

DACUM Research Chart for Nuclear Medicine Technologist

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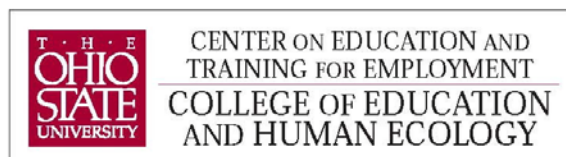
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1900 Kenny Road
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March 18-19, 2010

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Duties		Tasks				
A	Perform Administrative Activities	A-1 Perform scheduling activities	A-2 Confirm out-patient pre-certification	A-3 Confirm out-patient prescription(s)	A-4 Educate patient on study preparation protocol	A-5 Participate in workplace meetings
		B	Perform Quality Control on Equipment	B-1 Perform peaking of Gamma camera	B-2 Perform daily flood of Gamma camera	B-3 Perform Gamma camera bar phantom
C	Prepare Non- and Radio-pharmaceuticals	B-12 Perform linearity check on dose calibrator		B-13 Perform PET blank scan on PET/CT scanner	B-14 Perform PET phantom scan on PET/CT scanner	B-15 Perform CT scan on PET/CT scanner
		C-1 Conduct radiopharmaceutical package survey	C-2 Wipe test radiopharmaceutical package	C-3 Verify radiopharmaceutical inventory	C-4 Sort radiopharmaceuticals	C-5 Verify inventory of non-radioactive pharmaceuticals
		D	Provide Patient Education	D-1 Verify patient arrival & identification	D-2 Explain procedure to patient	D-3 Conduct patient medical history & status, particularly pregnancy
E	Perform Patient Study	E-1 Inform floor staff regarding patient status (e.g., preparation & scheduling)		E-2 Confirm radiopharmaceuticals, patient name & time	E-3 Determine method of dose administration (e.g., oral, injection, inhalation)	
F		Perform End-of-Day Procedures	E-11 Arrange for patient transportation			
	F-1 Verify patient study completion (e.g., PACS & billing)		F-2 Dispose of radioactive pharmaceuticals & waste	F-3 Monitor for radioactive contamination	F-4 Verify future patient appointment & preparation	
	G		Pursue Professional Development Activities	G-1 Maintain professional certifications	G-2 Maintain licensure requirements	G-3 Maintain CPR-BLS certifications

Acronyms

ACR	American College of Radiology	JCAHO	Joint Commission on the Accreditation of Hospital Organizations
ARRT	American Registry of Radiologic Technologists	mCi	millicuries
BLS	Basic Life Support	mR per hour	milliroentgen
COR	Center of Rotation	MHR	Multi-head Registration
CPR	Cardio Pulmonary Resuscitation	NMT	Nuclear Medicine Technologist
CT	Computer Tomography	NMTCB	Nuclear Medicine Technologist Certification Board
GM	Gamma		
IV	Intravenous		

A-6 File patient records (e.g., paper, electronic)	A-7 Conduct quality assurance (QA) projects	A-8 Maintain organizational licensure	A-9 Maintain organizational accreditation (e.g., JCAHO, ACR)			
B-6 Perform spatial linearity on Gamma camera	B-7 Perform energy calibration on Gamma camera	B-8 Perform daily constancy on well counter, uptake probe, dose calibrator & Gamma camera		B-9 Perform voltage check on dose calibrator	B-10 Perform accuracy check on dose calibrator	B-11 Perform geometry check on dose calibrator
B-17 Perform voltage check on uptake probe	B-18 Perform voltage check on well counter	B-19 Perform Chi square check on uptake probe & well counter		B-20 Perform energy calibration on uptake probe & well counter		
C-6 Calculate dose of non-radioactive pharmaceuticals	C-7 Draw dose on non-radioactive pharmaceuticals	C-8 Document inventory of non-radioactive pharmaceuticals				
D-5 Provide special counseling to radio-therapy patients						
E-4 Prepare supplies for administration of dosage	E-5 Prepare patient for administration of dosage	E-6 Administer patient dose	E-7 Conduct scan or uptake	E-8 Update patient & family on scan status	E-9 Dispose of biological & hazardous materials	E-10 Perform post-study processing
F-5 Confirm future patient exam schedule	F-6 Order patient radiopharmaceuticals	F-7 Instruct students on clinical activities	F-8 Perform housekeeping activities	F-9 Re-stock imaging rooms		
G-6 Participate in lifelong learning opportunities (e.g., coursework)						

- NRC National Regulatory Commission
- PACS Picture Archival Communication System
- PETS Positron Emission Tomography
- PPE Personal Protective Equipment
- QA Quality Assurance
- QC Quality Control
- RRX Radiopharmaceuticals
- SPECT Single Photon Emission Computer Tomography

General Knowledge and Skills

Knowledge and practice of radiation safety protocols
Knowledge and skills in venipuncture techniques
Knowledge of PACS operation
Collaboration-teamwork skills
Basic computer and software knowledge
Patient advocacy knowledge and skills
Customer service
Multitasking skills
Skills/knowledge of the operation of Gamma camera, dose calibrators, uptake probe, well counter, Geiger counter
NRC rules and regulations knowledge
Interpersonal skills
Awareness of cultural differences
Pharmacy and Radiopharmacy practices and safety practices
Hospital safety (e.g., fire, electrical)
Knowledge of medical terminology
Organizational skills
Mathematical skills up to basic calculus
Patho-Physiology
Ability to respond to emergency situations

Tools, Equipment, Supplies and Materials

IV's	Personal Protective Equipment
Syringes	Film badges
Needles	Dosimeters
Leaded vial shields	Gowns
Gauze	Lab coat
Tape	PIG
Food sources	Generator
Point sources	Gamma camera
Lead markers	SPECT camera
Phantoms	Dose calibrator
Ventilation delivery system	PET Scan
Saline	Well counter
Vials	Viewing monitors
IV Bags	Uptake probe
Non-radioactive drugs	CT scan
Sheets	Computer
Blankets	Geiger Mueller (GM Counter)
Blood pressure cuff	Radiopharmaceutical supplies
Microwave	Syringe shield
Skillet	L-Block (lead block)
Hot plate	Leaded sharps containers
Non-radioactive drugs	Slide board
Windex	Infusion pump
Bleach wipes	Alcohol wipes

Worker Behaviors

Punctual
Independent
Self-motivated
Empathetic
Professional
Detail-oriented
Sense of humor
Thick-skinned
Flexibility
Goal-oriented
Focused
Interpersonal communication
Willingness to learn
Team player

Future Trends and Concerns

Rapid technological changes (Health Information Technology)
Introduction of new radiopharmaceuticals
Need for multi-modality training
Employment opportunities in current and future economy
Introduction of faster and more efficient equipment
Changes in government regulations of reimbursement
Changes in insurance company practices of reimbursement
Increase in number of patients due to 45% increase in cancer cases in next 20 years:

- Rapid aging of population
- Environmental exposures to toxins, etc.