POLICY, PROCEDURE AND PROTOCOL FOR THE MANAGEMENT OF PATIENTS RECEIVING RADIOACTIVE IODINE THERAPY
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1. INTRODUCTION

Patients may receive radioactive iodine therapy as both in-patients and out-patients within NHS Lothian. It is therefore important that staff caring for patients do so within a safe environment. This policy has been written in line with Regulation 17 of the Ionising Radiation Regulations 1999 (IRR99), with further interpretation in the associated Approved Code of Practice and Guidance (ACOP).

2. AIM OF THE POLICY

To provide guidance on the management of patients/visitors and staff who may come in to contact with patients receiving radioiodine therapy.

3. SCOPE

This policy, procedure and protocol document is aimed at providing guidance for all NHS Lothian employees across all sites.

4. KEY OBJECTIVES

1) To deliver safe care to patients undergoing therapy.
2) To ensure staff providing care for patients do so in a safe manner.
3) To provide guidance enabling staff to provide appropriate information to patients, relatives and carers.
4) To provide key contacts for further information.

5. PROCEDURE AND PROTOCOL

As part of this document NHS Lothian provide support and local training to staff delivering this service at local level. Support and advice are available from Medical Physics (Appendix A).

5.1 Treatment
Radioactive Iodine-131 is administered for the treatment of hyperthyroidism and thyroid cancer. For the treatment of hyperthyroidism the administered activity is normally in the range 400 to 800 MBq. For thyroid cancer larger activities in the range 3700 to 12000 MBq may be required.

5.2 Out-Patient Treatment
Normally, treatment for hyperthyroidism should be an out-patient procedure. The limitations are that for patients leaving hospital after administration of Iodine-131 the maximum activity allowed is 800 MBq.

5.3 In-Patient Treatment
Occasionally it is required to treat hyperthyroid patients in hospital.

For treatment in standard hospital wards with no special facilities for nursing radioactive patients, the maximum activity is 400 MBq. Nursing staff should follow the instructions in Protocol A.
For the administration of higher activities, whether for hyperthyroidism or thyroid cancer, patients should be admitted to a single room where a toilet can be allocated for the sole use of the patient and the appropriate standard of nursing management and monitoring can be assured. At the Western General Hospital suitable facilities exist in the Edinburgh Cancer Centre. Nursing staff should follow the instructions in Protocol B.

5.4 Patient Discharge
Patients are only allowed to return home, or be transferred to another Ward, once the activity of iodine-131 within the patient has fallen to a sufficiently low amount. The activity of iodine-131 will be monitored by Medical Physics staff to determine when the patient may be released. Normally the patient will require to be in the dedicated Ward for 2-4 days, but a longer time may be required in some situations.

5.5 Pregnant Staff
Staff who are pregnant should not be involved in direct contact with patients who have received iodine-131 therapy. Advice may be obtained from the staff listed.

5.6 Death of the Patient
The appropriate Radiation Protection Adviser (RPA) or another experienced member of the Medical Physics team, must be informed immediately (Appendix A), before the body leaves the ward. They must provide specific advice for the situation, taking into account the possibility of a post-mortem, cremation and the need for protection of staff or others involved.

6. PROTOCOL A - NURSING CARE FOR A PATIENT RECEIVING THERAPEUTIC DOSES OF RADIOACTIVE IODINE-131 IN GENERAL WARDS OUT WITH THE EDINBURGH CANCER CENTRE

The maximum activity to be administered to patients in a general ward is 400 MBq. For greater activities, arrangements must be made to care for the patient in a single room with appropriate facilities (see Protocol B).

6.1 Administration
Radioactive Iodine-131 is given orally by staff from the Department of Medical Physics. This may be administered either in the ward or in the Department of Medical Physics.

6.2 Visiting
There are no restrictions on visiting times but close contact, particularly with children and pregnant women, should be avoided. It is sufficient to ask visitors to sit at least 1 metre from the patient.
6.3 Nursing Procedures and Precautions

6.3.1 Nursing staff

Nursing duties should be carried out as quickly as possible without spending any unnecessary time close to the patient. Very close contact, such as that involved in feeding or bed bathing, should be restricted to 1 hour per day for each member of staff, i.e. if the patient requires more than 1 hour per day close contact with nurses the nursing duties should be shared.

Disposable gloves – of the non-porous type must be worn when handling the patient, bed linen, dressings, excreta, etc.

6.3.2 Patient

Personal Hygiene: As urine is very radioactive for the first few days, the patient should be told to be as careful as possible to avoid contaminating clothing etc., and to wash hands thoroughly after using the toilet.

Bedpan: If the patient is confined to bed, disposable bedpans should be used or a separate bedpan should be kept for the patient’s use. Excreta should be emptied down the toilet and the vessel disposed of or washed thoroughly with plenty of running water.

Meals must be taken with disposable cups, plates and cutlery.

Bed Linen: Patient perspiration may result in contamination of bed linen; this bed linen may have to be incinerated at a later date so nursing staff may wish to consider the use disposable items.

6.3.2 Spillage of Body Fluids

If there is spillage of excreta or the patient vomits, this should be dealt with promptly using normal hygienic procedures, taking care to avoid the spread of contamination.

- Non-porous disposable gloves, plastic apron and disposable overshoes should be worn
- The affected area should be cleaned with soap and water using disposable towels.
- All disposable items should be treated as radioactive waste.
- Medical Physics should be contacted to assess the extent of the contamination and to check if this contamination has been reduced sufficiently by cleaning.
- When monitoring for contamination it will be necessary to move the patient who has been treated with the radioactive iodine outside the room. If the area is still contaminated it may be necessary to cover the area with polythene sheets; this will ensure that the contamination is not transferred to other areas.
- Excreta and cleaning materials should be disposed of by toilet or sluice.

6.3.3 Radioactive Waste

- Disposable protective clothing and other contaminated materials should be placed in a yellow polythene bag for disposal as radioactive clinical waste. Radioactive warning tape should be attached to the bag
Medical Physics should be contacted to deal with the radioactive waste. Medical Physics will measure the amount of radioactivity and complete the 'radioactive waste for incineration' label and provide the nursing staff with three copies of a 'Radioactive Clinical Waste Transfer Certificate'.

The nursing staff should contact the Porters to arrange a special uplift, stating that this is for radioactive waste.

The nursing staff must ensure that the radioactive waste is stored in a secure area until it is collected by the Porters.

When the Porters uplift the waste they should sign all copies of the waste transfer certificate; one for the Porters, one to be retained by the nursing staff and one to be returned to Medical Physics.

Porters or domestic staff must not remove the radioactive waste before it has been measured and correctly labelled by Medical Physics.

Medical Physics staff will monitor the patient and inform the nursing staff when it is safe for the patient to be discharged.

**6.3.4 After Discharge**

**Disposable materials** such as cups, plates, disposable sheets etc. should be placed in a yellow polythene bag for disposal as radioactive clinical waste.

**Bedclothes** should not be removed from the bed. Medical Physics staff will monitor all bedding and linen. Contaminated material will be placed in yellow bags for disposal while the rest can be laundered as normal.

**Decontamination:** Medical Physics staff will monitor and decontaminate as necessary. To arrange for monitoring telephone Medical Physics (WGH Tel. 32155) and ask for a member of the Nuclear Medicine Physics service. Ward staff should assist the Medical Physics staff to clean contaminated areas.

The staff cleaning the contaminated area should follow the procedures described in 6.3.2. By following these procedures there should be no risk of personal contamination but if any member of nursing or domestic staff wish to be checked for contamination, this can be arranged with Medical Physics. Medical Physics staff will inform the nurse in charge when the room is safe to reuse.
7. PROTOCOL B - NURSING CARE FOR A PATIENT RECEIVING THERAPEUTIC DOSES OF RADIOACTIVE IODINE-131 IN THE EDINBURGH CANCER CENTRE OR WITHIN A WARD WITH A SUITABLE SINGLE BED ROOM

7.1 Administration
Radioactive Iodine-131 is administered by Medical Physics staff, usually in the ward with restrictions lasting for a few days.

7.2 Visiting
Visiting should be restricted to 1 hour on the first day and 2 hours on the following days for any individual visitor. No young children or pregnant women will be allowed to visit.
Close contact should be avoided; it is sufficient to ask visitors to sit at least 1 metre from the patient.

7.3 Nursing Procedures and Precautions

7.3.1 Preparing the Room
Warning Sign: A radioactive warning sign should be displayed at the entrance to the patient's room. This should state “Controlled Area: Radioactive Materials: No Unauthorised Entry”.
Private Bathroom: Wherever possible the patient should be provided with a bathroom/toilet for his/her exclusive use. If this is not within the patient’s room a radioactive warning sign should be displayed at the entrance. The patient may use a general shower.
Bed Linen: Patient perspiration may result in contamination of bed linen; this will have to be incinerated so nursing staff may wish to use disposable bedclothes and linen.
Protecting surfaces: Areas that are likely to become contaminated should be covered with polythene sheets and secured with radioactive tape. Polythene should be used to cover the following: toilet seat, floor in front of toilet, floor under and in front of bedroom sink, floor at either side of bed. Small plastic bags should be placed over the nurse call button, bed remote controls and telephone/TV remote controls. Benchcote should be used to cover the table and windowsill. A towel should be placed over the back of the chair.

7.3.2 Nursing staff
Radiation badges: Radiation-monitoring badges will be kept in the ward. The members of staff responsible for nursing the radioactive patient should ensure they wear a badge throughout the patient’s stay. The badges will be shared with night shift staff – nurses should note which badge was worn.
Nursing duties should be carried out as quickly as possible without spending any unnecessary time close to the patient. Very close contact, such as that involved in feeding or bed bathing, should be restricted to 1 hour per day for each member of staff, i.e. if the patient requires more than 1 hour per day close contact with nurses the nursing duties should be shared.
Disposable gloves of the non-porous type must be worn when handling the patient, bed linen, dressings, excreta, etc. Plastic overshoes and apron must be donned before entering the room.

7.3.3 Patient
Personal Hygiene: As urine is very radioactive for the first few days, the patient should be told to be as careful as possible to avoid contaminating clothing etc., and to wash hands thoroughly after using the toilet.

Bedpan: If the patient is confined to bed, disposable bedpans should be used or a separate bedpan should be kept for the patient's use. Excreta should be emptied down the toilet and the vessel disposed of or washed thoroughly with copious amounts of running water.

Meals – at meal times disposable cups, plates and cutlery should be provided.

7.3.4 Spillage of Body Fluids
If there is spillage of excreta or the patient vomits, this should be dealt with promptly using normal hygienic procedures, taking care to avoid the spread of contamination.

- Non-porous disposable gloves, plastic apron and disposable overshoes should be worn, and the affected area should be cleaned with soap and water using disposable towels.
- All disposable items should be treated as radioactive waste.
- Medical Physics should be contacted to assess the extent of the contamination and to check if the contamination has been reduced sufficiently by cleaning.
- When monitoring for contamination it will be necessary to move the patient who has been treated with the radioactive iodine outside the room.
- If the area is still contaminated it may be necessary to cover the area with polythene sheets: this will ensure that the contamination is not transferred to other areas.
- Excreta and cleaning materials should be disposed of by toilet or sluice.

7.3.5 Radioactive Waste
- Disposable protective clothing and other contaminated materials should be placed in a yellow polythene bag for disposal as radioactive clinical waste. Radioactive warning tape should be attached to the bag.
Medical Physics should be contacted to deal with the radioactive waste. Medical Physics will measure the amount of radioactivity and complete the ‘radioactive waste for incineration’ label and provide the nursing staff with three copies of a ‘Radioactive Clinical Waste Transfer Certificate’.

The nursing staff should contact the Porters to arrange a special uplift, stating that this is for radioactive waste.

The nursing staff must ensure that the radioactive waste is stored in a secure until the radioactive waste is collected by the Porters.

When the Porters uplift the waste they should sign all copies of the waste transfer certificate; one for the Porters, one to be retained by the nursing staff and one to be returned to Medical Physics.

Porters or domestic staff must not remove the radioactive waste before it has been measured and correctly labelled by Medical Physics.

Medical Physics staff will monitor the patient and inform the nursing staff when it is safe for the patient to be discharged.

7.4 After Discharge

7.4.1 Protective polythene sheets from the toilet, floors etc should be removed carefully, folding in to contain any debris, and placed in a yellow polythene bag for disposal as radioactive clinical waste.

7.4.2 Disposable materials such as cups, plates, disposable sheets etc. should be placed in a yellow polythene bag for disposal as radioactive clinical waste.

7.4.3 Bedclothes should not be removed from the bed. Medical Physics staff will monitor all bedding and linen. Contaminated material will be placed in yellow bags for disposal while the rest can be laundered as normal.

7.4.4 Decontamination: Medical Physics staff will monitor and decontaminate as necessary. To arrange for monitoring telephone Medical Physics (WGH Tel. 32155) and ask for a member of the Nuclear Medicine Physics service. Ward staff may be required to assist the Medical Physics staff to clean contaminated areas. The person who cleans the contaminated area should follow the procedures described in 7.3.4. By following these procedures there should be no risk of personal contamination but if any member of nursing or domestic staff wishes to be checked, this can be arranged with Medical Physics. Medical Physics staff will inform the nurse in charge when the room is safe to reuse.

7.4.5 Cleaning: The room must have a hot wash before being occupied by another patient.
APPENDIX A

Advice on Radiation Aspects

Advice on radiation aspects is available by contacting the Department of Medical Physics at WGH (Tel. 32155) or RIE (Tel. 22371) and asking for a member of the Nuclear Medicine Physics Service.

To obtain advice outside normal working hours, contact the Hospital Switchboard and ask for the current list of names and telephone numbers of Medical Physics staff who can respond to a Radiation Incident.