# Division of Nuclear Medicine Procedure / Protocol University Hospital and The American Center

# PARATHYROID SPECT PROCESSING Tc99m UPDATED: JUNE 2016

CPT CODE: N/A

### Recon / Reformat Processing and Screen Captures for SPECT/CT

Reconstruction Options:	Infinia 1 (Rm E)	Infinia 2/3 & NM640		
		with Xeleris 3.x		
		(RM A, C and TAC)		
Reconstruction Type	OSEM/MLEM	OSEM		
Number of OSEM	OSEM 2	2		
Iterations	MLEM 0	Z		
Max Number of Subsets	10	10		
Correction Options:				
Corrections		Resolutions recovery correction & Attenuation Correction		
Additional Set		Resolution Recovery Correction and Attenuation Correction		
Filters:				
Pre-Filter	Butterworth			
Pre Critical Frequency	0.50			
Pre Power	10			
Post-Filter	Hann	Butterworth		
Critical Frequency	1.2	0.50		
Power	10.0	10.0		

Infinia 1 with Valaris 2 x (Pm E)	Infinia 2/3 & NM640				
initina i with zeleris 2.X (Riff E)	with Xeleris 3.x (RM A, C and TAC)				
1. Select the Patient and the following files	1. Select the Patient and the following files				
a. TOMOearlyHWKY	a. TOMOearlyHWKY				
b. CT TOMOearlyHWKY	b. CT TOMOearlyHWKY				
c. ATT MAP TOMOearlyHWKY	c. ATT MAP TOMOearlyHWKY				
2. Run VOLUMETRIX FOR HAWKEYE PARATHYROID processing icon	2. Run Parathyroid MI processing icon				
	a. Click Original				
	b. Click Proceed				
	c. Click Passed				
3. Select NM Transaxials	3. Select NM Transaxials				
	a. Change SUM:1 and STEP:1				
a. Create an 8 x 8 display grid	b. Create an 8 x 8 display grid				
<ul> <li>b. Center area of interest within the grid and adjust intensity accordingly</li> </ul>	<ul> <li>c. Center area of interest within the grid and adjust intensity accordingly</li> </ul>				
c. Annotate EARLY TRANS on display screen	d. Annotate EARLY TRANS on display screen				
d. SCREENCAP and save as EARLY NM TRANSAXIALS	e. SCREENCAP and save as EARLY NM TRANSAXIALS				

4.	Repeat step 3 by selecting NM CORONALS and NM SAGITTALS. Annotate appropriately	4. Repeat step 3 by selecting NM CORONALS and NM SAGITTALS. Annotate appropriately
5.	Select FUSED Transaxials	5. Select FUSED Transaxials
	a. Create an 8 x 8 display grid	a. Create an 8 x 8 display grid
	b. Center area of interest within the grid and adjust intensity accordingly	<ul> <li>b. Center area of interest within the grid and adjust intensity accordingly</li> </ul>
	c. Annotate EARLY TRANS on display screen	c. Annotate EARLY TRANS on display screen
	d. SCREENCAP and save as EARLY FUSED TRANSAXIALS	d. SCREENCAP and save as EARLY FUSED TRANSAXIALS
6.	Repeat step 5 by selecting FUSED CORONALS AND FUSED SAGITTALS. Annotate appropriately	6. Repeat step 5 by selecting <b>FUSED CORONALS</b> AND <b>FUSED SAGITTALS</b> . Annotate appropriately
7.	Click File and Save MIP	7. Click File and Save MIP
8.	Click File then Save & Exit	8. Click File then Save & Exit
9.	Select MIP and rename to EARLY MIP	9. Select MIP and rename to EARLY MIP
10.	Select CT TOMOearlyHWKY	10. Select CT TOMOearlyHWKY
11.	Run Convert CT to Hounsfield Units processing icon	11. Run Convert CT to Hounsfield Units processing icon
12.	Click File and Exit	12. Click File and Exit
13.	Select Tomolate	13. Select Tomolate
14.	Run VOLUMETRIX FOR HAWKEYE PARATHYROID processing icon	14. Run VOLUMETRIX FOR HAWKEYE PARATHYROID processing icon
15.	Click Resume	15. Click Resume
16.	Choose NM Transaxial	16. Choose NM Transaxial
	a. Select an 8 x 8 display grid	a. Select a 8 x 8 display grid
	b. Center area of interest within the grid and	b. Center area of interest within the grid and
	adjust intensity accordingly	adjust intensity accordingly
	d SCREENCAR and rave as DELAY NM	c. Annotate DELAY TRANS on display screen
	TRANSAXIALS	TRANSAXIALS
17.	Repeat step 16 by selecting NM CORONALS and NM SAGITTALS. Annotate appropriately	17. Repeat step 16 by selecting NM CORONALS and NM SAGITTALS. Annotate appropriately
18.	Click File and Save MIP	18. Click File and Save MIP
19.	Click File and Save & Exit	19. Click File and Save & Exit
20.	Select MIP and rename to LATE MIP	20. Select MIP and rename to LATE MIP
21.	Select EARLY and LATE statics	21. Select EARLY and LATE statics
22.	Run Parathyroid Imaging processing icon	22. Run Parathyroid Imaging processing icon
23.	Adjust intensity accordingly	23. Adjust intensity accordingly
24.	SCREENCAP and save as EARLY LATE STATICS	24. SCREENCAP and save as EARLY LATE STATICS
PAC Ser NM COI IRA	CS Id all EARLY NM and FUSED SCREENCAPS, all DELAY SCREENCAPS, EARLY AND LATE MIPS, CT RRECTED, EARLY and LATE STATIC SCREENCAP, C OSEM and IROSEM to PACS.	PACS Send all EARLY NM and FUSED SCREENCAPS, all DELAY NM SCREENCAPS, EARLY AND LATE MIPS, CT CORRECTED, EARLY and LATE STATIC SCREENCAP, TOMOEARLY_IRACRR Transaxials and TOMODELAY_IRNC_Transaxials PACS.

## Recon / Reformat Processing and Screen Captures for SPECT ONLY (no CT)

Infinia ( with Valaria 2 v (Dr. F)	Infinia 2/3 & NM640				
Infinia 1 with Xeleris 2.X (Rm E)	with Xeleris 3.x (RM A, C and TAC)				
1. Select patient and the following files	1. Select patient and the following files				
a. TOMOearlyHWKY	a. TOMOearlyHWKY				
2. Run VOLUMETRIX FOR HAWKEYE PARATHYROID processing icon	2. Run Parathyroid MI processing icon				
	a. Click Original				
	b. Click Proceed				
3. Select NM Transaxials	3. Select NM Transaxials				
a. Create an 8 x 8 display grid	a. Create an 8 x 8 display grid				
<ul> <li>b. Center area of interest within the grid and adjust intensity accordingly</li> </ul>	<ul> <li>Center area of interest within the grid and adjust intensity accordingly</li> </ul>				
c. Annotate EARLY TRANS on display screen	c. Annotate EARLY TRANS on display screen				
d. SCREENCAP and save as EARLY NM TRANSAXIALS	d. SCREENCAP and save as EARLY NM TRANSAXIALS				
4. Repeat step 3 by selecting NM CORONALS and NM SAGITTALS. Annotate appropriately	4. Repeat step 3 by selecting NM CORONALS and NM SAGITTALS. Annotate appropriately				
5. Click File and Save MIP	5. Click File and Save MIP				
6. Click File then Save & Exit	6. Click File then Save & Exit				
7. Select MIP and rename to EARLY MIP	7. Select MIP and rename to EARLY MIP				
8. Select Tomolate	8. Select Tomolate				
9. Run VOLUMETRIX FOR HAWKEYE PARATHYROID processing icon	9. Run VOLUMETRIX FOR HAWKEYE PARATHYROID processing icon				
10. Click Resume	10. Click Resume				
11. Choose NM Transaxial	11. Choose NM Transaxial				
a. Select an 8 x 8 display grid	a. Select a 8 x 8 display grid				
b. Center area of interest within the grid and adjust intensity accordingly	<ul> <li>b. Center area of interest within the grid and adjust intensity accordingly</li> </ul>				
c. Annotate <b>DELAY TRANS</b> on display screen	c. Annotate <b>DELAY TRANS</b> on display screen				
d. SCREENCAP and save as DELAY NM TRANSAXIALS	d. SCREENCAP and save as DELAY NM TRANSAXIALS				
12. Repeat step 11 by selecting NM CORONALS and NM SAGITTALS. Annotate appropriately	12. Repeat step 11 by selecting NM CORONALS and NM SAGITTALS. Annotate appropriately				
13. Click File and Save MIP	13. Click File and Save MIP				
14. Click File and Save & Exit	14. Click File and Save & Exit				
15. Select MIP and rename to LATE MIP	15. Select MIP and rename to LATE MIP				
16. Select EARLY and LATE statics	16. Select EARLY and LATE statics				
17. Run Parathyroid Imaging processing icon	17. Run Parathyroid Imaging processing icon				
18. Adjust intensity accordingly	18. Adjust intensity accordingly				
19. SCREENCAP and save as EARLY LATE STATICS	19. SCREENCAP and save as EARLY LATE STATICS				
PACS Send all EARLY NM and FUSED SCREENCAPS, all DELAY NM SCREENCAPS, EARLY AND LATE MIPS, CT CORRECTED, EARLY and LATE STATIC SCREENCAP, IRAC OSEM and IROSEM to PACS.	PACS Send all EARLY NM and FUSED SCREENCAPS, all DELAY NM SCREENCAPS, EARLY AND LATE MIPS, CT CORRECTED, EARLY and LATE STATIC SCREENCAP, TOMOEARLY_IRACRR Transaxials and TOMODELAY_IRNC_Transaxials PACS.				

#### Screen Cap Samples

#### Early Transaxial



#### Early Coronal

<b>%</b>									
	Patient Nan	ne: *****						Study Name: Pa	rathyr MIBI
	Patient Id: *	****						Date & Time: 5/	2/2016
								Manufacturer M	odel: INFINIA
5/12/20 iii 11:36:26.0			-	-		5	-	5	
Ref Coord so Coord Left: 0.1 c Coord Post: 0.1		LR	LR	L R.	LR	LR	LR	LR	
cor 1 -113.40	2 -110.45	3 -107.51	4 -104.56	5 -101.62	6 -98.67	7 -95.72	8 -92.78	9 -89.83	
R	LR	LR	LR T	LR 🖤	LR	LR 🖤	LR 💙	LR 🔍 I	
1(-86.89	1+83.94	1281.00	1278.05	1475.11	16-72.16	1€69.22	17 66.27	1663.33	
R 🖤	LR 🖤	LR 🖤	LR 🆤	LR	LR	LR V	lr V	LR 🔰 I	
19-60.38	2:-57.43	2+54.49	22-51.54	2:-48.60	24-45.65	25-42.71	2E-39.76	27-36.82	
R N	LR V	LR M	LR V	LR	LR T	LR V	LR		
	1	112	11 -1	11	11	11.	11.	1662	
26-33.81	28-30.93	30-27.98	31-25.04	32-22.09	35-19.14	3416.20	3513.25	3610.31	
R	LR	LR	LR	LR	LR	LR	LR	LR	
37-7.361	<b>≈4.421</b>	35-1.471	401.47 1	414.42 1	427.36 1	4710.311	4d13.251	4e16.201	
R	L R	L R	LR	LR	L R	L R	L R	LR	
4619.141	4722.091	4(25.84)	4527.981	5(38.931	5433.871	5;36.821	5:39.761	5412.711	
R	L R	LR	LR	R	LR	LR Charles	LR	LR	
5645.651	ce48.601	<del>67</del> 51.54I	5654.491	5657.431	6(60.381	6463.331	6266.271	6;69.221	5/12/2016 S
	-	, v		-	, 1 P	-	-	- 1 P	Nuclide:Tc99m SC(140 and 12
1	5.6.2	5.1.	11	110					R
6472.161	6275.111	6678.051	6781.001	6683.941	6586.891	7(89.831	7 92.781	7295.721	Ref Co Rec Coord Left Rec Coord Post Imported Image
R	LR	LR	LR		LR	LR	LR		9 472.79 1
7;98.671	74101.62	76104.56	7£107.51	77110.45	78113.40	75116.34	80119.29	s 122.23	
				NM Corona	ls				MIP Navigate

#### Early Fused Coronal

Early Fused Transaxial



#### Early Sagittal

#### Early Fused Sagittal



#### Statics Early and Delayed



Early MIBI

Late MIBI

Scott B. Perlman, MD, MS Chief, Nuclear Medicine Derek Fuerbringer, CNMT Manager, Nuclear Medicine University Hospital Kandace Nowakowski Manager, Nuclear Medicine The American Center

John Vetter, PhD, DABR Medical Physicist Scott Knishka, RPh, BCNP Radiopharmacist