

Redacted. Full documents delivered upon deposit.

DIAGNOSTIC X-RAY SURVEY

INSTITUTION:

LOCATION:

ROOM:

MA RCP

Contact:

DATE: 29 November 2018

30 med., 2 dental

RG>

SYSTEM (Make & Model): GE Definium 8000

RADIOGRAPHIC max kV: 150 mA: 1000

EQUIPMENT CHECKS: RADIOGRAPHY

Features	Status	Comments
GENERATOR:		
kV Indicator	OK	
mA Indicator	OK	
Exposure Time Function	OK	
Beam-on Indicator	OK	
Audible Beam-on Tone	OK	

X-RAY SOURCE DESCRIPTION

1. Overhead Radiographic

MAJOR ACCESSORIES

1. GE bucky table
2. GE chest detector

SIGNATURE REQUIRED ON PAGE 4

NATURE OF SURVEY

Initial _____ Routine Repeat X

Date of Last Survey: 21 Dec 2017

After Repair ? yes

Describe Repair: tube replacement

INSTITUTION:
ROOM:



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DATE: 29 Nov 2018

GENERAL CONDITIONS OF ROOM

Room Layout	Status	Comments
Arrangement of controls		
Interlock on booth door: Necessary ?	NA	
Present ?	NA	
18"/24" barrier beside window ?	Yes	56"
Viewing area \geq 1 square foot ?	Yes	30" x 36"
All room entries visible from controls ?	Yes	
Controls fixed \geq 40" from any open edge ?	Yes	66"
Adequacy of Setup	OK	

Room Entrances

	Main Door	ER Door			
Warning Light					
Present ?	Yes	Yes			
Functioning ?	Yes	Yes			
Wired to rotor ?	Yes	Yes			
Type	Backlit	Backlit			
Adequate labeling ?	Yes	Yes			
Necessary ?	Yes	Yes			
Door Interlock					
Present ?	No	No			
Functioning ?	NA	NA			
Required ?	No	No			
Adequacy of entrances	OK				

COMMENTS

None

RECOMMENDATIONS

None

INSTITUTION:
ROOM:

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DATE: 29 Nov 2018

X-RAY EQUIPMENT: GE Definium 8000
X-RAY SOURCE: Overhead

USE: General

INSERT Manufacturer: GE 8/18
HOUSING Manufacturer: GE 8/18
COLLIMATOR Manufacturer: Siemens 11/11

Serial #
Serial #
Serial #

RADIOGRAPHIC CHECK-OUT

COMPONENT CHECKS

Component	Status	Comments
Filters		
Inherent ?	<input type="text" value="Yes"/>	Housing: 1.4 mm Al eq @ 75 kVp Collimator: 2.0 mmAl eq @ 70 kVp
Under operator control ?	<input type="text" value="Yes"/>	
Well secured ?	<input type="text" value="Yes"/>	
Filtration labeled ?	<input type="text" value="Yes"/>	
Additional filtration needed ?	<input type="text" value="No"/>	
Distance Indicator Accuracy		
Table Top	<input type="text" value="OK"/>	
Bucky	<input type="text" value="OK"/>	

COLLIMATION ASSESSMENT

Field Size Indicator Accuracy (Deviation between indicators and field sizes)
Measurement test distance (typically 40"): inches (= 101.6 cm)

	Crosswise		Lengthwise	
	inch	cm	inch	cm
Collimator setting:	<input type="text" value="10.00"/>	<input type="text"/>	<input type="text" value="10.00"/>	<input type="text"/>
Measured light field size:	<input type="text" value="10.00"/>	<input type="text"/>	<input type="text" value="10.00"/>	<input type="text"/>
Deviation in setting	0.00		0.00	
Deviation as % SID	+0.00%		+0.00%	
Pass/Fail (criteria: + 2%)	Pass		Pass	

Action Limit: If vertical or horizontal deviation exceeds 2% of SID, seek service adjustment.

X-Ray / Light Field Alignment (Deviation between x-ray field and light field)
Measurement test distance (typically 40"): inches (= 101.6 cm)

	Crosswise		Lengthwise	
	cm		cm	
Top edge deviation:	<input type="text" value="0.30"/>		Left edge deviation:	<input type="text" value="0.30"/>
Bottom edge deviation:	<input type="text" value="0.30"/>		Right edge deviation:	<input type="text" value="0.20"/>
Sum of top and bottom deviations:	0.60		Sum of left and right deviations:	0.50
Deviation as % SID	0.59%			0.49%
Pass/Fail (criteria: + 2%)	Pass			Pass

Action Limit: If the sum of top plus bottom edge deviations or left plus right edge deviations exceeds 2% of SID, seek service adjustment

INSTITUTION:
ROOM:

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DATE: 29 Nov 2018

Positive Beam Limitation (Deviation between field size and cassette size)

Table Bucky (40" SID)		8x10 (20x25)	10x12 (24x30)	11x14 (30x35)	14x17 (35x43)
Cassette size: inches or cm					
Field size within cassette size ?					
Status					
Chest Bucky (72" SID)				11x14 (30x35)	14x17 (35x43)
Cassette size: inches or cm					
Field size within cassette size ?					
Status					

Comment, if any: Seven collimation choices on tube head - OK

Action Limit: If horizontal or vertical deviation exceeds 3% of SID, or the sum of deviations exceeds 4% of SID, seek service adjustment.

X-RAY TUBE CHARACTERISTICS

Instrument used: Victoreen Panoramic
or Ludlum Model 9 ion chamber survey meter

Leakage from Diagnostic Source Assembly				
Observed dose rates (average):				
kV	mA	Distance from tube target	Reading	Corrected to 1 meter
60	100	0.5 meter	Background	Background
90	100	0.5 meter	20 mR/hr	5.0 mR/hr
Highest Reading:		20 mR/hr @ 0.5 meter	Location: General	
Max Continuous Operating Rating:		90/10		
Max Leakage at Max Rating:		0.5 mR/hr; 0.044 mGy/hr		

Action Limit: If leakage radiation at 1 meter from the source exceeds 100 mR or 0.88 mGy in 1 hr at maximum continuous operating conditions, seek service adjustment.

Tube Output Consistency SDD: 40 inches Instrument used: Radcal 2025 or 2026

Field size: 6" x 6"; 100 kV, 100 mAs =	1.066	R
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IMAGE QUALITY

High Contrast Resolution		Gammex Test pattern MA436				
Small Focal Spot:	2.32	Lp/mm	Technique:	kV	mAs	mR
Large Focal Spot:	2.32	Lp/mm		50	1.25	3.3
Low Contrast Resolution		Gammex C/D phantom 1151				
Row with best visibility:	4	Contrast:	9.6%	Technique: 60 kV, 10 mAs		

COMMENTS

System functioning properly.

RECOMMENDATIONS

None

Qualified Medical Physicist:

Date: 12/15/2018

Responsible Individual:
(Radiology Manager or Physician)

Date: _____

Review and sign this report, and arrange for follow up on recommendations within 30 days of report date

Data

Facility: Surveyor:
 Location: Date: November 29, 2018
 Room: ER
 System: GE Definium 8000 X-ray system manufactured after 10 June 2006 ? yes

SDD 28in

Pass/Fail Criteria			
kVp avg	10%	Time	10%

Machine Settings				
kVp	mA	FS	Sec	Al
50	100	S	0.100	
60	100	S	0.100	
70	100	S	0.100	
80	100	S	0.100	
90	100	S	0.100	
100	100	S	0.100	
110	100	S	0.100	
120	100	S	0.100	
80	100	S	0.025	
80	100	S	0.050	
80	100	S	0.100	
80	100	S	0.200	
80	100	S	0.500	
80	100	S	1.000	
80	50	S	0.100	
80	50	S	0.100	
80	100	S	0.100	
80	100	S	0.100	
80	200	S	0.100	
80	200	S	0.100	
80	320	L	0.100	
80	320	L	0.100	
80	400	L	0.100	
80	400	L	0.100	
80	500	L	0.100	
80	500	L	0.100	
80	630	L	0.100	
80	630	L	0.100	
80	100	S	0.100	
80	100	S	0.100	
80	100	S	0.100	
80	100	S	0.100	1.0
80	100	S	0.100	3.3

Measurements							
kVp avg	kV eff	kV peak	Sec	mR	mR/mAs	P/F	
49.08	48.86	49.72	0.100	53.98	5.398	Pass	
59.06	58.89	59.52	0.100	83.59	8.359	Pass	
68.94	68.78	69.30	0.100	117.50	11.750	Pass	
80.77	80.22	83.11	0.099	157.10	15.710	Pass	
90.30	89.99	91.32	0.099	197.90	19.790	Pass	
100.30	99.97	101.20	0.100	242.50	24.250	Pass	
110.20	109.90	111.20	0.100	290.10	29.010	Pass	
119.80	119.60	121.00	0.100	341.00	34.100	Pass	
79.68	79.26	80.13	0.025	38.23	15.292	Pass	
79.76	79.47	80.14	0.050	77.04	15.408	Pass	
79.85	79.63	80.39	0.100	156.20	15.620	Pass	
79.81	79.71	80.40	0.200	312.60	15.630	Pass	
79.80	79.74	80.42	0.498	783.00	15.660	Pass	
79.82	79.74	80.44	0.996	1562.00	15.620	Pass	
79.83	79.56	80.77	0.099	77.85	15.570	Pass	
79.86	79.55	80.98	0.099	78.03	15.606	Pass	
79.78	79.60	80.47	0.100	156.40	15.640	Pass	
79.81	79.59	80.28	0.100	156.70	15.670	Pass	
79.72	79.60	80.16	0.100	311.90	15.595	Pass	
79.76	79.61	80.37	0.100	312.10	15.605	Pass	
79.90	79.78	80.49	0.100	501.10	15.659	Pass	
79.91	79.78	80.27	0.100	501.10	15.659	Pass	
79.83	79.73	80.36	0.100	623.80	15.595	Pass	
79.88	79.72	80.22	0.100	621.90	15.548	Pass	
79.74	79.62	80.01	0.100	777.40	15.548	Pass	
79.72	79.63	80.02	0.100	777.40	15.548	Pass	
79.67	79.59	80.00	0.100	977.80	15.521	Pass	
79.67	79.58	79.94	0.100	977.80	15.521	Pass	
79.72	79.58	80.21	0.100	156.00	15.600	Pass	
79.78	79.58	80.21	0.100	156.40	15.640	Pass	
79.75	79.56	80.17	0.100	156.20	15.620	Pass	
80.33	80.17	80.96	0.100	128.80	12.880		
81.67	81.46	82.35	0.100	87.46	8.746		

Percent Error			
kVp avg	P/F	Sec	P/F
-1.8%	Pass	-0.2%	Pass
-1.6%	Pass	-0.3%	Pass
-1.5%	Pass	-0.2%	Pass
1.0%	Pass	-0.6%	Pass
0.3%	Pass	-0.6%	Pass
0.3%	Pass	-0.4%	Pass
0.2%	Pass	-0.4%	Pass
-0.2%	Pass	-0.4%	Pass
-0.4%	Pass	-0.6%	Pass
-0.3%	Pass	-0.6%	Pass
-0.2%	Pass	-0.4%	Pass
-0.2%	Pass	-0.2%	Pass
-0.3%	Pass	-0.4%	Pass
-0.2%	Pass	-0.4%	Pass
-0.2%	Pass	-0.6%	Pass
-0.2%	Pass	-0.6%	Pass
-0.3%	Pass	-0.2%	Pass
-0.2%	Pass	-0.3%	Pass
-0.4%	Pass	-0.2%	Pass
-0.3%	Pass	-0.2%	Pass
-0.1%	Pass	-0.2%	Pass
-0.1%	Pass	0.0%	Pass
-0.2%	Pass	0.0%	Pass
-0.2%	Pass	0.0%	Pass
-0.3%	Pass	0.0%	Pass
-0.4%	Pass	0.0%	Pass
-0.4%	Pass	0.0%	Pass
-0.4%	Pass	0.0%	Pass
-0.4%	Pass	0.0%	Pass
-0.4%	Pass	0.0%	Pass
-0.4%	Pass	0.0%	Pass
-0.4%	Pass	-0.2%	Pass
-0.3%	Pass	-0.2%	Pass
-0.3%	Pass	-0.2%	Pass
0.4%	Pass	-0.3%	Pass
2.1%	Pass	-0.3%	Pass

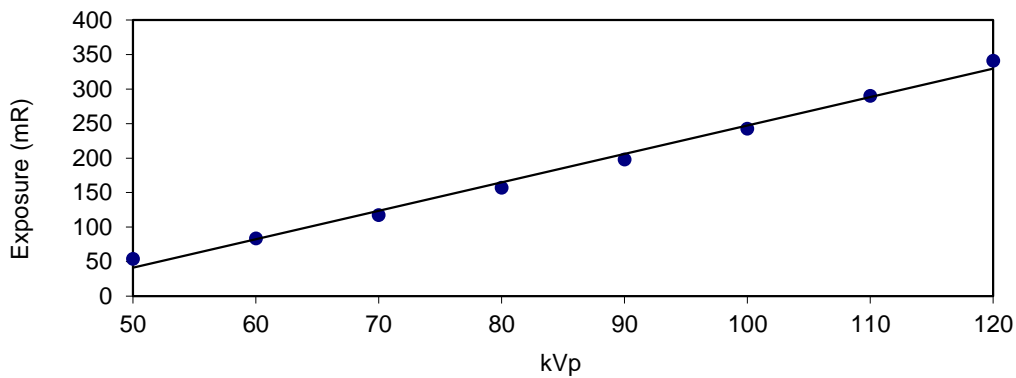
kVp Accuracy

Facility:
 Location:
 Room: ER
 System: GE Definium 8000

Machine Settings		
mA	FS	SDD
100	S	28in

Pass/Fail Criteria	
kVp avg	10%

		Measurements							Percent Error	
kVp	Sec	kVp avg	kV eff	kV peak	Sec	mR	mR/mAs	P/F	kVp avg	P/F
50	0.100	49.08	48.86	49.72	0.100	53.98	5.398	Pass	-1.8%	Pass
60	0.100	59.06	58.89	59.52	0.100	83.59	8.359	Pass	-1.6%	Pass
70	0.100	68.94	68.78	69.30	0.100	117.50	11.750	Pass	-1.5%	Pass
80	0.100	80.77	80.22	83.11	0.099	157.10	15.710	Pass	1.0%	Pass
90	0.100	90.30	89.99	91.32	0.099	197.90	19.790	Pass	0.3%	Pass
100	0.100	100.30	99.97	101.20	0.100	242.50	24.250	Pass	0.3%	Pass
110	0.100	110.20	109.90	111.20	0.100	290.10	29.010	Pass	0.2%	Pass
120	0.100	119.80	119.60	121.00	0.100	341.00	34.100	Pass	-0.2%	Pass
80	0.025	79.68	79.26	80.13	0.025	38.23	15.292	Pass	-0.4%	Pass
80	0.050	79.76	79.47	80.14	0.050	77.04	15.408	Pass	-0.3%	Pass
80	0.100	79.85	79.63	80.39	0.100	156.20	15.620	Pass	-0.2%	Pass
80	0.200	79.81	79.71	80.40	0.200	312.60	15.630	Pass	-0.2%	Pass
80	0.500	79.80	79.74	80.42	0.498	783.00	15.660	Pass	-0.3%	Pass
80	1.000	79.82	79.74	80.44	0.996	1562.00	15.620	Pass	-0.2%	Pass



Surveyor:
 Date:

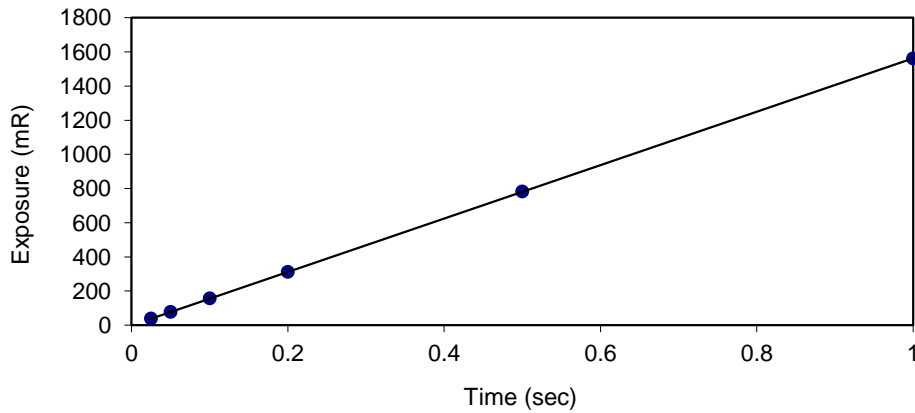
Timer Accuracy

Facility:
 Location:
 Room: ER
 System: GE Definium 8000

Machine Settings		
mA	FS	SDD
100	S	28in

Pass/Fail Criteria	
Timer	10%

		Measurements							Percent Error	
kVp	Sec	kVp avg	kV eff	kV peak	Sec	mR	mR/mAs	P/F	Sec	P/F
50	0.100	49.08	48.86	49.72	0.100	53.98	5.398	Pass	-0.2%	Pass
60	0.100	59.06	58.89	59.52	0.100	83.59	8.359	Pass	-0.3%	Pass
70	0.100	68.94	68.78	69.30	0.100	117.50	11.750	Pass	-0.2%	Pass
80	0.100	80.77	80.22	83.11	0.099	157.10	15.710	Pass	-0.6%	Pass
90	0.100	90.30	89.99	91.32	0.099	197.90	19.790	Pass	-0.6%	Pass
100	0.100	100.30	99.97	101.20	0.100	242.50	24.250	Pass	-0.4%	Pass
110	0.100	110.20	109.90	111.20	0.100	290.10	29.010	Pass	-0.4%	Pass
120	0.100	119.80	119.60	121.00	0.100	341.00	34.100	Pass	-0.4%	Pass
80	0.025	79.68	79.26	80.13	0.025	38.23	15.292	Pass	-0.6%	Pass
80	0.050	79.76	79.47	80.14	0.050	77.04	15.408	Pass	-0.6%	Pass
80	0.100	79.85	79.63	80.39	0.100	156.20	15.620	Pass	-0.4%	Pass
80	0.200	79.81	79.71	80.40	0.200	312.60	15.630	Pass	-0.2%	Pass
80	0.500	79.80	79.74	80.42	0.498	783.00	15.660	Pass	-0.4%	Pass
80	1.000	79.82	79.74	80.44	0.996	1562.00	15.620	Pass	-0.4%	Pass



Surveyor:
 Date:

Reproducibility

Facility:
 Location:
 Room: ER
 System: GE Definium 8000

Machine Settings				
kV	mA	FS	Sec	SDD
80	100	S	0.1	28in

Pass/Fail Criteria
CV
0.05

Measurements						
kVp avg	kV eff	kV peak	Sec	mR	mR/mAs	
80.77	80.22	83.11	0.099	157.10	15.710	
79.85	79.63	80.39	0.100	156.20	15.620	
79.72	79.58	80.21	0.100	156.00	15.600	
79.78	79.58	80.21	0.100	156.40	15.640	
79.75	79.56	80.17	0.100	156.20	15.620	

Avg	79.97	79.71	80.82	0.10	156.38	15.638
CV	0.006	0.004	0.016	0.002	0.003	0.003

P/F	Pass	Pass	Pass	Pass	Pass	Pass
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Photocell Comparison and Delivered Dose

Responses of Left and Right Photocells compared to Center Photocell

	Photo Cell:	Left	Center	Right	
Table Bucky	Feedback mAs:	2.72	2.62	2.57	kV set: 80
	mAs Deviation from Center Cell:	+0.1	Std.	-0.1	mA set: 320
	Skin Entry Dose (mR):	25.0	24.1	23.6	Density: 0
					Phantom: 0.5 mm Pb
Chest Bucky	Feedback mAs:	2.68	2.06	2.71	kV set: 120
	mAs Deviation from Center Cell:	+0.6	Std.	+0.7	mA set: 320
	Skin Entry Dose (mR):	13.4	10.3	13.5	Density: 0
					Phantom: 0.5 mm Pb

Surveyor:
 Date:

mAs Linearity

Facility:
 Location:
 Room: ER
 System: GE Definium 8000

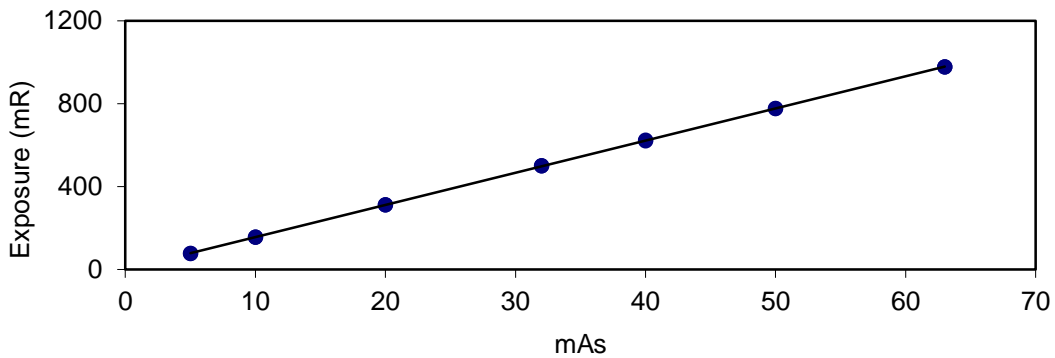
Machine Settings		
kV	Sec	SDD
80	0.1	28in

Pass/Fail Criteria		
Adjacent	Non-adjacent	
0.050		0.1

mA station	FS
50	S
50	S
100	S
100	S
200	S
200	S
320	L
320	L
400	L
400	L
500	L
500	L
630	L
630	L

Measurements					
kVp avg	kV eff	kV peak	Sec	mR	
79.83	79.56	80.77	0.099	77.85	
79.86	79.55	80.98	0.099	78.03	
79.78	79.60	80.47	0.100	156.40	
79.81	79.59	80.28	0.100	156.70	
79.72	79.60	80.16	0.100	311.90	
79.76	79.61	80.37	0.100	312.10	
79.90	79.78	80.49	0.100	501.10	
79.91	79.78	80.27	0.100	501.10	
79.83	79.73	80.36	0.100	623.80	
79.88	79.72	80.22	0.100	621.90	
79.74	79.62	80.01	0.100	777.40	
79.72	79.63	80.02	0.100	777.40	
79.67	79.59	80.00	0.100	977.80	
79.67	79.58	79.94	0.100	977.80	

mR/mAs	Linearity	P/F
15.570	-	-
15.606	0.001	Pass
15.640	0.001	Pass
15.670	0.001	Pass
15.595	0.002	Pass
15.605	0.000	Pass
15.659	0.002	Pass
15.659	0.000	Pass
15.595	0.002	Pass
15.548	0.002	Pass
15.548	0.000	Pass
15.548	0.000	Pass
15.521	0.001	Pass
15.521	0.000	Pass



Surveyor:
 Date:

Beam Quality (HVL)

Facility:
 Location:
 Room: ER
 System: GE Definium 8000

Surveyor:
 Date:

Machine Settings				
kV	mA	FS	Sec	SDD
79.72	79.58	80.21	0.0999	28in

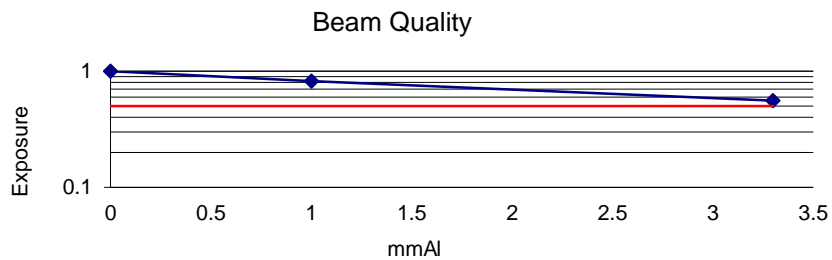
Pass/Fail Criteria	
Minimum HVL	
2.86	mm Al

Measurements					
kVp avg	kV eff	kV peak	Sec	mR	mR/mAs
79.75	79.56	80.17	0.100	156.20	19.658
80.33	80.17	80.96	0.100	128.80	16.209
81.67	81.46	82.35	0.100	87.46	11.007

mm Al	Normalized Exposure
0	1
1	0.824583867
3.3	0.559923175
	0
	0
	0
	0
	0
	0

Avg 80.5833 80.397 81.16 HVL 3.94 Pass

The Half-Value Layer passed measuring 3.94 mm Al at 79.75 kVp



ENTRANCE SKIN EXPOSURE (ESE) / ENTRANCE AIR KERMA (EAK) GUIDE FOR NON-PHOTOTIMED EXPOSURES

Facility: NSMC Salem Hospital
 Location: 81 Highland St, Salem, MA
 Room: ER
 System: GE Definium 8000

Date: November 29, 2018
 Surveyor: F.X. Massé Associates

View (Position)	Bucky		kVp	mAs	Body-Dim (cm.)	Dist (cm.)	ESE Roentgen	EAK (mGy)
	Inch	(cm)						
Skull-AP	40	102	70	25	20	73	0.235	2.07
Skull-lateral	40	102	72	20	22	71	0.213	1.87
Skull-Townes	40	102	76	32	20	73	0.362	3.19
Skull-Basal	40	102	76	64	22	71	0.766	6.74
Sinuses-AP	40	102	72	20	16	77	0.181	1.59
Sinuses-Waters	40	102	72	20	20	73	0.201	1.77
Sinuses-Lateral	40	102	70	16	16	77	0.135	1.19
Sinuses-Basal	40	102	80	32	22	71	0.426	3.75
Mandible-AP/PA	40	102	62	12.5	12	81	0.073	0.65
Mastoids-Laws	40	102	60	20	14	79	0.114	1.01
Mastoids-Stens	40	102	60	20	16	77	0.120	1.06
Orbits-PA	40	102	82	25	16	77	0.297	2.62
Facial-Waters	40	102	75	25	16	77	0.247	2.18
Facial-Lateral	40	102	66	16	16	77	0.120	1.05
Cervical Spine-AP	40	102	70	6.4	12	81	0.049	0.43
Cervical Spine-Lateral	72	183	76	32	14	164	0.071	0.63
Cervical Spine- Obl	72	183			14	164		
Chest-AP	72	183	85	5	23	155	0.016	0.14
Chest-Lateral	72	183	80	10	28	150	0.030	0.26
Thoracic Spine-AP/OBL	40	102	76	32	25	68	0.418	3.68
Lumbar Spine-AP	40	102	76	40	22	71	0.479	4.21
Lumbar Spine-Lateral	40	102	86	75	35	58	1.734	15.26
Lumbar-L5/S1-Lateral	40	102	85	120	29	64	2.225	19.58
Pelvis Hips-AP	40	102	80	40	30	63	0.678	5.96
Hips-Lateral	40	102	80	80	22	71	1.065	9.37
Ribs above diaphragm	40	102	66	25	23	70	0.227	1.99
Ribs below diaphragm	40	102	66	40	23	70	0.363	3.19
Abdomen-AP/PA	40	102	80	19.4	22	71	0.258	2.27
Gall Bladder-AP	40	102	76	50	24	69	0.634	5.58
BE-GI AP/OBL	40	102	120	11.7	24	69	0.358	3.15
Shoulder-AP	40	102	76	25	12	81	0.230	2.02
Femur-AP/Lateral	40	102	70	25	12	81	0.191	1.68
Lower leg, Knee/AP	40TT	102	60	2.5	10	92	0.011	0.09
Elbow, Arm/AP	40TT	102	65	7	7	95	0.033	0.29
Hand, Wrist/AP/PA	40TT	102	60	5	5	97	0.019	0.17
Ankle, Foot/AP	40TT	102	66	7	9	93	0.036	0.32

Diagnostic Reference Levels (DRLs) are action levels used to identify unusually high radiation doses for common procedures. Doses exceeding DRLs should be reviewed to determine if techniques can be reduced and acceptable image quality achieved at lower doses. DRLs are set at the 75th percentile of doses at representative facilities (i.e., 75% of facilities surveyed by the ACR / AAPM deliver doses below DRLs). Achievable Doses (ADs) are set at the 50th percentile (i.e., 50% of facilities surveyed deliver doses below ADs), and can be used with DRLs to further optimize protocols.

ACR / AAPM DRLs and ADs are set as follows (ACR Practice Guidelines, 2014):	DRL (mGy) AD (mGy)		Delivered Dose (mGy)	Do above techniques meet suggested DRLs?	Are doses below ADs?
Adult PA Chest	0.15	0.11	0.14	Yes	No
Adult AP Abdomen	3.4	2.4	2.27	Yes	Yes
Adult AP Lumbar Spine	4.2	2.8	4.21	No	No

ENTRANCE SKIN EXPOSURE (ESE) GUIDE FOR PHOTOTIMED EXPOSURES

Facility: NSMC Salem Hospital
 Location: 81 Highland St, Salem, MA

Room: ER
 System: GE Definium 8000

Date:
 Surveyor:

Views: Skull (AP, Lateral, Townes, Basal); Sinuses (AP, Waters, Lateral, Basal); Mandible (AP/PA); Mastoids (Laws, Stens); Orbits; Facial (Waters, Lateral); Shoulder (AP); Femur (AP/Lateral)
 Cervical Spine (AP) (SID: 40"; Body Dim. 17 ± 4 cm*)

		Feedback mAs							
		5	10	20	30	40	50	60	70
Applied kVp	55	0.025	0.050	0.101	0.151	0.201	0.252	0.302	0.352
	60	0.031	0.061	0.122	0.183	0.245	0.306	0.367	0.428
	65	0.037	0.074	0.147	0.221	0.294	0.368	0.441	0.515
	70	0.043	0.086	0.172	0.258	0.344	0.430	0.516	0.602
	75	0.050	0.100	0.201	0.301	0.402	0.502	0.603	0.703
	80	0.057	0.115	0.230	0.345	0.460	0.575	0.689	0.804
	85	0.065	0.130	0.260	0.390	0.519	0.649	0.779	0.909

ESE (Roentgen)

Views: Thoracic Spine (AP/OBL); Lumbar L5/S1 (Lateral) (SID: 40"; Body

		Feedback mAs				
		25	50	75	100	125
Applied kVp	50	0.135	0.270	0.405	0.540	0.675
	60	0.209	0.418	0.627	0.836	1.045
	70	0.294	0.588	0.881	1.175	1.469
	80	0.393	0.786	1.178	1.571	1.964
	90	0.495	0.990	1.484	1.979	2.474
	100	0.606	1.213	1.819	2.425	3.031
	110	0.725	1.451	2.176	2.901	3.626

ESE (Roentgen)

Views: Chest (AP, Lateral)

(SID: 72"; Body Dim. 27 ± 2 cm)

		Feedback mAs							
		2	5	10	15	20	25	30	35
Applied kVp	65	0.004	0.009	0.019	0.028	0.037	0.047	0.056	0.065
	75	0.005	0.013	0.025	0.038	0.051	0.064	0.076	0.089
	85	0.007	0.016	0.033	0.049	0.066	0.082	0.099	0.115
	95	0.008	0.020	0.041	0.061	0.082	0.102	0.122	0.143
	105	0.010	0.025	0.049	0.074	0.099	0.123	0.148	0.173
	115	0.012	0.029	0.058	0.088	0.117	0.146	0.175	0.205
	125	0.013	0.032	0.063	0.095	0.126	0.158	0.190	0.221

ESE (Roentgen)

Views: Cervical Spine (AP, Lateral, Obl)

(SID: 72"; Body

		Feedback mAs				
		5	10	15	20	25
Applied kVp	60	0.006	0.013	0.019	0.026	0.032
	65	0.008	0.016	0.023	0.031	0.039
	70	0.009	0.018	0.027	0.036	0.046
	75	0.011	0.021	0.032	0.043	0.053
	80	0.012	0.024	0.037	0.049	0.061
	85	0.014	0.028	0.041	0.055	0.069
	90	0.015	0.031	0.046	0.061	0.077

ESE (Roentgen)

Views: Pelvis Hips (AP); Hips (Lateral); Ribs; Abdomen (AP/PA); Gall Bladder (AP); BE-GI (AP/Obl) (SID: 40"; Body

		Feedback mAs														
		10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
Applied kVp	50	0.048	0.096	0.144	0.192	0.240	0.287	0.335	0.383	0.431	0.479	0.527	0.575	0.623	0.671	0.719
	60	0.074	0.148	0.223	0.297	0.371	0.445	0.519	0.593	0.668	0.742	0.816	0.890	0.964	1.039	1.113
	70	0.104	0.209	0.313	0.417	0.521	0.626	0.730	0.834	0.938	1.043	1.147	1.251	1.356	1.460	1.564
	80	0.139	0.279	0.418	0.558	0.697	0.836	0.976	1.115	1.255	1.394	1.534	1.673	1.812	1.952	2.091
	90	0.176	0.351	0.527	0.702	0.878	1.054	1.229	1.405	1.581	1.756	1.932	2.107	2.283	2.459	2.634
	100	0.215	0.430	0.646	0.861	1.076	1.291	1.506	1.722	1.937	2.152	2.367	2.582	2.798	3.013	3.228
	110	0.257	0.515	0.772	1.030	1.287	1.545	1.802	2.060	2.317	2.574	2.832	3.089	3.347	3.604	3.862
120	0.303	0.605	0.908	1.210	1.513	1.816	2.118	2.421	2.723	3.026	3.329	3.631	3.934	4.237	4.539	

ESE (Roentgen)

* Mean + SD