

# Cranex

## Planmeca Tome

(MS) (DDS) (DDS) (DDS) \*

s.t\_mohtavipour@yahoo.com:

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Cranex Tome Planmeca

ion – chamber

% sample paired test Cranex Tome

/ mSV Cranex Tome / mSV

/ mSV Cranex Tome / mSV

Cranex Tome

/ / :

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Danforth

Planmeca 2002 CC praline

.( )

Hayakawa

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Lecomber .( )

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)  
 ( Cranex Tome %  
 (Sordex,Finland) .( )  
 .( )  
 Cranex Tome

SPSS  
 sample paired test

%

(USA,Arrow-tech) ion chamber



( )  
 ( )

focal trough

planmeca EC

( Helsinki,Finland ) proline

(planmeca Cranex Tome)

( )

paired

Planmeca

Cranex Tome Planmeca

%

sample

( )

Cranex Tome

**planmeca**

(mSV)						
	S	mA	KVP			
/				A		
/				B		
/				C		
/				D		
/				E		
/				F		
/				G		
/				H		

:S

**Cranex Tom**

(mSV)						
	S	mA	KVP			
/				A		
/				B		
/				C		
/				D		
/				E		
/				F		
/				G		
/				H		

**Planmeca Cranex Tome**

		Cranex Tome	planmeca		
NS	/	/	/	A	
NS	/	/	/	B	
NS	/	/	/	C	
NS	/	/	/	D	
NS	/	/	/	E	
NS	/	/	/	F	
NS	/	/	/	G	
NS	/	/	/	H	

NS: Non Significant

Isoardi . TLD  
 Gijble . ion chamber TLD  
 . ( DWP) dose – width product  
 DWP . ( )  
  
 m Sv planmeca .  
 . / m Sv , Cranex Tome / Isoardi .  
 Danforth ion-chamber  
 Planmeca 2002 CC Proline . ( ) DWP TLD  
 TLD TLD ion-chamber  
 . ( )  
 mA KVP .  
 ion- chamber  
 /  
 Danforth  
  
 Danforth  
 Cranex Tome  
 Planmeca EC Porline  
 Lecomber .  
 / Planmeca 2002 CC Proline  
  
 Gigbles .  
 . ( ) TLD TLD  
 Planmeca EC  
 . Cranex Tome Proline  
 . ( ) Danforth ( ) Lecomber / Cranex Tome  
 Lecomber / Planmeca EC Porlin  
 Orthophos . ( )

planmeca CC Proline	( )	TLD
/ mA	KVP	
	KVP	
/ ( ) white		/ mA
/ / mSV	Cranex Tome	Cranex
/ / mSV		Planmeca Tome
White		Lecomber
		Lecomber

( ) White .

/ mSV

µSV

/ ×

Cranex Tome

Orthophos

planmeca 2002 EC porline

White

white

Cranex Tome

%

Hayakawa

( )

Orthophos

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## Comparison of Skin Absorbed Dose in Thyroid Gland Area of Planmeca and Cranex Tome Panoramic Machines

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### Abstract

**Introduction:** The goal of health physics is to prevent the occurrence of deterministic effects and to reduce the likelihood of stochastic effects by minimizing the exposure of patients and radiation workers during radiographic examination. Regarding to panoramic radiography is the most common radiograph in the head and neck region and thyroid gland is the most sensitive area and also the extensive variety in panoramic machines, this comparative study was designed.

**Objective:** Comparison of skin absorbed dose in thyroid gland area of planmeca and cranex tome panoramic machines.

**Materials and Methods:** In this in vitro study a dry skull and a Pocket ion-chamber dosimeter were used. At first, panoramic examination was done in different exposure conditions for small, medium, large and child patients in planmeca machine. After every exposure, the charge of dosimeter was read and recorded. These stages were repeated for Cranex Tome Machine. Then statistical analysis was performed by sample paired test with %95 confidence.

**Results:** In both panoramic machines, the highest mean thyroid skin dose was detected in large size patient and in the highest level of exposure factors. The mean values of doses were recorded 0.11 mSV in planmeca machine and 0.14 mSV in Cranex Tome machine. There was the least mean absorbed dose in child programs and 0.03 mSV in planmeca machine and 0.02 mSV in Cranex Tome machine. There was no significant statistical difference between mean absorbed doses in patients with different size in two panoramic machines

**Conclusion:** There was no difference between two panoramic machines for thyroid skin dose .Child program reduced thyroid skin dose definitely in both systems.

**Key word:** Radiography, Panoramic /Radiometry/Thyroid gland

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