

A 3D Cone beam CT scan of a human jaw and spine. The jaw is shown in a cyan color on the left, and the spine is shown in a red color on the right. The image is split vertically by a white line.

3D Cone beam CT
& Digital Radiography
Dedicated to Otorhinolaryngology

RAYSCAN 



Multi-functional imaging solution

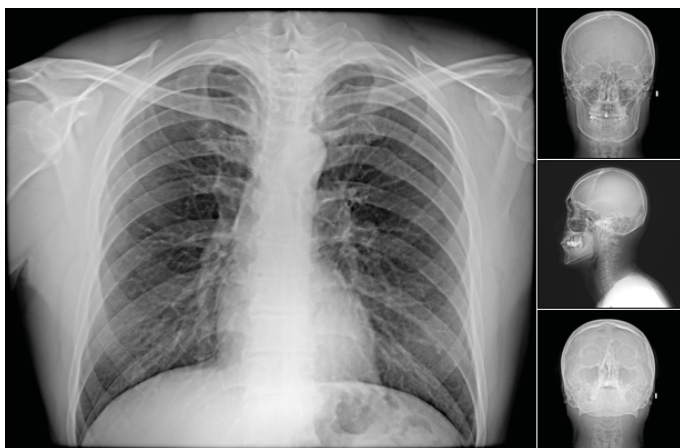
RAYSCAN m+ is an unique 2-in-1 imaging solution, combining Cone Beam CT and Digital Radiography, designed for ENT specialists.





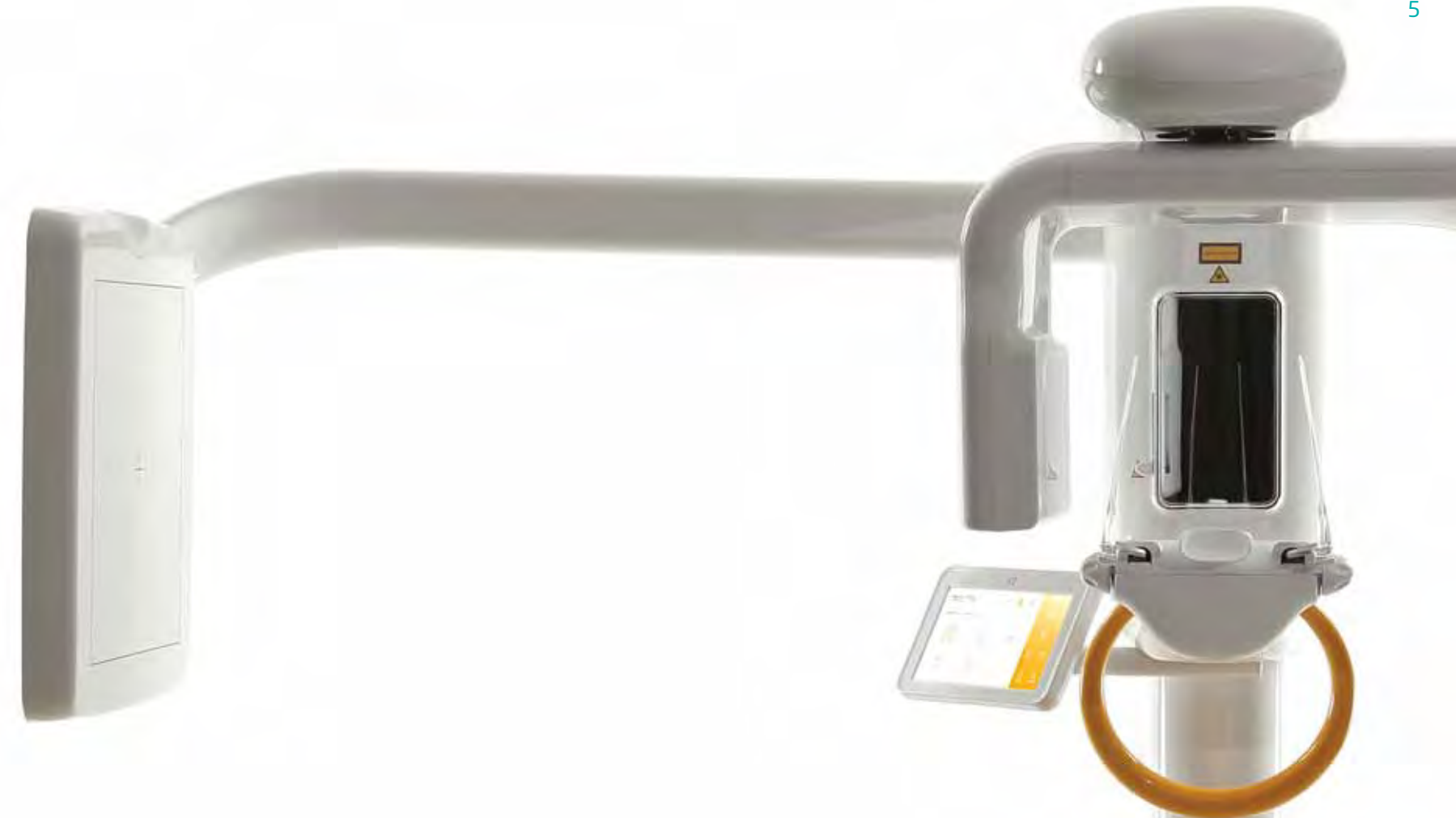
3D CBCT applications

- Otology and cochlear Implant
- Neurotology and temporal bone
- Rhinology and sinus surgery
- Pediatric otorhinolaryngology



2D Digital radiography

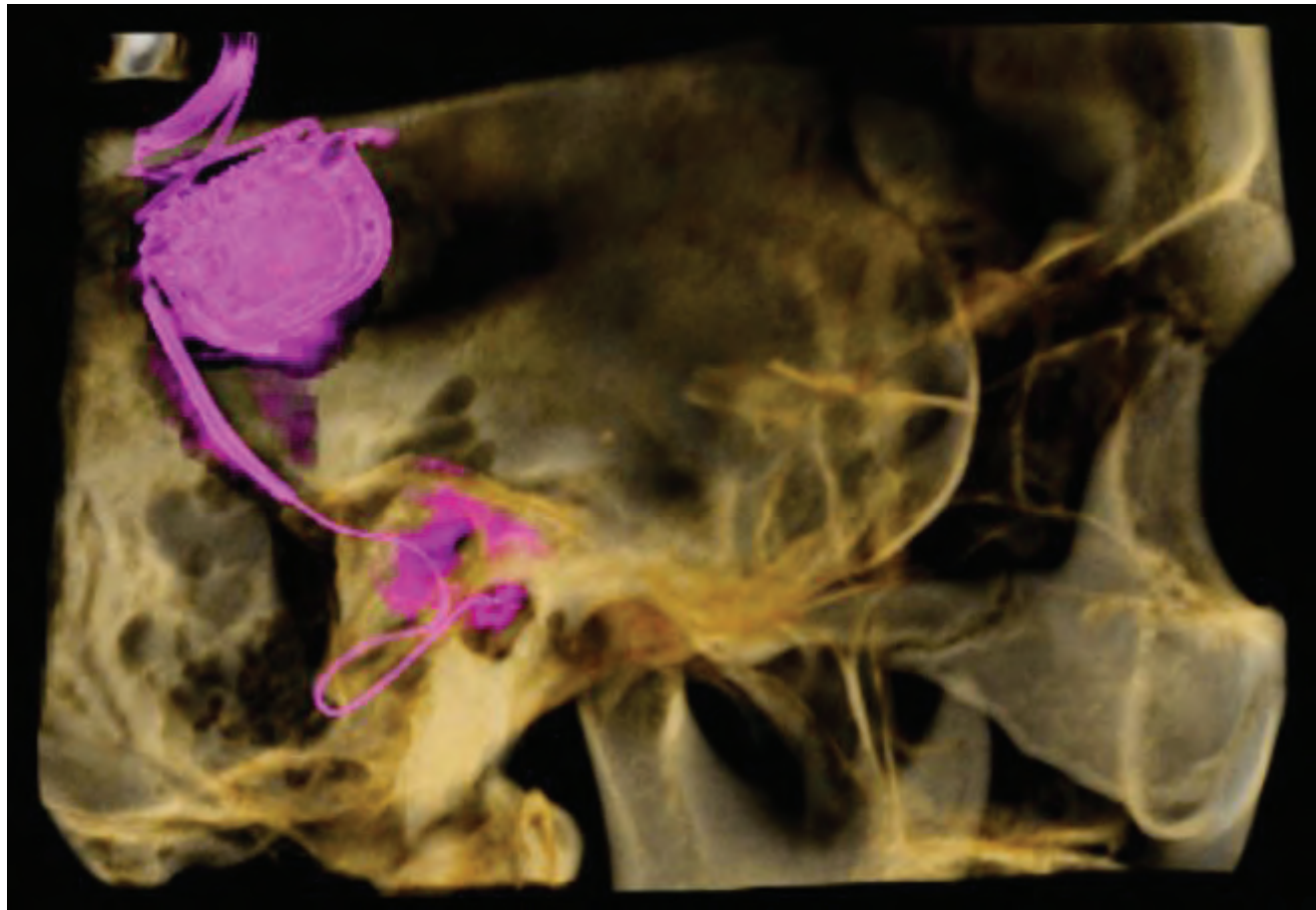
- Chest exam : PA / AP / Lateral
- Laryngology
- Skull : PA / AP / Lateral / Waters
- Neck



RAYSCAN m+

The state-of-the-art CBCT technology provides more accurate 3D images and 2D digital radiography options lead you to the best possible outcomes

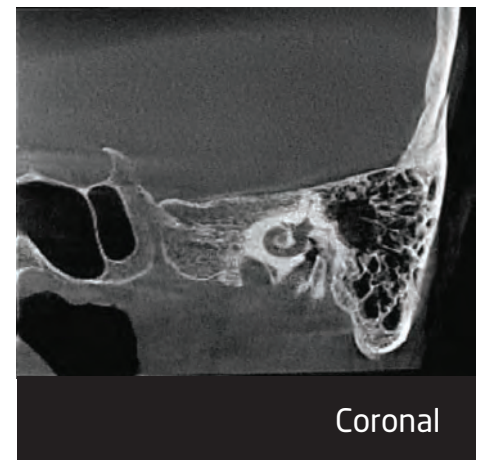
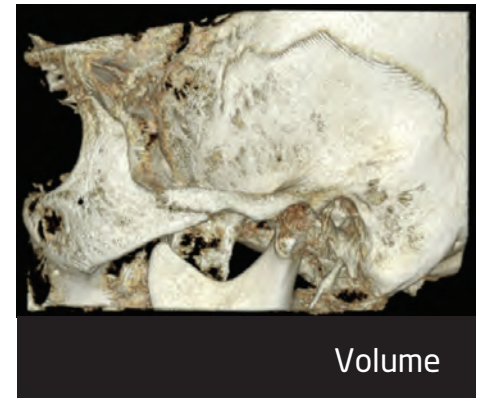
Otology & Neurotology



Diagnosis > Planning > Treatment

High definition CT quality enables to make precise diagnosis even on small anatomic structures of cochlea and auditory ossicles.

* Images are courtesy of SOREE Ear Clinic



Diagnosis › **Planning** › Treatment

Case study of cochlear implant planning

The application of CBCT to cochlear implant surgery

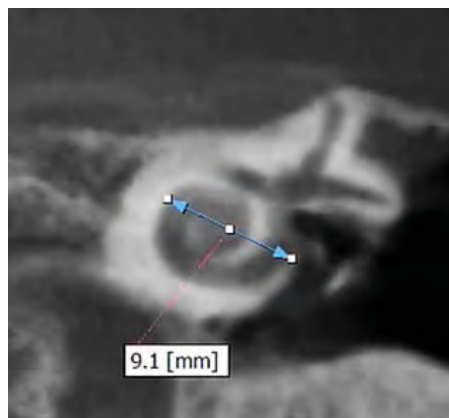
"An accurate measurement of the length of the cochlea is a selection of the optimal type of implant, which is essential for preserving residual hearing as maximally as possible."

"Using a high resolution cone beam CT, a line passing from the round window and the spiral center of the cochlea to its lateral wall can be correctly drawn. Thus, the length of the cochlea is measured."



Dr. Bae, SC
the principal doctor of
the Soree Ear Clinic

SOREE  EAR CLINIC

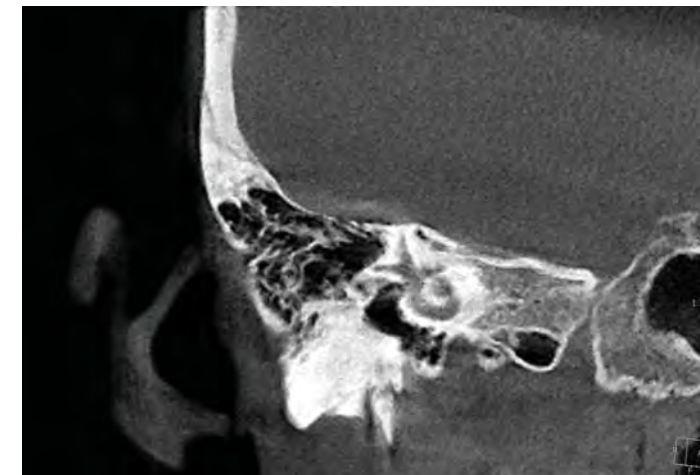


Cochlea length
 $= 2.62A \times \ln(1.0 + \theta/235)$
 $= 2.62A \times \ln(1.0 + 990/235)$
 $(\theta = 2 + 3/4 \text{ turn} = 990^\circ)$

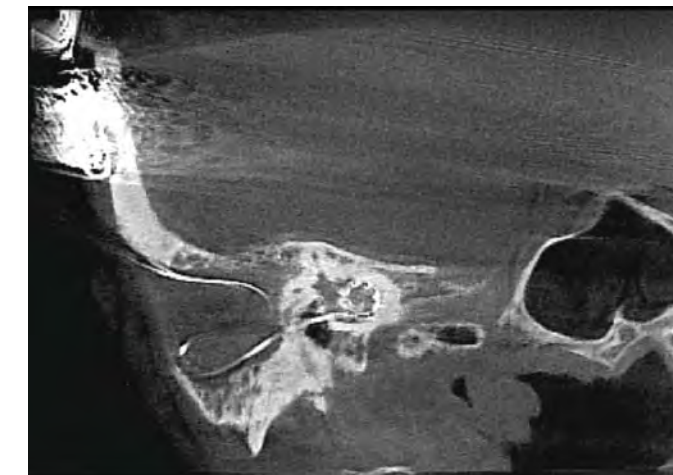
by Escude et al. 2006

Diagnosis › Planning › **Treatment**

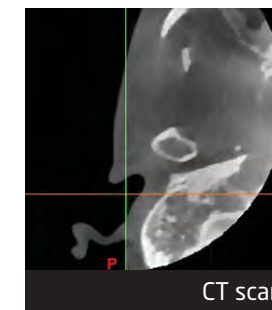
Diagnosis before implant surgery



Follow-up after implant surgery



Ray Digital solution I : Hearing Aid CT to shell printing *



CT scan



Direct STL



Digital Design



RAYDENT (3D printing)

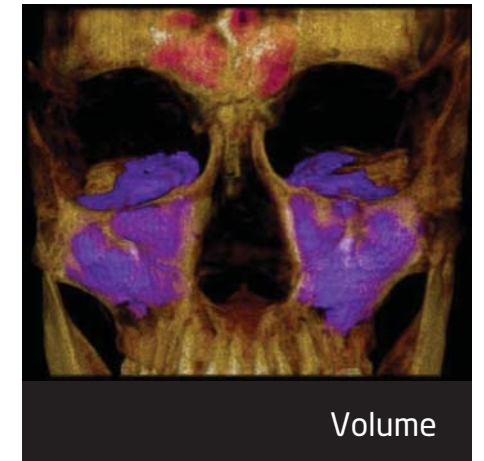
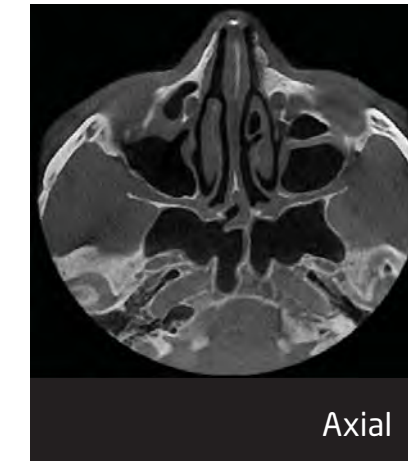
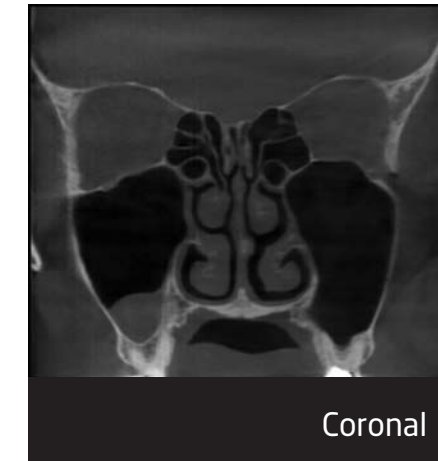
* In progress of regulatory approval. Will be available in market soon. **Opened to discuss business partnership**

Rhinology & Sinus

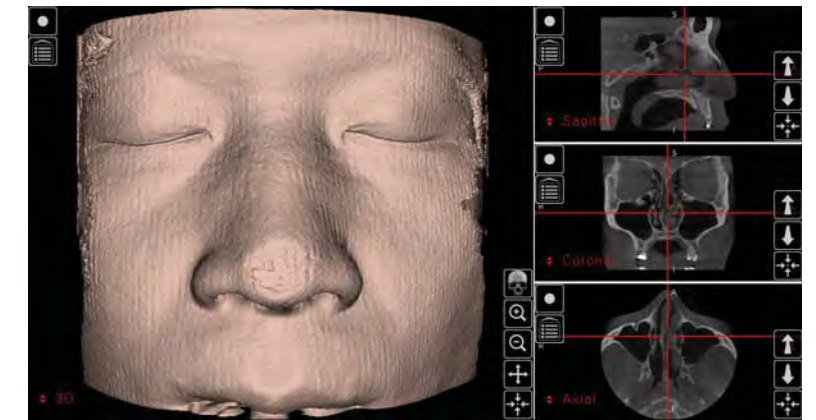


Diagnosis > Planning > Treatment

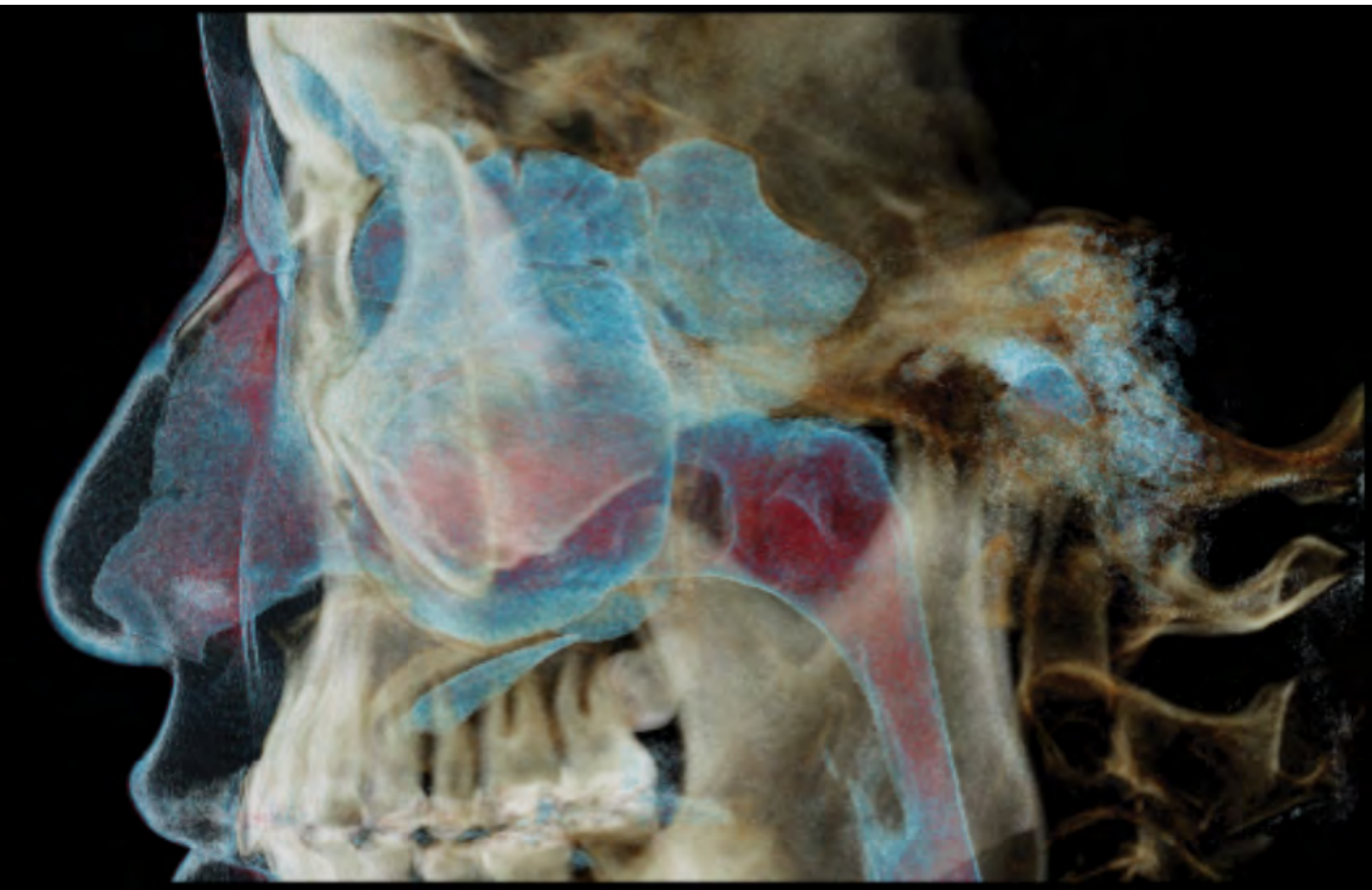
Clear 3D images of sinus visualize detailed morphological information among air, bones and soft tissues.
You can see more complete view of the anatomy which is not seen on 2D.



Integration with ENT navigation



Sleep Disorder



Diagnosis > Planning > Treatment

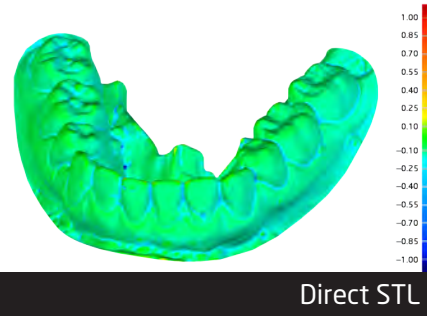
RAYSCAN m+ provides 3D CT diagnosis for patient airway related to obstructive sleep apnea(OSA) which can be directly printed for OSA treatment.

Ray Digital solution II: Sleep apnea CT to sleep appliance printing *

1 Patient exam by 3D CT



2 CT scan of tooth information



3 Customized OSA by a design lab

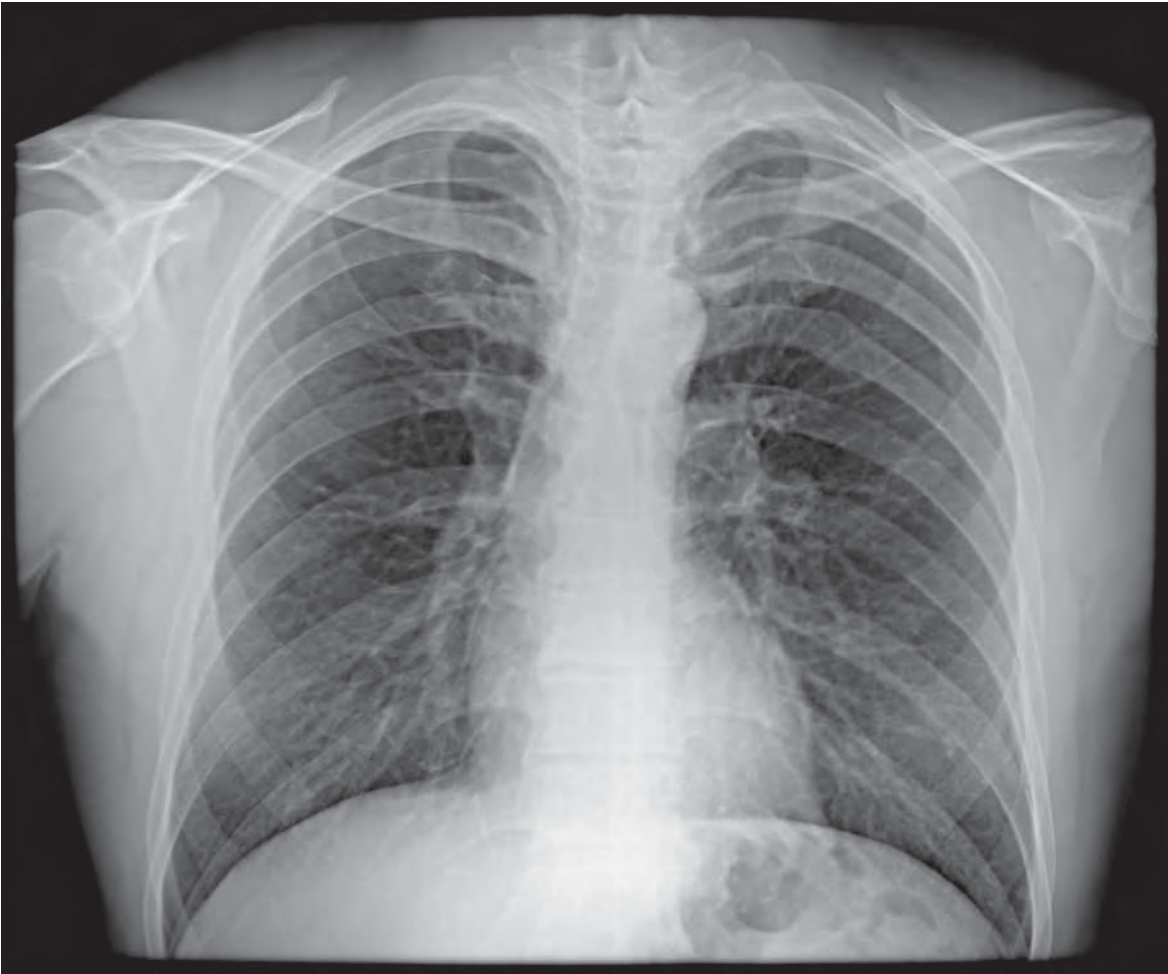


4 3D Print@your.clinic



* In progress of regulatory approval. Will be available in market soon. **Opened to discuss business partnership**

2D Radiographic Diagnosis



Medical grade 2D diagnosis

Medical grade detectors provide high resolution images for each clinical practice.



43x43 cm
a-Si Detector
127um



Chest : PA, AP, Lateral
- Foreign body aspiration
- Lung condition



Neck : Lateral
- Epiglottitis, esophagus, trachea
- Sphenoid, frontal, ethmoid adenoids, tonsils, cervical vertebrae



Skull : PA
- Maxillary sinus



Skull : Waters
- Maxillary sinus



26x24 cm
CdTe Detector*
100um

* Direct conversion



Skull : Lateral
- Epiglottitis, esophagus, trachea
- Sphenoid, frontal, ethmoid adenoids, tonsils



Skull : PA
- Maxillary sinus



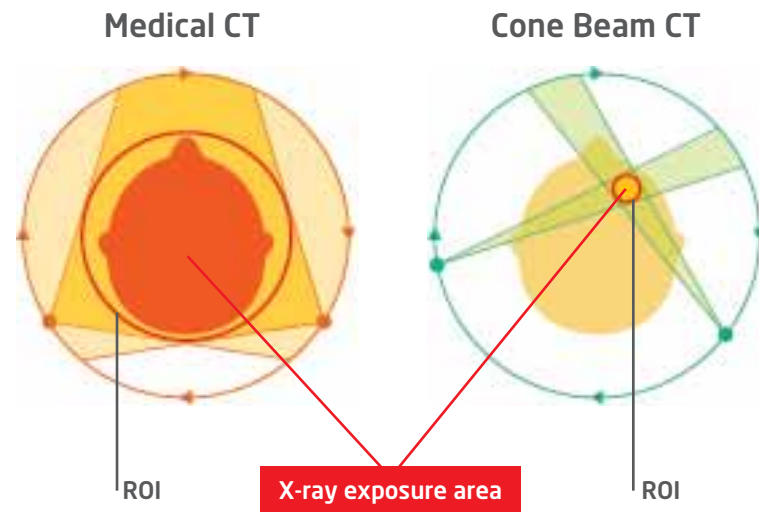
Skull : Waters
- Maxillary sinus

Our ways toward patient safety

High ← Dose Level → Low

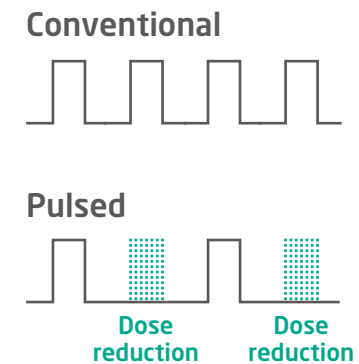
1 Less radiation dose with Cone Beam CT

Cone Beam CT has lower radiation dose than conventional medical CT exam, according to many known scientific papers. A key ability of cone beam CT is to change the field-of-view by modulating the cone beam width. Tight beam-width and shorter scans also contribute to reducing radiation doses.



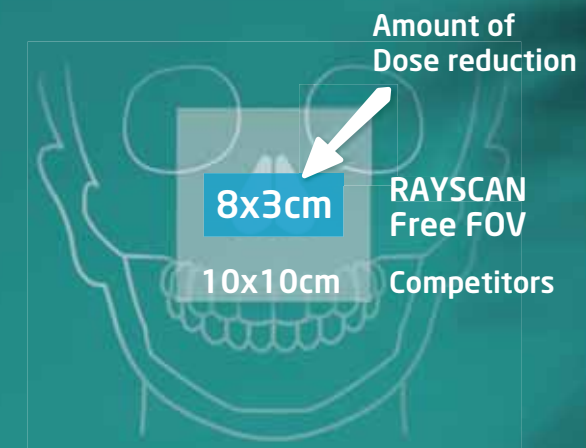
2 Short Pulsed X-ray

Pulsed X-ray operates to admit short pulse of X-ray into patient that relatively reduce radiation dose than continuous one.



3 Visible Light Guide

Simply move the visible guiding light to select the area of interest for diagnosis.



Single touch of practice operations



Wide touch screen

- 10" wide monitor and intuitive user interface
- Image preview to verify your exam

Wireless remote control

High sensitivity and non-directional make easy operation



Protocol selection



Motorized positioning











Motorized height adjustment to set correct patient position



Free FOV / Light Guide



Clinical field-of-views

3D Applications		Free FOV (Light Guide Range)		2D Applications		Free FOV (Light Guide Range)	
		Min.(cm)	Max.(cm)			Min.(cm)	Max.(cm)
ENT	Sinus 	12x3	15x10	DR	Chest 	8x8	42x42
	Ear 	L/R 12x6 Both 12x6	16x10	DR • Scan Ceph	LAT 	8x8	42x42 • 26x24
OSA	TMJ 	L/R 8x6 Both 12x6	12x10 16x10		PA/AP 	8x8	42x42 • 26x24
	Airway 	12x3	16x10		Waters 	8x8	42x42 • 26x24
	Jaw 	8x3	12x10		Carpus 	8x8	42x42 • 26x24

Light Guide Free FOV



Technical specifications

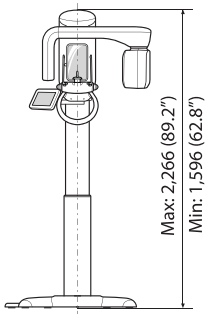
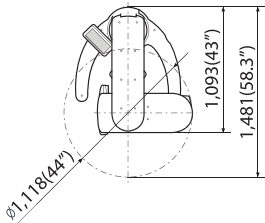
RAYSCAN m+ (Model: RCT710)

Specifications are subject to change without prior notice.

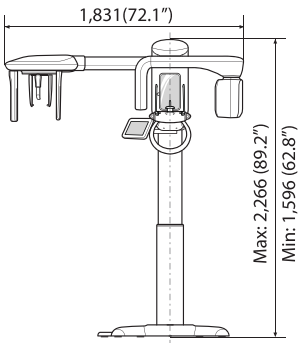
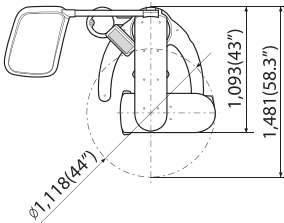
Patient positioning	Standing (wheelchair accessible)		
Focal spot	0.5mm		
Tube current	4~17mA		
Tube voltage	60~90kVp		
Detector type	CT (Default)	Scan Ceph (Option)	DR (Option)
	CMOS	CdTe detector	a-Si TFT
FOV / Image size	Max. 16x10cm	Max. 26x24cm	Max. 42x42cm
Free FOV support	Yes	Yes	Yes
Voxel / Pixel size	180~400μm	100μm	127μm
Exposure time	14sec	4.9~9.9sec	Max. 3sec (0.2~0.8)

(Unit : mm / inch)

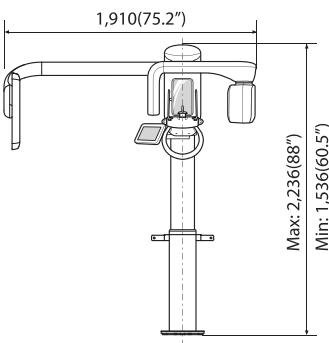
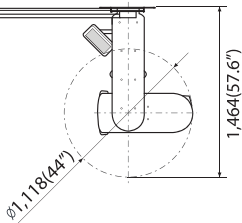
CT



Scan Ceph



DR





Ray Medical(HK) Limited

15/F, Langham Place, 8 Argyle Street, Mong Kok, Kowloon

Tel. +852 6112 1239

Email info@RayMedical.com.hk

Web www.raymedical.com.hk



332-7, Samsung1-ro, Hwaseong-si, Gyeonggi-do, 18380, Korea

Tel. +82 31 605 1000 **Web** www.raymedical.com