Planmed

PLANMECA GROUP

Better care through innovation

Planmed Verity™

The original Weight Bearing CT

Our Mission

Better patient care through pioneering health care solutions that improve the daily workflow of medical professionals around the world

Planmed

What we do

We Develop, Manufacture and Marketing advanced imaging equipment's as

Mammography 2D & 3D

Accessories and Software

CBCT for Orthopedics & maxillofacial imaging

Accessories and Software

Education

Planmed

What makes us successful

Always one step ahead

In-house team of researchers and designers dedicated to emerging technologies

What makes us successful

Design principles

Built and assembled
under one roof for an unmatched
attention to detail.

High Quality ★★★★★

Built using the latest technology

Efficient workflow

Healthy medical team

Relaxed patient

Long lasting aesthetics

Industry Leading Imaging

Advanced and unique 3D imaging of extremities and head & neck

Planmed Verity®
Extremity and ENT CT scanner

- Either mobile or fixed configuration
- Plugs into a standard electric outlet
- Integrated workstation with touch screen
- Isotropic resolution of up to 0.2 mm
- Unique weight-bearing imaging
- Ultra Low Dose™ imaging
- Movement artefact correction with Planmeca CALM™

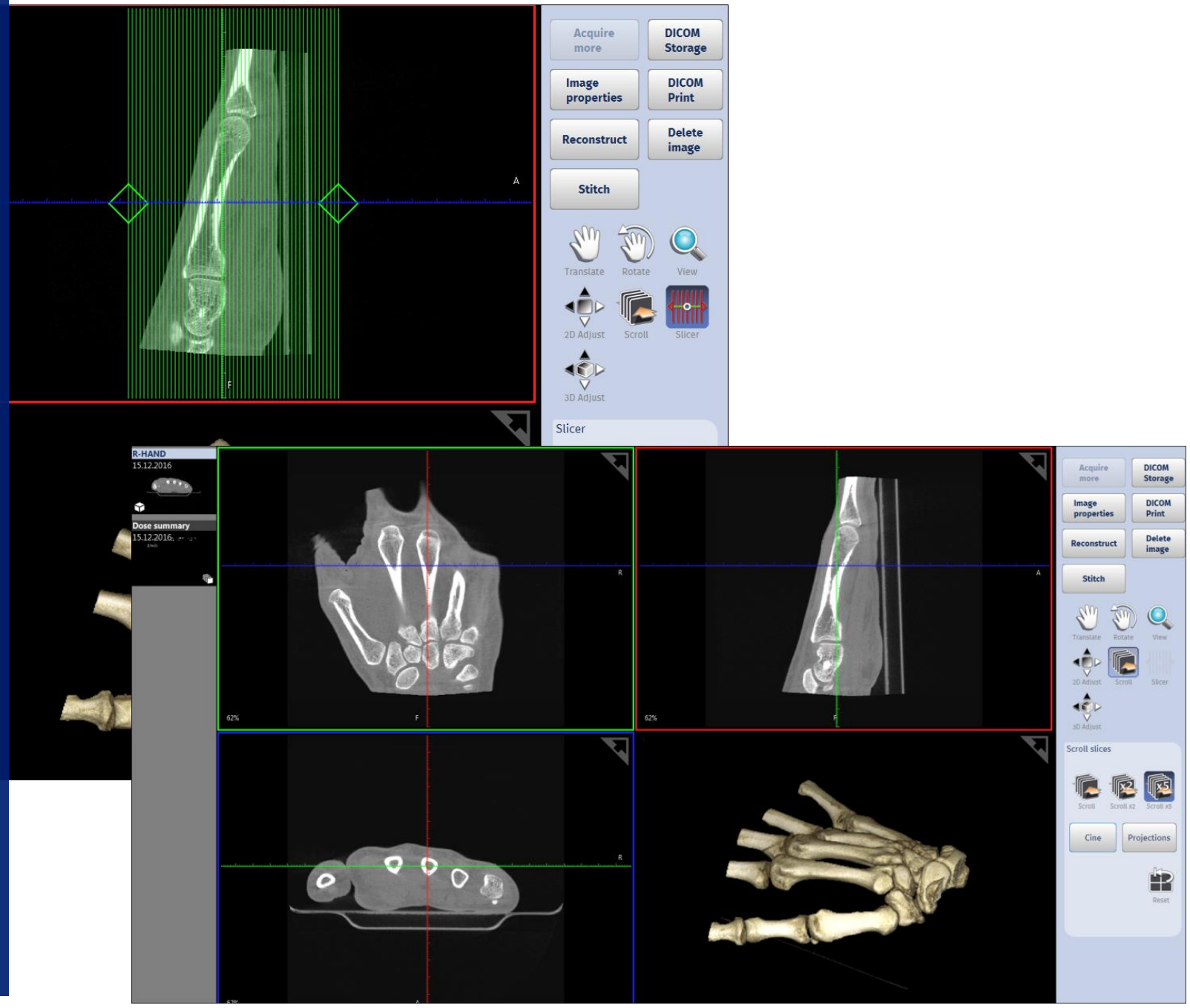
Planmed

Image Review and Archiving

Images are commonly viewed as 2D slices or 3D volume / surface rendering is not that common

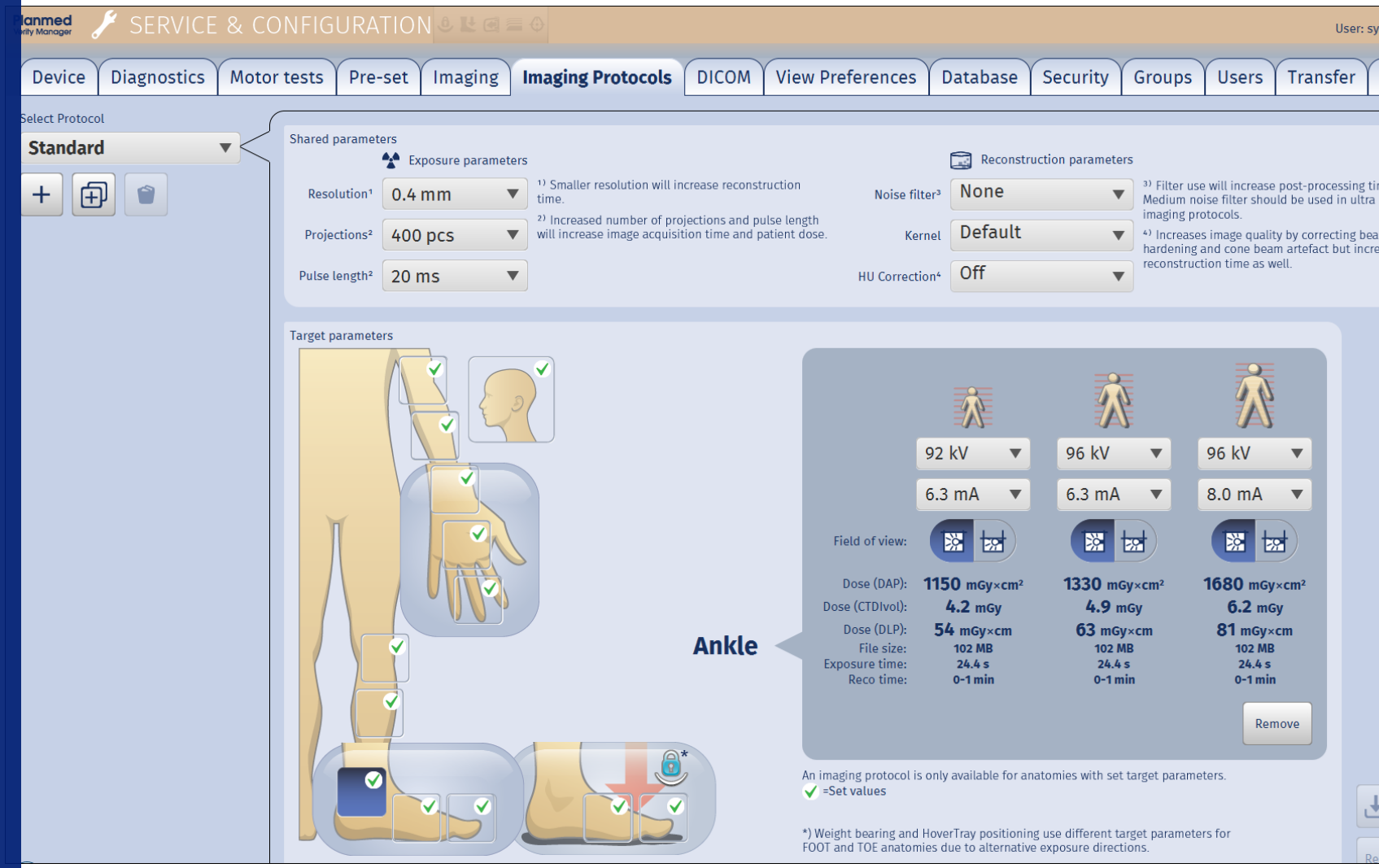
Isotropic resolution of the CBCT image data enables generation of image slices in arbitrary angles
(Multiplanar reconstruction, MPR) without loss of image quality

Commonly thicker slices of 1-3mm are generated from the thin-slice image data and archived to PACS



Imaging protocols

- Detailed definition of the protocols are done from service settings.
- Use of protocols easier than before, now with improved image quality/dose
- Factory protocols include now
  Ultra Low Dose
  Standard
  High Definition



The original weight bearing CT

The original weight bearing CT that gives you realistic view on the anatomy under natural load.
High Resolution 3D images with comfortable patient positioning.

Sitting position

Weight Bearing

Weight Bearing Imaging

Superior tool for lower extremity diagnosis

- Foot and ankle problems
- Knee problems
- Surgery planning

Possibility to take also non weight bearing exams

- Post operative controls before allowing weight on the extremity

Planmeca Ultra Low Dose™ imaging

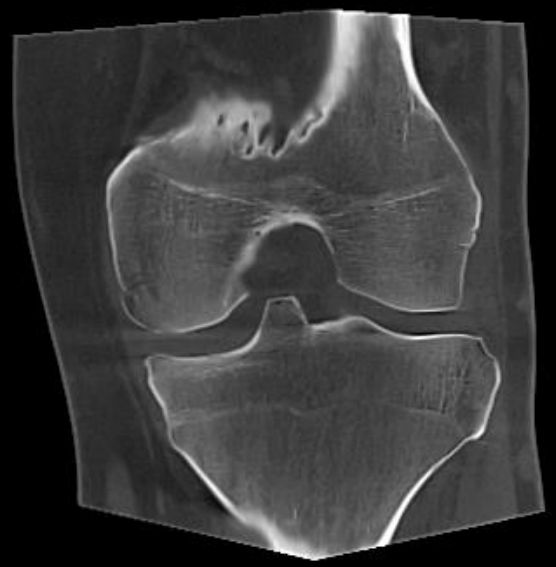
Imaging with effective patient doses close to 2D X-ray

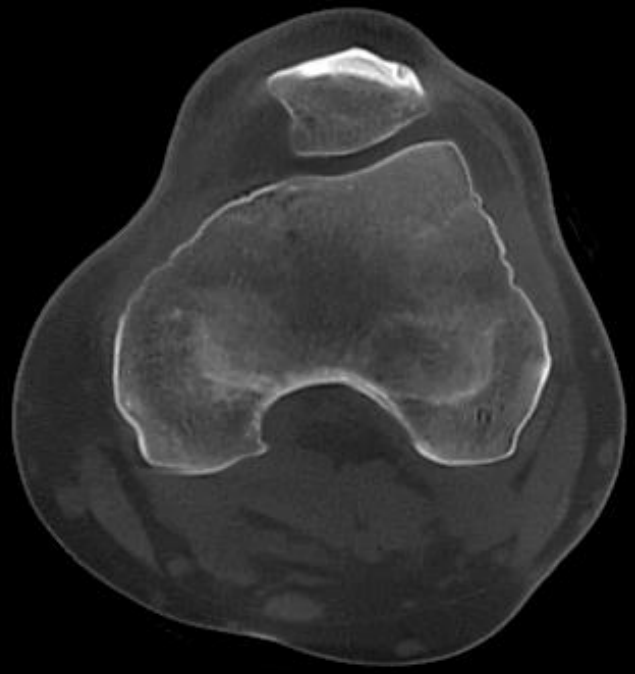
Based on intelligent 3D algorithms

Available for all patients and anatomical areas within Verity use

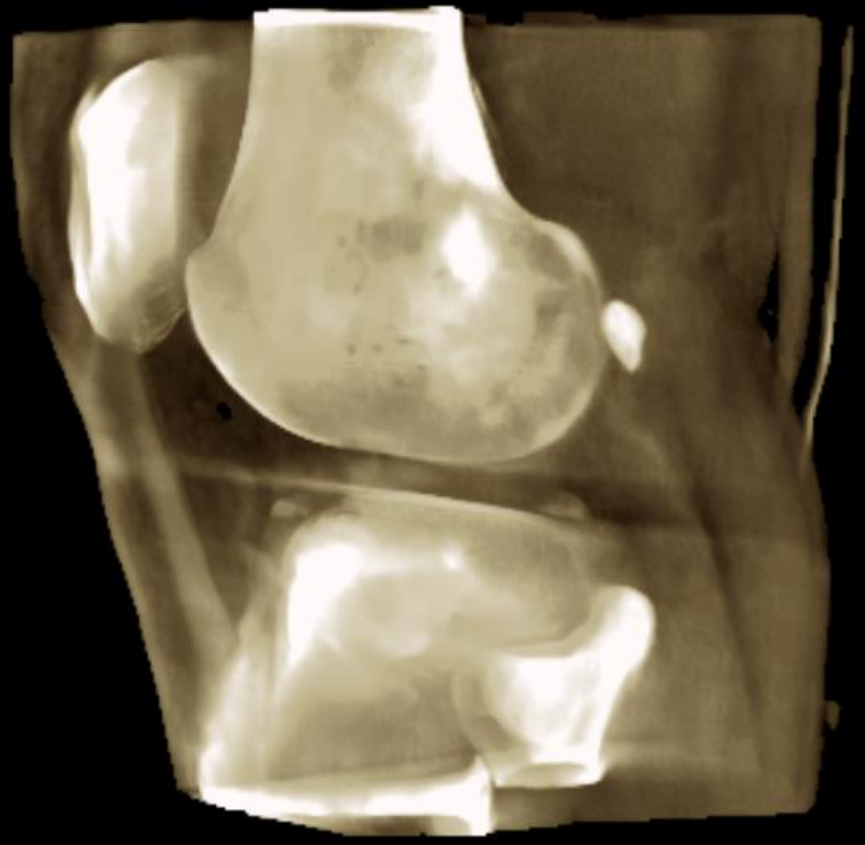
Lowers the effective patient dose by 50%

Planmed Verity® FOV Ø 160 x 130 mm · Voxel size 400 µm



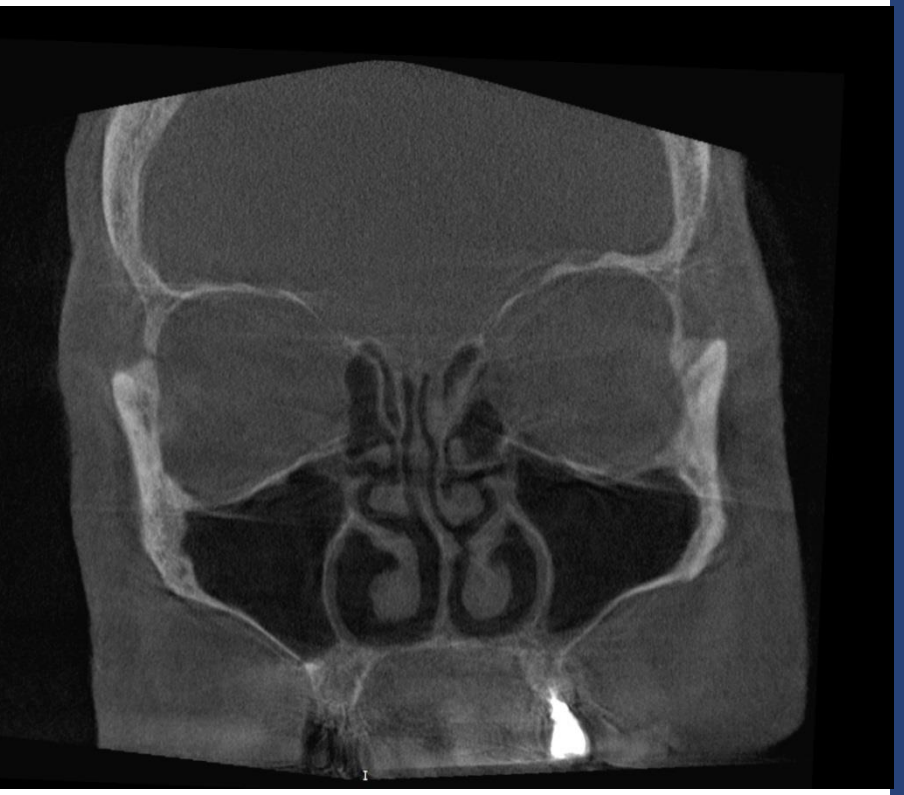


Effective patient dose 7.9 µSv




PLANMECA
CALM
Never miss a shot

Movement artefact correction with Planmeca CALM™



Without CALM

- **Iterative movement correction algorithm**
- **Eliminates the need for retakes**
- **Cancels the effects of patient movement**
- **Excellent when imaging more lively patients**

With CALM

Planmeca CALM

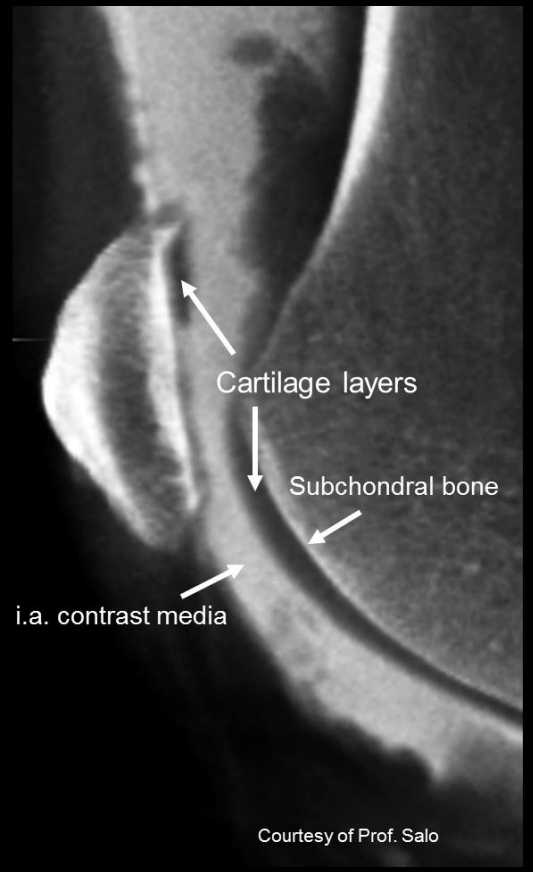
Original

With CALM

Resolution of up to 200um for applications requiring visibility of details

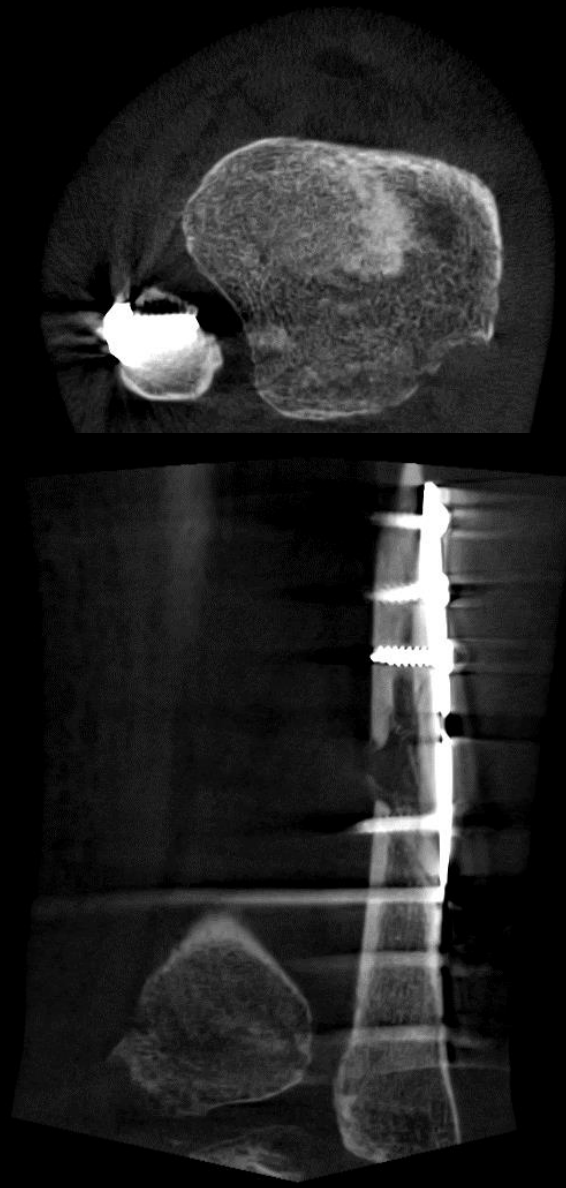
Trauma

Post op



Arthrography

Metal Suppression

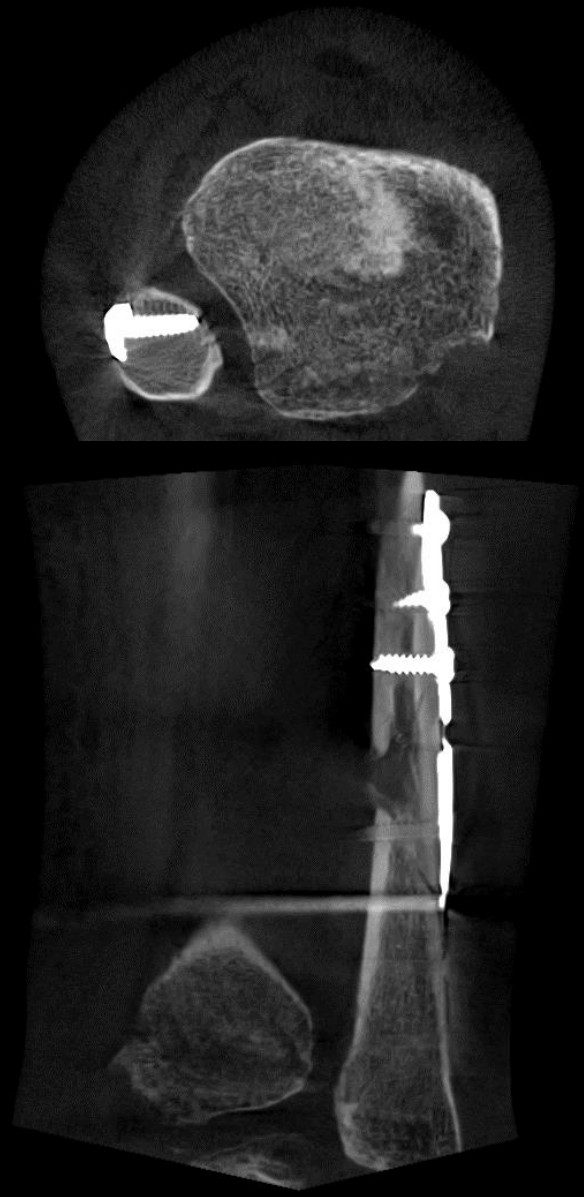


Original

Clever algorithm to reduce artifacts caused by metal objects in the anatomy to be imaged

Can be selected before or after image acquisition

Fast calculation time



Metal suppressed

Image review – with Planmeca Romexis

- MPR review
- Image archiving
- 3D measurements
- Curved reformats
- 3D rendering
- Superimposition

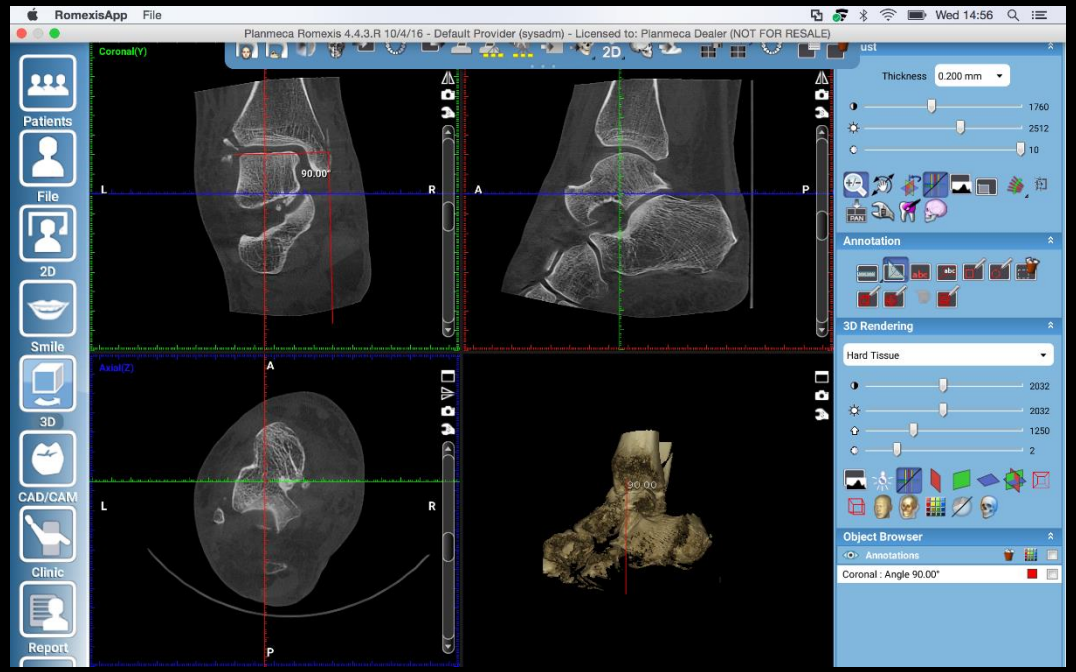
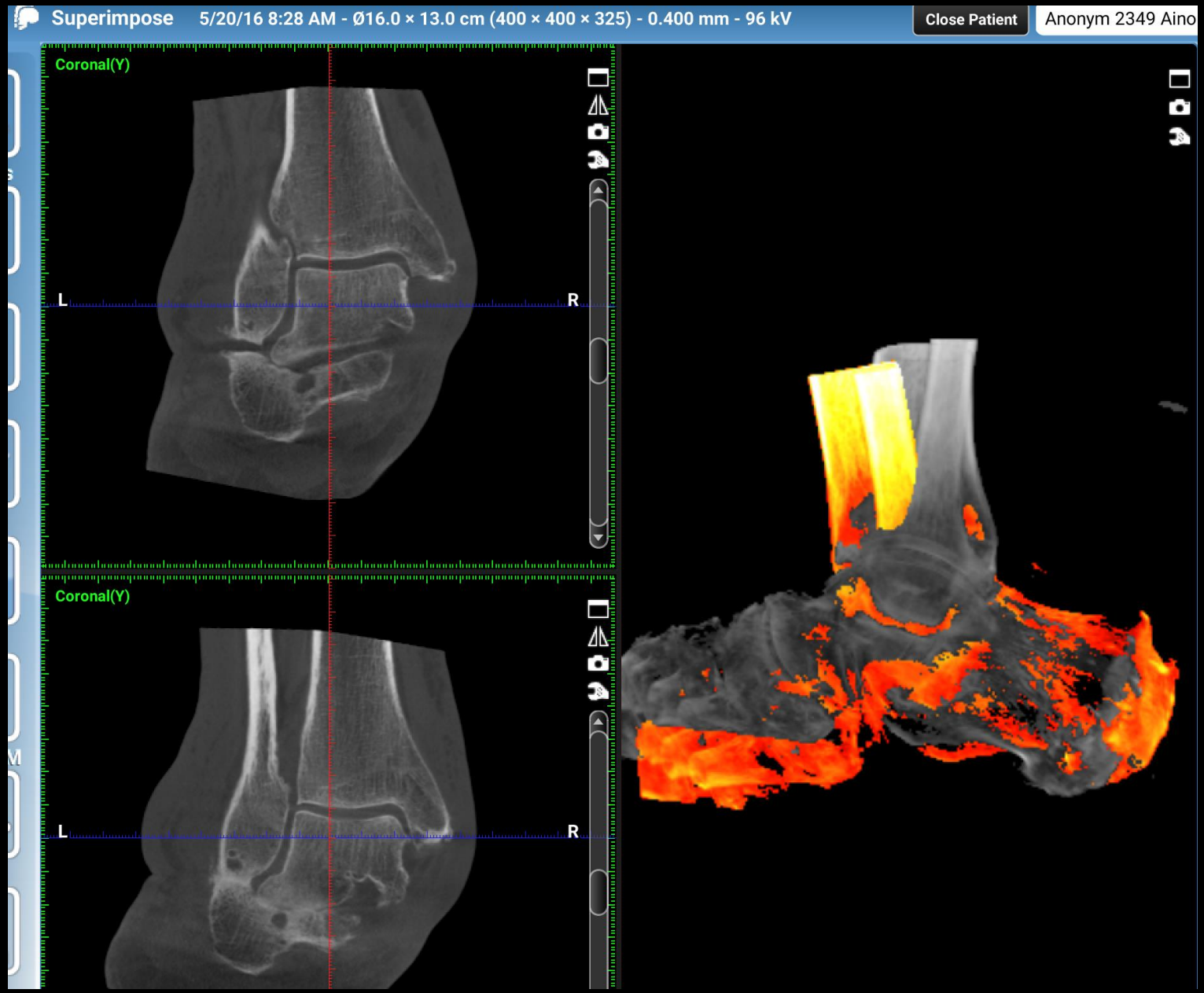


Image review – with Planmeca Romexis

Comparison of sitting and standing image with superimposition

Comparison of sitting and standing image with superimposition

Side by side review of both scenarios



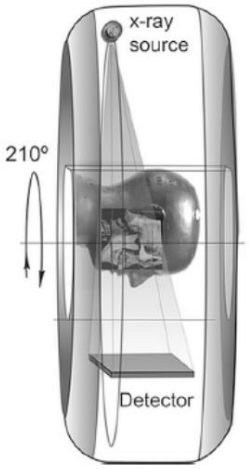
Head & Neck Imaging

Two comfortable options for extending your equipment utilization

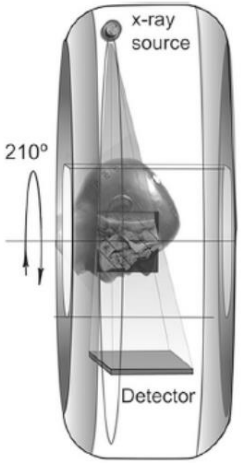
Head & Neck imaging to meet your ENT and basic 3D dental imaging needs. Good dose/image quality ratio

MaxScan for sinus studies and maxillofacial traumas with easily approachable patient positioning

Maxillofacial Imaging



Head & Neck Imaging



Maxillofacial Imaging

Effective patient dose (96kV/7.5mA)

Head&Neck: 151uSv

Maxillofacial imaging: 105uSv

Image quality	Head&Neck	Maxillofacial
Sinus	Good	Adequate
Ear	Adequate	Adequate
Maxilla/teeth	Good	Good
Madible/teeth	Clear	Good

In comparison:

MSCT effective patient dose 781uSv. Image quality adequate-good

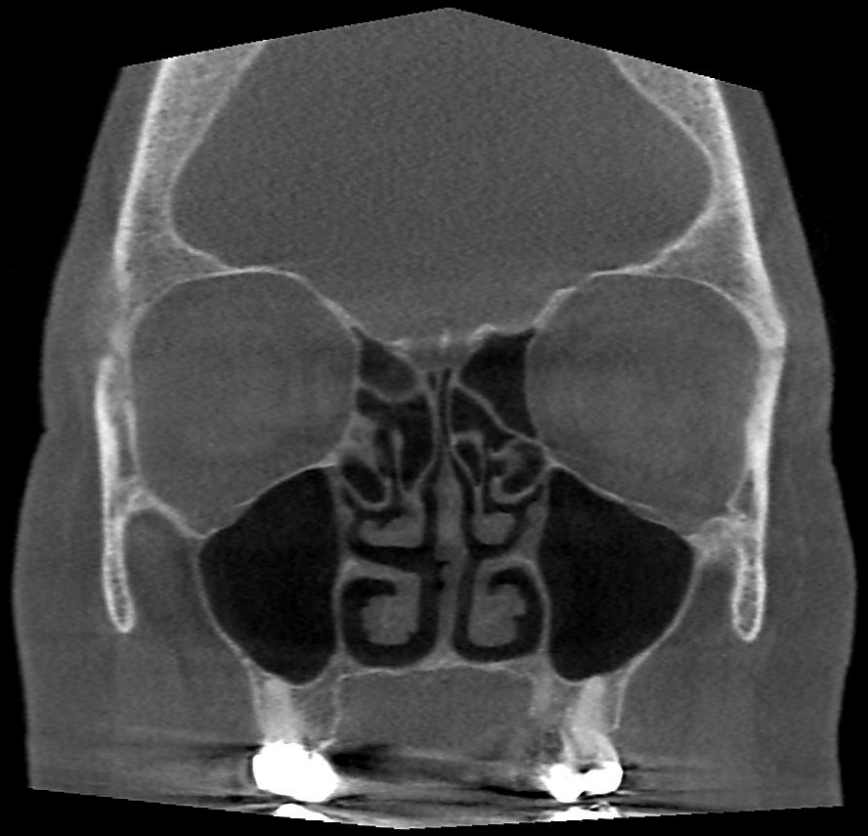
Head&Neck (96kV/12mA) effective patient dose 256uSv. Image quality clear

Koivisto J, van Eijnatten M, Järnstedt J, Holli-Helenius K, Dastidar P, Wolff J. Impact of prone, supine and oblique patient positioning on CBCT image quality, contrast-to-noise ratio and figure of merit value in the maxillofacial region. Dentomaxillofac Radiol 2017; 46: 20160418.

Options for sinus studies

MaxScan

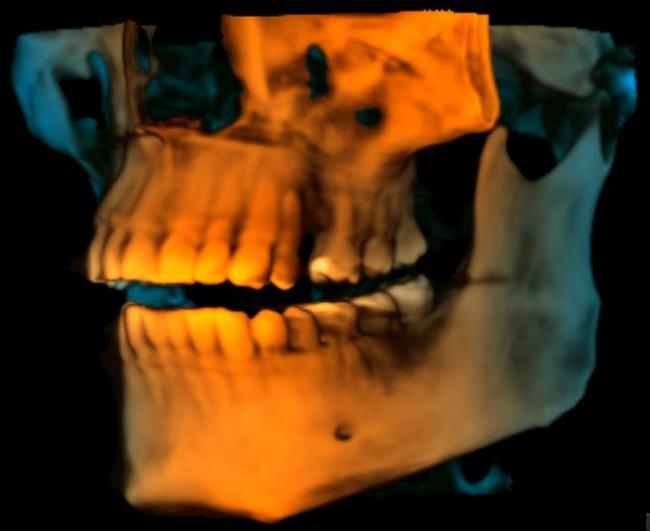
96kV 72maS

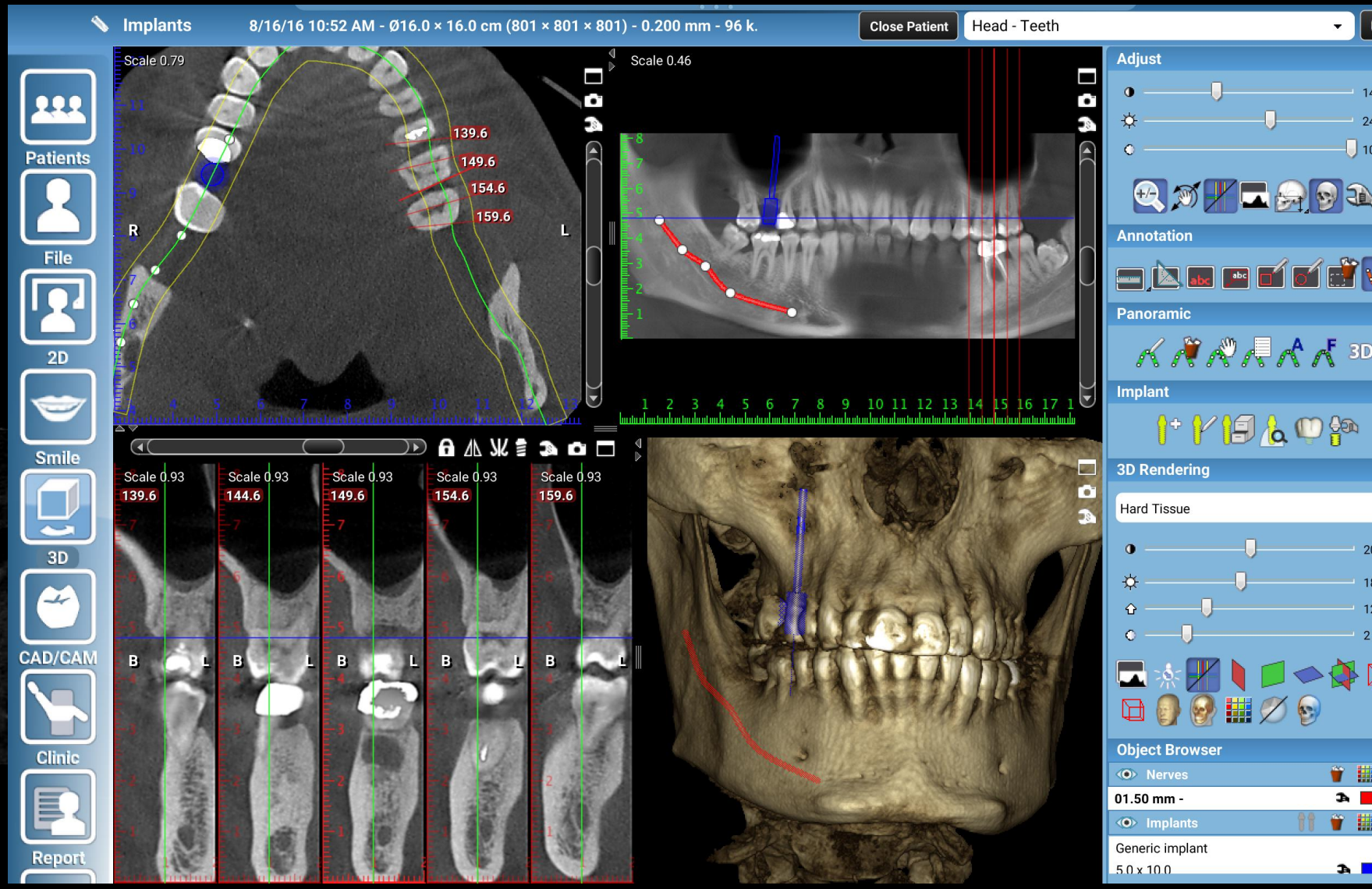


Head&Neck

96kV 36mAs

Dental imaging with head&neck option

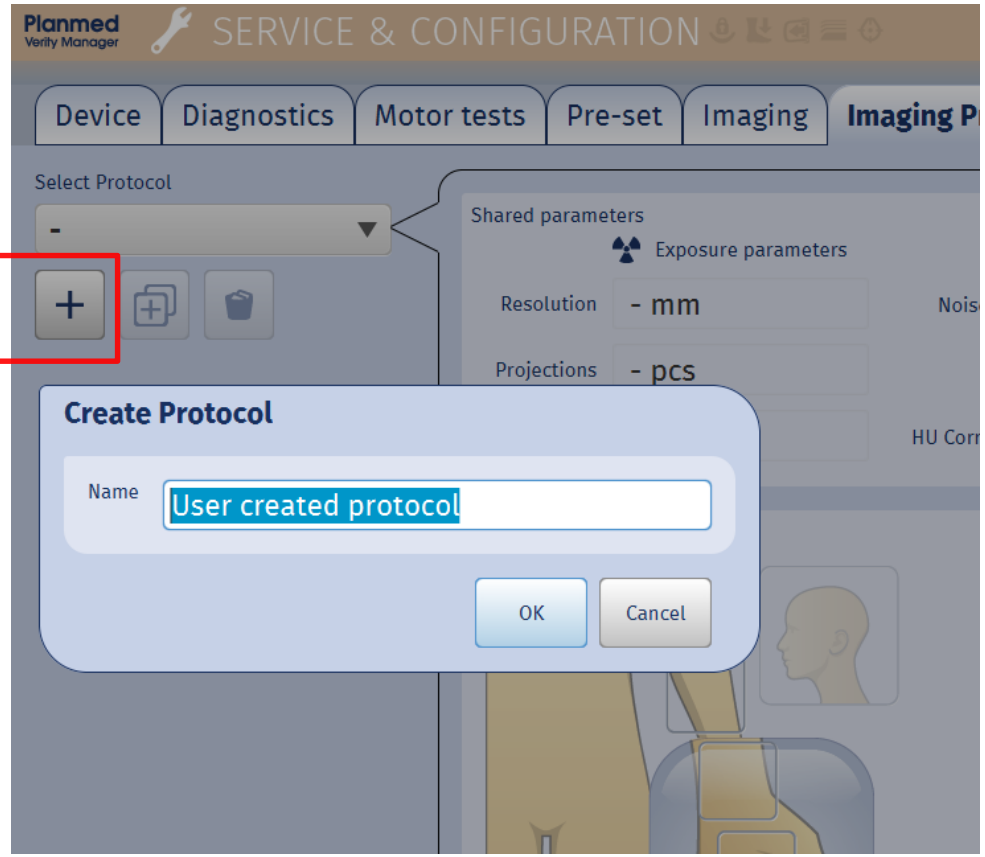


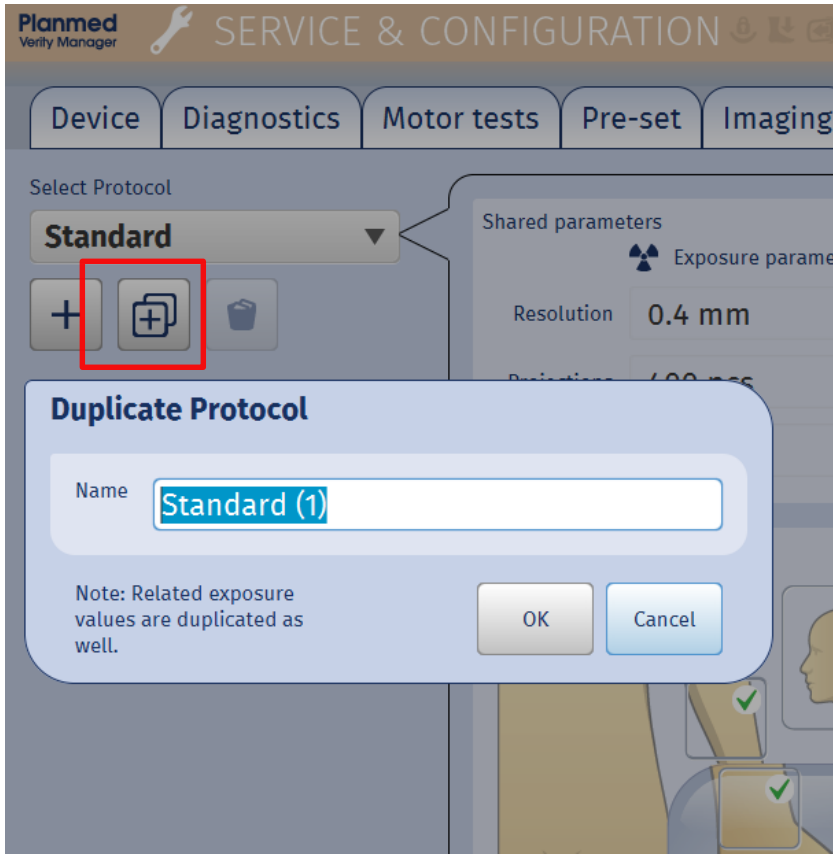


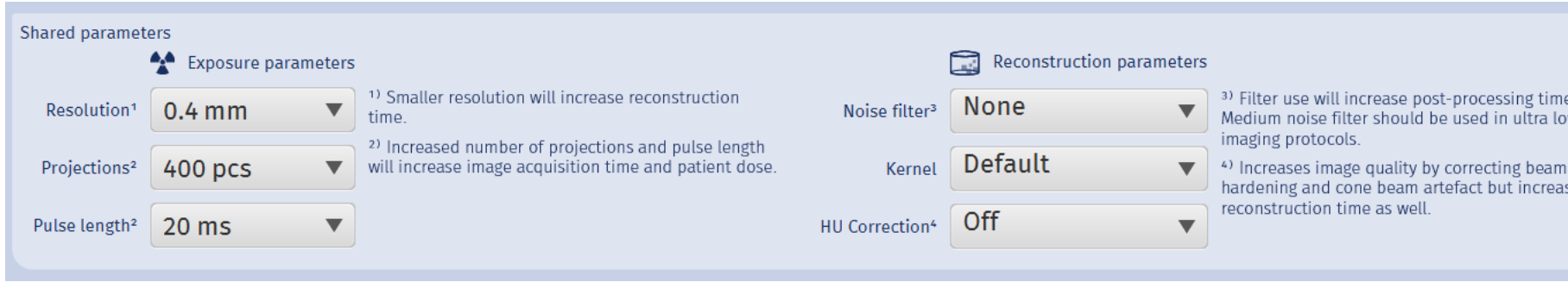
Imaging Protocols

- Create New Protocol
  - Exposure parameters
  - Reconstruction parameters
  - Optimise you dose/image quality

- Duplicate Protocols
  - High Defination
  - Standard
  - Ultra Low Dose



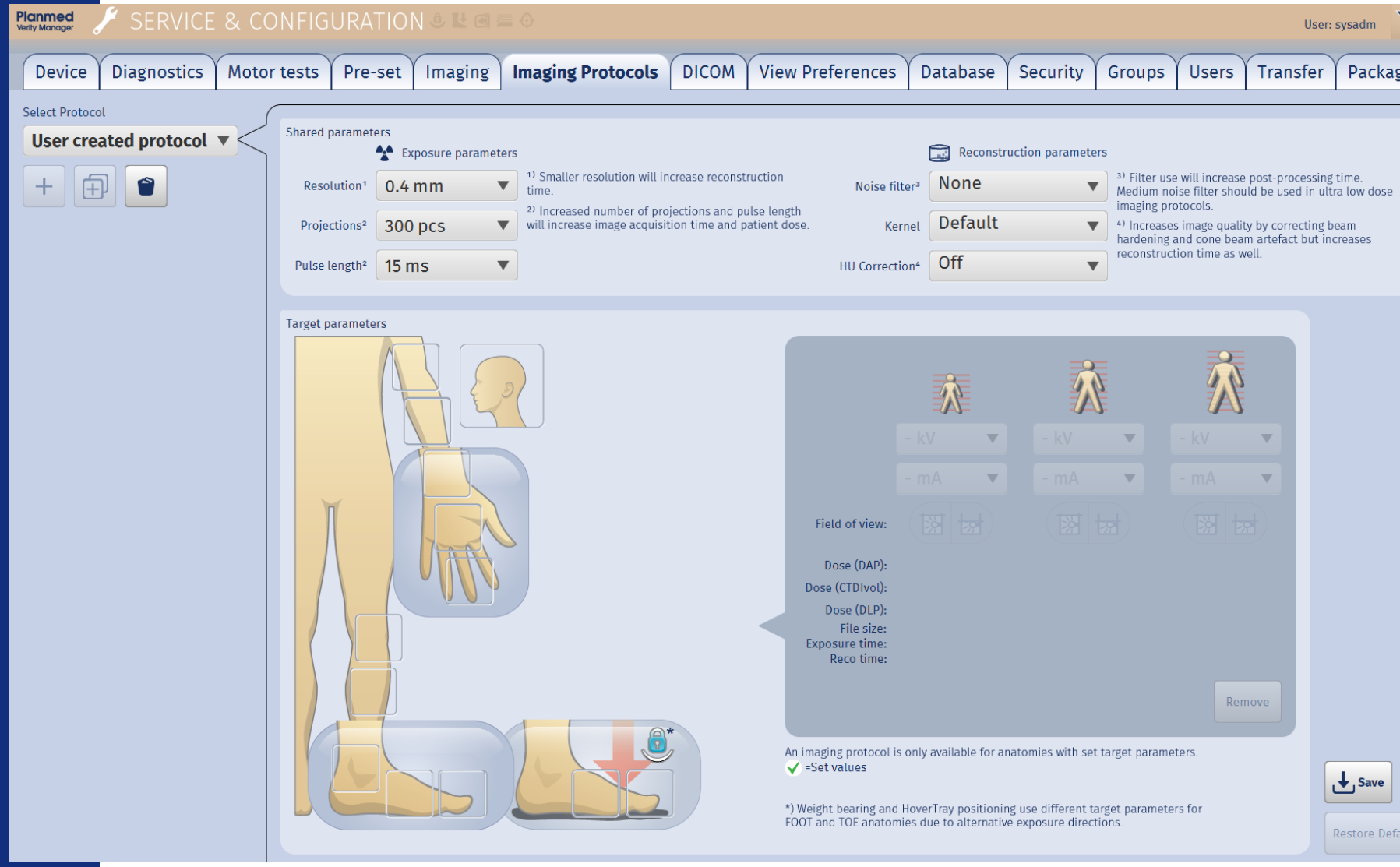




Modify Target Parameters

Create personal protocols

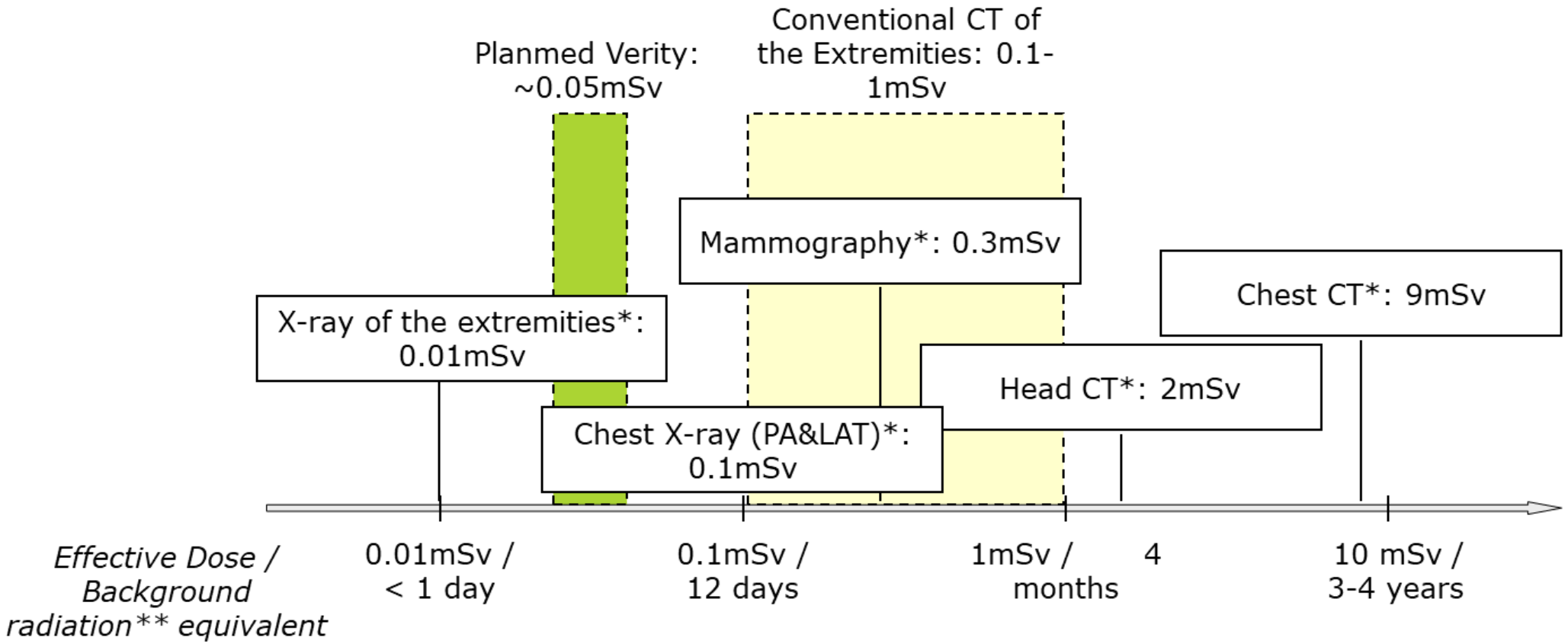
- Resolution
  - 0.4 or 0.2mm
- Projections
  - 300, 400, 500 and 600 pcs
- Pulse length
  - 15, 20, 25, 30, 35 and 40ms
- Noise filter
  - None, Light, Medium and Strong
- Kernel
  - Default, Soft and Sharp
- HU Correction
  - On or Off



Anatomy specific protocols and positions

- Standard
- High Definition
- **Ultra Low Dose**

Typical Patient Doses in Medical Imaging



* STUK (Finnish Radiation and Nuclear Safety Authority)

** STUK, based on average radiation dose from background radiation in Finland

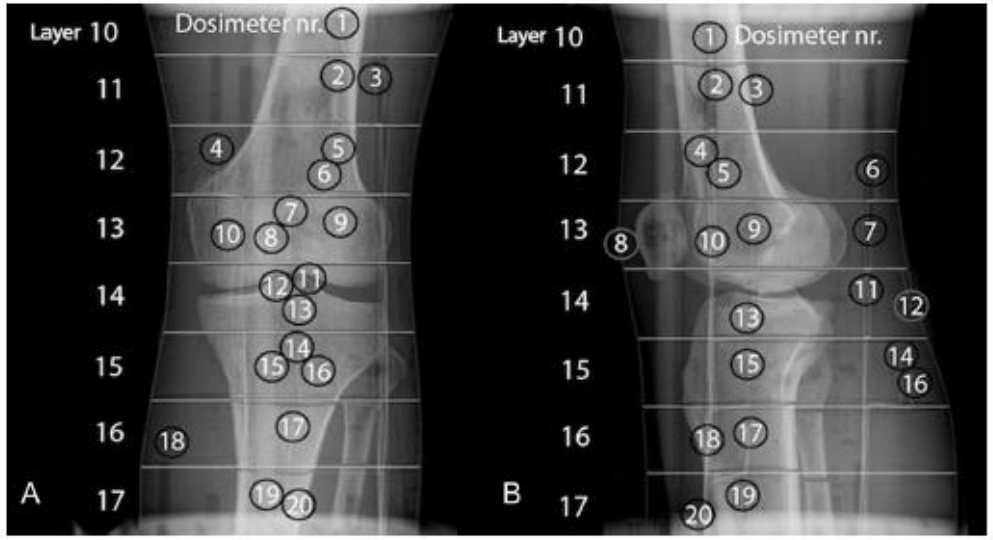
Planmed Verity dose compared to other modalities

EFFECTIVE DOSE FROM X RAY FOR KNEE USING MOSFETS

Table 4. Equivalent and effective doses (μSv) for the imaging of a knee with MSCT, CBCT and conventional radiography examinations.

X-ray unit	Bone marrow	Bone surface	Skin	Remainder tissues		One knee effective dose
				Lymphatic nodes	Muscles	
Siemens Sensation Open	29.8	5.7	4.5	0.6	7.3	48.0
GE Lightspeed VCT	19.7	4.1	3.3	0.5	4.9	32.4
Siemens Somatom Definition AS+	17.2	3.2	2.8	0.4	3.7	27.3
Planmed Verity	7.4	2.3	1.2	0.1	1.6	12.6
Shimadzu LD 150	1.7	0.5	0.3	0.0	0.4	3.0

Dosemeter no.	Layer	Location	Tissue
1	10	Femur	Bone marrow
2	11	Femur	Bone marrow
3	11	Vastus lateralis	Muscle
4	12	Vastus medialis	Muscle
5	12	Femur	Bone marrow
6	12	Biceps femoris	Muscle
7	13	Popliteal fossa	Lymphatic nodes
8	13	Patellar tendon	Skin
9	13	Internal condyle	Bone marrow
10	13	Medial condyle	Bone surface
11	14	Popliteal fossa	Lymphatic nodes
12	14	Back of knee	Skin
13	14	Internal tuberosity	Bone marrow
14	15	Popliteal fossa	Lymphatic nodes
15	15	Internal tuberosity	Bone marrow
16	15	Gastrocnemius	Muscle
17	16	Tibia	Bone marrow
18	16	Peroneus longus	Muscle
19	17	Tibia	Bone marrow
20	17	Tibialis anterior	Muscle



Koivisto, J, Kiljunen, T, Wolff, J, and Kortesniemi, M: Assessment of effective radiation dose of an extremity CBCT, MSCT and conventional x ray for knee area using MOSFET dosemeters. Radiat. Prot Dosimetry Advance Access published July 3, 2013, doi: 10.1093/rpd/nct162

Planmed

PLANMECA GROUP

Better care through innovation