that enables CBCT imaging with an even lower patient radiation dose than standard 2D panoramic imaging.

More information, less radiation

Planmeca Ultra Low Dose[™] can be used with all voxel sizes and in all imaging modes from Normal to Endodontic mode. Using the Planmeca Ultra Low Dose protocol reduces the effective patient dose by an average of 77% without a statistical reduction in image quality*.

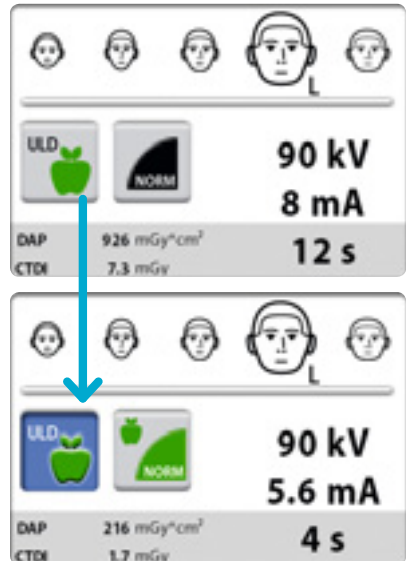
The unique and pioneering imaging protocol is based on intelligent 3D algorithms developed by Planmeca. Our 3D imaging system allows clinicians to always choose the optimal balance between image quality and dose, based on the ALARA principle.



Ideal for many clinical cases

The Planmeca Ultra Low Dose protocol has proven to be ideal for many clinical cases.

- Orthodontics:
 - Defining the amount of bone around the root
 - Localising unerupted and impacted teeth before orthodontic treatment
 - Defining orthodontic landmarks for cephalometric analysis
- Post-operative and follow-up images in maxillofacial surgery
- Airway studies
- Sinus studies
- Implant planning



* Study of Orthodontic Diagnostic FOVs Using Low Dose CBCT protocol (Ludlow, John Barrett and Koivisto, Juha).

planmeca.com/ULD-poster

The Planmeca Ultra Low Dose™ protocol has changed 3D imaging completely



*Prof. Dr. Axel Bumann
DDS, PhD, Orthodontist,
Oral surgeon, Oral and
Maxillofacial Radiology,
MESANTIS® 3D
DENTAL-RADIOLOGICUM*

We at MESANTIS® 3D DENTAL-RADIOLOGICUM produce about 7,500 CBCT images per year at eight locations in Germany.

Our main concern in X-ray imaging is to reduce the possible radiation dose as much as is reasonably achievable (ALARA principle). Traditional digital 2D X-rays at an orthodontist's clinic usually have an effective dose ranging between 26–35 μSv (ICRP 2007). Conventional CBCT images of the head with modern CBCT equipment show an effective dose ranging between 49–90 μSv .

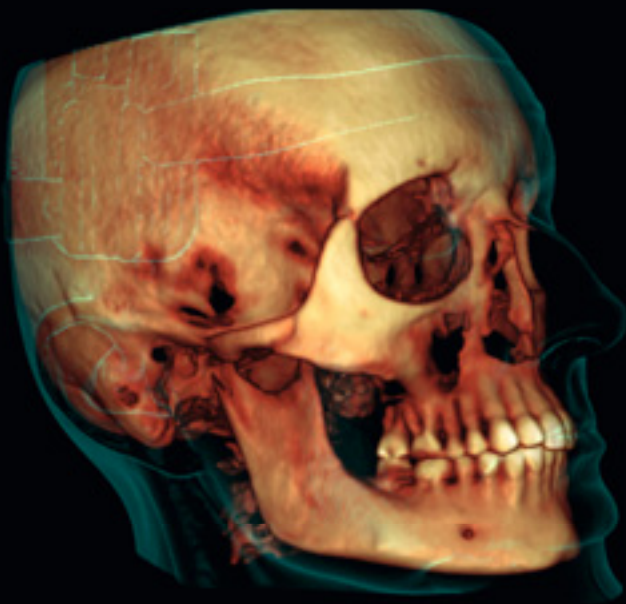
The latest image protocol with a specific associated algorithm is called the Planmeca Ultra Low Dose™ protocol. In medical terms, it allows radiologists to adjust imaging parameters individually according to the clinical needs of each case. The mA-values, in particular, can be individually adjusted and reduced for each patient, as it is required according to all international scientific guidelines. Therefore, it is possible to further reduce the effective dose significantly by using the Planmeca Ultra Low Dose protocol. Depending on the field of view, nowadays CBCT equipment with a Planmeca Ultra Low Dose algorithm has an effective dose between 4 to 22 or 10 to 36 μSv .

Our patients and referring colleagues are always happy to hear that the effective dose for certain indications is now even lower than in traditional 2D X-ray imaging. Since last year we have been able to replace the common CBCT protocols with the Planmeca Ultra Low Dose protocol.

At MESANTIS® 3D DENTAL-RADIOLOGICUM in Germany, the Planmeca Ultra Low Dose imaging protocol is used either with a small or large field of view. Using the new protocol, a lot of patients can benefit from improved 3D diagnostics without being exposed to a higher radiation dose.

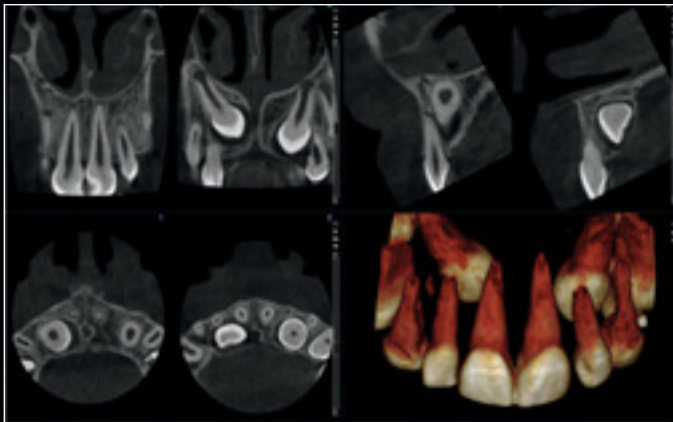
Prof. Dr. Axel Bumann

Prof. Dr. Bumann states that he has not received any financial reward or other benefit for this interview.



Planmeca ProMax® 3D Mid

- FOV \varnothing 200 x 170 mm / Voxel size 600 μ m
- Effective patient dose 14.7 μ Sv



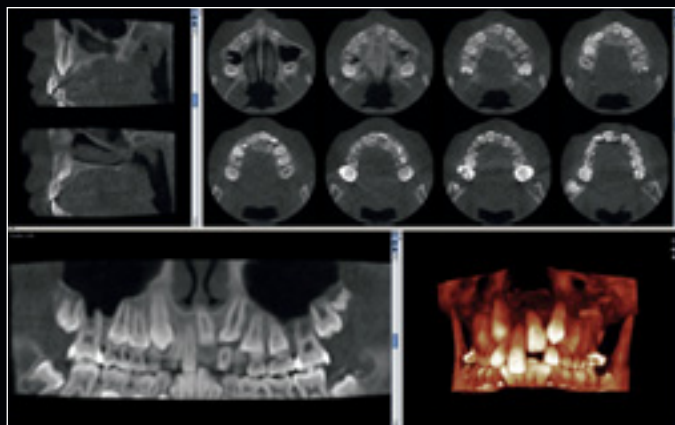
Planmeca ProMax® 3D Classic

- FOV \varnothing 40 x 50 mm / Voxel size 150 μ m
- Effective patient dose 14.4 μ Sv



Planmeca ProMax® 3D Mid

- FOV \varnothing 200 x 170 mm / Voxel size 600 μ m
- Effective patient dose 29.2 μ Sv










Planmeca ProMax® 3D Max

- FOV \varnothing 85 x 50 mm / Voxel size 400 μ m
- Effective patient dose 4.0 μ Sv

Planmeca ProMax® 3D family

– the optimal 3D unit for every imaging need

Normal mode		Low dose mode	
Voxel size	 Effective patient dose with ULD	Voxel size	 Effective patient dose with ULD

	Planmeca ProMax® 3D s				
	∅ 50 x 50 mm – Tooth upper incisors	200 µm	12 µSv	400 µm	3 µSv
	∅ 50 x 80 mm – Tooth incisors	200 µm	21 µSv	400 µm	5 µSv
	Planmeca ProMax® 3D Classic				
	∅ 80 x 80 mm – Teeth	200 µm	38 µSv	400 µm	10 µSv
	Planmeca ProMax® 3D Plus				
	∅ 90 x 90 mm – Teeth	200 µm	34 µSv	400 µm	9 µSv
	∅ 160 x 90 mm – Jaw	400 µm	31 µSv	600 µm	11 µSv
	Planmeca ProMax® 3D Mid				
	∅ 100 x 100 mm – Teeth	200 µm	40 µSv	400 µm	8 µSv
	∅ 200 x 100 mm – Jaw	400 µm	31 µSv	600 µm	11 µSv
	Planmeca ProMax® 3D Max				
	∅ 130 x 130 mm – Face	200 µm	54 µSv	400 µm	16 µSv
	∅ 230 x 160 mm – Skull lower	400 µm	60 µSv	600 µm	29 µSv
	∅ 230 x 260 mm – Skull	400 µm	75 µSv	600 µm	43 µSv

Standard 2D panoramic effective patient dose is approximately 15 µSv.

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