

Nemours | Alfred I. duPont
 Hospital for Children
 Nemours
 Children's Clinic

FAX

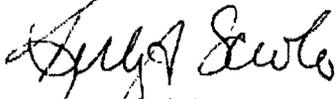
TO:	FROM:
<i>Janice E. Nguyen</i>	<i>Kelly Sciole</i>
COMPANY:	DATE
<i>PRC</i>	<i>1/21/10</i>
FAX NUMBER:	FAX NUMBER:
PHONE NUMBER:	PHONE NUMBER:
RE:	NO. OF PAGES INCLUDING COVER:
	<i>27</i>

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Janice,

In accordance with your request for information related to staff retraining, I am enclosing the agendas for the in-services I provided following the waste incident. These in-services related to our policies and procedures for use and management of radioactive materials. In regards to the "spill" incident in cardiac, we reviewed the contamination policy with the remaining staff. Please feel free to call me if you have any questions. I look forward to speaking with you on Monday.

Thank You,



Kelly A. Sciole

1/21/2010

PROCEDURE MANUAL REVIEW AGENDA

Procedure manual gets updated annually.

Revision of policies and procedures needs to go through committee.

Radionuclide therapy- not performed at duPont.

Procedures following 10 CFR parts 19.20.and 34

Located in hot lab draw.

Located on line if needed.

NRC license renewed every 3 years

DE state license renewed annually

Services not provided at duPont

Therapy

NaI thyroid scans

NaI 131 diagnostic scans

I123 met surveys

Consents

Not needed for routine procedures

Needed for research projects only

Kelly Seole
Ally Johnson
Amanda Kyspiu
Abley Graybeal

9/29/08

10/17/08

(K)

AG
AK
AJ

RADIATION SAFETY PROCEDURES AGENDA

NRC

- Inspections
- 10 CFR 19,20,and 34

ALARA

- Definition
- Procedure orders
- Caution radiation area signs
- No food, drink, etc.
- How do we calculate doses?
- Personnel monitoring equipment
- Exposure records
 - Where kept?
 - Available
- Spill procedure
 - Spill kit
 - Notification
 - Chux
 - GM surveys
 - What is considered non radioactive
 - Spill report
 - Clear area
 - Prevent spread
 - Close room and prevent entry
 - Notify RSO
 - Who is RSO

Fetal badges

- Declaration of pregnancy

Hand check

- Limits
- Done daily
 - Kits, before lunch and before leaving for shift

OPENING PACKAGES CONTAINING RADIOACTIVE MATERIALS

Wear gloves

Do we appropriate size for everyone? S+M

Inspect package

What do you do if signs of damage?

Who is the supervisor?

Who is our Radiation Safety officer?

How far away from package for survey meter readings?

What is the trigger limits? 0.15 / .1

Open box procedure.

Wipe container

Monitor package for prior to return to pharmacy

What do we do with labels? deface / w/ blk markers

What do we do if box is contaminated on site?

Where do we record all info?

SMS

(B)

AK

AS

AG

10/15/08

11/7/08

DOSE PREPARATION EDUCATION

(K)

AK

AG

AS

Process for drawing doses?

Calculations

Done presently by the NMIS

Should be manually checked (as check and balances)

Gloves to be worn

Tongs are to be used when checking vials and or doses

Proper labeling of syringes as follows

What is needed on label?

How do we identify the patient?

How is everything recorded?

How do we access previous records?

Second person checking doses?

Checks and balances system in place.

Check, check, and recheck pre and post drawing doses.

10/11/08
K
AK
AT
AK

KIT PREPARATION

Which kits are prepared on site?

What is 797?

Does this affect us?

Where are the expirations dates and times noted?

Can we use a product on the date of the expiration?

Where are the manufacturers instructions for the kits?

Once reconstituted, where is vial placed?

Do we have color coded vials?

What is each color for?

Where are the kits recorded?

How long can we keep immediate use kits made on site for?

How long can we keep kits made at the pharmacy for?

Do we have everything we need?

DELIVERY OF RADIOACTIVE MATERIALS IN NUCS

10/7/08
P
W
A
A

What hours is the department open?

What happens when isotopes are delivered prior to 7a?

Does the tech need to visually inspect package?

Do you continue if package is damaged/leaking?

Which isotopes are kept in the refrigerator?

Hot lab locked or unlocked when not in use?

Can the door be left open in the hot lab, when running in and out real quick?

ORDERING RADIOACTIVE MATERIALS

Who is our general radiopharmacy?

Where do we order DMSA from?

Aradyn Health

Ceretec from?

Marlborough

In111 DTPA? *Ort*

Why the decrease in bulk Tc doses?

What is the process for ordering MIBG?

Name, MR #, fax worksheet

Send fax

Check confirmation on the fax machine

Confirm order with radiopharmacy

Note confirmation on worksheet in film assembly

10/7/08
(10)
AG
AK
AJ

NMIS WASTE DISPOSAL

*WAB 2/10/09
K 2/25/09*

To log hot trash into storage area:

Liq/Sol

- Hot lab manager
- Disposal
- In-house disposal
- New
- Drop down box
- Liq/sol
- Right click trash bag (in upper right hand corner)
- Decay storage
- Chose instrument
- Ok
- Ok
- Survey data
- Enter results
- Close

Bin

- Hot lab manager
- Disposal
- In- house disposal
- Short
- Choose bin (please mark with sharpie with date it is opened)
- R click decay storage
- Choose instrument
- Ok
- Ok
- Survey data
- Enter results
- Bin disappers from log
- New
- Short
- Close

*Ab 2/10/09
R 2/23/09*

NMIS FINAL DISPOSAL

To log hot trash out of storage area: (after decayed down 10 half-lives)

Can click on bins for final disposal on main screen.

OR

- Hot lab manager
- Disposal
- In-house disposal
- Show all
- Choose box/trash
- Click check mark box next to final disposal
- Surveys/wipes
- Survey and wipe
- Enter results
- Close

MAINTENANCE OF RADIONUCLIDE RECORDS

*AK 2/19/09
R 2/23/09*

Why is it important to maintain records?

How long do we need to maintain patient dose records?

What is entered in the NMIS system?

Do we need a MR number?

How is the dose calculated?

How do we specify which isotope is used?

How do we access disposal method?

How does the supplier, lot number, expiration time get entered?

DOSE CALIBRATOR EDUCATION

Constancy check

*Complete every
morning - ASG
2/10/99
@60/26K*

Purpose of check?

Who is responsible for check?

How often is check performed?

Where is information recorded and stored?

What sealed sources do we use?

Where are the sealed sources kept?

What limits should the assays be within?

What should we do if limits are exceeded?

Who do we notify?

ROOM SURVEYS

AB 2/10/09
AS 2/10/04
R 2/22/09

What is the purpose of room surveys?

How often are they performed?

What equipment is used to do them?

Where is the equipment kept?

Where is the data recorded?

Where is the information kept and where can it be found?

CAMERA QUALITY CONTROL

*QA 2/10/09
R 7/23/09*

Daily tuning.

How much is source

Table height

Camera heads laterally or horizontally - can do both

What is expected dead time

Daily floods

Source dose

Table height

Dead time

Acquisition counts

SNAC

Meaning

How often to restart

How to restart

Monthly QC

Doses

Table height

Radius of detectors

MHR

NCO

Intrinsic floods

COR

How often is performed

How long does it take

CHI SQUARE

Which pieces of equipment are chi square performed on?

Which sources are used?

Where is information kept?

Do we do calculations or does the system?

UAG 2/10/09
AS 2/10/09
(K) 2/22/09

WIPE TESTS

Which equipment is considered well counters?

What is the purpose of doing department wipes?

How often are wipes performed?

How do you use the atomlab 930?

How do you use the Ludlum 220?

Where is the information recorded?

AG 2/10/09
AJ 2/10/09
R 2/22/09

LINEARITY TESTS

What is the purpose?

Dose activity?

Other equipment used?

Where do we enter data?

Who does the calculations?

AG 2/10/09
AD 2/10/09
R 2/23/09

SURVEY METER EDUCATION

How many survey meters do we have in the hot lab?

Do we do QC on the equipment?

How often do we QC equipment?

Which check source is used?

What are the readings?

Where is the data recorded?

AB 2/10/09
AJ 2/10/09
R 2/23/09

XENON TRAP TEST

AG 2/10/09
AT 2/10/09
P 2/23/09

Which room is this performed in?

Why this particular room?

Xe 133 dose?

Fan or no Fan?

Where is the fan located?

Peak for Xe?

Oxygen used or not used?

Counts and equation?

How often is this test performed?

INVENTORY OF CALIBRATION SOURCES

AG 2/10/09
AS 2/10/09
(R) 2/25/09

How many sources do we have?

How long do we need to keep them?

How do we d/c them?

Do we need all the ones that we have?

Where are the sources located?

BLOOD IRRADIATOR

AB 2/10/09
AJ 2/10/09
Ⓟ 2/23/09

Where is the blood irradiator located?

Where is the blood bank located?

Do we have access?

Who do we call prior to going up?

Do we need to sign in and out?

Where do we survey?

Where do we wipe?

Where do we send results and why?

Where do we keep our copy?

How often is this study performed?

CARDIAC STRESS LAB SURVEYS

AG 2/10/09
AT 2/10/09
(R) 2/25/09

How often are the surveys for this area performed?

What equipment is used for this?

When should the surveys be done?

What areas of the lab are surveyed?

Where are the survey reports recorded?

How many people are in the lab at any given time during a nuc stress test?

Are the stress techs properly badged?

CARDIAC WIPES

AG 2/10/09
AJ 2/10/09
② 2/23/09

Which equipment do we use for this test?

Who is responsible for performing this test?

How is this performed?

Where is information recorded?

AG 2110/09
AT 2110/09
R 2110/09

PERFUSION LUNG SCAN

Which isotope is used?

What is the dosing?

What images are taken?

How do we determine which angle the obliques are scanned at?

Which collimator?

Sedation needed?

Do we draw back blood into syringe when injecting?

Why do we take a static of the skull?

duPont Hospital for Children

**POLICY AND PROCEDURE
NO. 3.1
EFFECTIVE DATE: 11/25/05**

**PAGE 1
REVISION 5
SUPERCEDES: 9/30/02**

**DEPARTMENT (Division): DEPARTMENT OF MEDICAL IMAGING (Nuclear Medicine)
TITLE: EMERGENCY PROCEDURE FOR RADIONUCLIDE CONTAMINATION**

PURPOSE:

To establish procedures for an accidental radionuclide spill

POLICY:

These instructions are provided in accordance to the Nuclear Regulatory Commission regulatory guide.

PROCEDURE:**A. Minor Spill:**

1. Notify persons in the area that a spill has occurred. Clear the area.
2. Prevent the spread by covering it with absorbent paper.
3. Clean spill using waterproof disposable gloves and remote handling tongs. Carefully fold the absorbent paper into a plastic bag and dispose in a radioactive waste container.
4. Survey area with a Geiger- Muller survey meter. Check the area around the spill, hands and clothing for contamination.
5. Area is considered non radioactive if survey is less than .01 mR/hr.
6. Complete Radioactive Spill Report, see attached
7. Report the incident to the radiation safety officer including the Radioactive Spill Report.

B. Major Spill:

1. Clear the area. Notify all persons not involved in the spill to vacate the room.
2. Prevent the spread. Cover the spill with absorbent paper, confine the movement of all personnel potentially contaminated to prevent the spread
3. Shield the source, if possible, but only if it can be done without further contamination or without significantly increasing personnel radiation exposure.
4. Close the room and lock door to prevent entry.
5. Notify the radiation safety officer immediately.
6. Contaminated clothing should be removed and stored for further evaluation by the radiation safety officer. If the spill is on the skin, flush thoroughly and wash with mild soap and water.
8. Complete Radioactive Spill Report, see attached

APPROVED:**DATE:****Gunsel Acitgoz, MD**

**duPont Hospital for Children
Nuclear Medicine**

Radioactive Spill Report

The spill occurred at ___:___ am/pm on ___-___-___ room _____.

Instrument used to check for personnel contamination

Meter Model: _____ Meter S/N: _____ Probe Model: _____ Probe S/N: _____

Personnel Present

Personnel Contamination Results

_____	_____
_____	_____
_____	_____
_____	_____

Survey the spill area to identify areas of contamination, then begin decontamination. When finished, conduct a post cleaning contamination wipe test.

Radiolotopes present or suspected in the spill

___ mCi of ___ as _____

Give brief description of the accident: _____

Name: _____

Date: _____