

BODIES CONTAINING RADIOACTIVE MATERIAL

Section 1. BRACHYTHERAPY

If a brachytherapy patient (with implanted seeds) has died within 20 months of implantation, then the following shall be followed:

- Contact Oncology Physics or Radiation Protection.
- There is no hazard re: post mortem or any procedure, unless that procedure is in the region of the lower abdomen.
- Normal procedure for personal care after death (see section 9) is not hazardous.
- The family can view the deceased person.
- Embalming is permitted at any time after the implant providing the process is not invasive around the prostate area.
- Burial is permitted at any time after the implantation of the seeds.
- Cremation is not allowed within the first 20 months unless the Radiation Protection team and Oncology Physics team have been notified. It may be that the Oncology physics team supervise the removal of the prostate prior to cremation (which is then stored), there may be a restriction on the ashes if a risk assessment is performed by the suitable physics teams allowing the cremation to occur.

List of contacts

Medical Physics admin office WGH ext: 33904

Medical Physics admin office RIE ext: 22371

Oncology Physics ext: 32174

Out of hours please contact switch board and rota watch 'radiation emergency'.

Section 2. DIAGNOSTIC RADIOACTIVE MATERIAL

For a patient who has been administered with diagnostic radioactive material (for example a PET scan using 18-F or a bone scan using 99m-Tc) the following shall be applied:

- Contact the Nuclear Medicine Physics or Radiation Protection team
- Most diagnostic applications involve radioactive materials with a relatively short half-life. The external radiation hazard associated with most diagnostic investigations is small and special precautions are not necessary. However, Personal Protective Equipment (PPE) including gloves and gowns must be used when moving the deceased person.
- Post-mortem examinations, embalming and burial etc can usually take place 48 hours after the administration of 99m-Tc and 24 hours after the administration of 18-F.
- All unnecessary close contact with the deceased person should be minimised and impermeable gloves and apron worn if contact with the deceased person or body fluids is required.
- The deceased person should be straightened and washed as per section 9, however the procedure of gently pressing down on the abdomen to discharge waste matter, must not be carried out until the time constraints have elapsed due to the radiation and contamination levels that may result.
- The deceased person must be placed in a body bag to retain leaking body fluids prior to transfer to the mortuary.
- Linen, laundry and other material coming into contact with the deceased person must be treated as radioactive waste. This waste must be brought to the attention of Medical Physics. It should be labelled and segregated away from other waste.

- The family can view the deceased person, subject to individuals not spending prolonged periods close to the body; medical physics can advise on length of time.
- Where possible, the deceased person should be placed in a single refrigerated room; if not, the lowest corner refrigerated unit.

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Section 3. THERAPEUTIC RADIOACTIVE MATERIAL

For a patient who has been administered with therapeutic radioactive material the below must be followed:

- Contact the Nuclear Medicine Physics or Radiation Protection team. Advice must be obtained regarding movement of the patient's body to the mortuary. **The deceased person must not be released to the funeral director.**
- Depending on how long the patient was administered with the therapeutic radioactive material prior to death will dictate the length of the restrictions and precautions.
- Personal Protective Equipment (PPE) including gloves and gowns must be used when moving the deceased person.
- No pregnant or breastfeeding staff must come in to contact with the deceased radioactive patient.
- All unnecessary close contact with the deceased person must be minimised.
- The body should be straightened and washed, however the procedure of pressing down on the abdomen to discharge waste matter, must not be carried out due to the radiation and contamination levels that may result.
- The deceased person must be placed in a body bag to retain leaking body fluids prior to transfer to the mortuary.
- The deceased person should be placed into a single chilled room in the mortuary, providing that the surrounding rooms are of low occupancy; alternatively they can be placed into the bottom unit at the furthestmost column of units.
- It may be that other bodies are removed from the immediate vicinity of the deceased person. The deceased person will not make other bodies radioactive (unless there is contamination from fluid, which is why they should be stored in the bottom unit to minimise this risk). By ensuring that there are no other bodies stored in the immediate vicinity, it will reduce the amount of time staff spend close to the deceased radioactive patient, and therefore minimise the radiation dose they receive.
- A label should be placed on to both sides of the unit stating 'deceased radioactive patient caution ionising radiation risk, contamination risk'.
- Linen, laundry and other material coming into contact with the radioactive deceased person must be treated as radioactive waste. This waste must be brought to the attention of medical physics. It should be labelled and segregated away from other waste.
- If the family wish to view the deceased person Medical Physics will advise on the logistics and additional precautions to take as well as the maximum viewing period etc.
- The table below demonstrates typical length of how long restrictions will apply post administration. It must be stated, however, that there may be greater restrictions depending on the prior health of the deceased person.

Radionuclide	Number of days post administration after which restrictions are no longer applicable
131-I outpatient therapy (thyrotoxicosis)	42 days
131-I inpatient therapy (thyroid cancer)	6 days
223-Ra	21 days
177-Lu	32 days
90-Y	15 days

- The values in the table above should be guidance only, it may be sensible to consult with medical physics if the patient died up to one week after the number of days given above.
- The length of the restrictions depends on the following:
 - The patient themselves (biological decay)
 - Time between the patient being administered with radioactive material and death.
 - Amount of radioactivity administered to the patient
- It is therefore a requirement that the medical physics team are contacted to perform various dose rate measurements from the deceased patient to provide accurate restrictions.
- The above is only for radionuclides used within NHS Lothian it may be possible that patients have received nuclear medicine therapy elsewhere in the UK and returned to Lothian. Consideration will also have to be given to these patients and Medical Physics contacted.

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