SAFE USE OF IONISING RADIATION POLICY

Reference No:	UHB 031	**Version No:**	1	**Previous Trust / LHB Ref No:**	Trust 48

Documents to read alongside this Policy	• There are a number of legislative documents, standards and guidance notes as referenced in the policy • Local Rules • Ionising Radiation (Medical Exposure) Regulations 2000 (IR(ME)R) standard operating procedures

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OUT OF DATE POLICY DOCUMENTS MUST NOT BE RELIED ON

Policy for the Safe Use of Ionising Radiation

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1 INTRODUCTION

1.1 This Policy document sets out the Cardiff and Vale University Local Health Board (subsequently referred to as the UHB) aims and objectives in connection with the use of ionising radiation on its premises. It also outlines the general arrangements in force within the UHB for implementing the Policy.

1.2 This policy is concerned with the control of exposure to radiation from the use of radioactive materials and radiation generators in medical and dental practice. The use of non-ionising radiation, such as UV light and lasers, is covered under a separate policy.

1.3 Under the authority of this Policy, Directorates are required to produce their own operating procedures and Local Rules for implementing the Policy within their areas of responsibility.

1.4 This Policy has been prepared by the UHB Radiation Protection Group. Local Health and Safety representatives and other staff members with specific health and safety roles have been consulted during its preparation and they are in agreement with its provisions.

1.5 The Policy has been endorsed by the UHB Executive Board and forms part of the UHB Health and Safety Policy.

2 POLICY STATEMENT

2.1 The UHB is committed to providing and maintaining a safe working environment for all its employees, patients and any other persons who may be affected by its activities involving ionising radiation.

2.2 The UHB's commitment applies to all premises and activities involving ionising radiation within its control.

2.3 The UHB is committed to establishing good communication between all those involved in the implementation of this Policy.

3 AIMS

3.1 The purpose of this policy is to ensure that radiation doses to staff, patients and members of the public resulting from work carried out in the UHB are as low as reasonably practicable. The policy also aims to ensure that Best Available Techniques[14] will be employed to minimise the release of radioactive substances to the environment.

4 OBJECTIVES

4.1 The UHB, in pursuing this Policy, is committed to the following key objectives for its use of ionising radiation:

4.1.1 To comply with all relevant statutory requirements;

4.1.2 To identify radiation hazards, assess and control risks and prepare contingency plans;

4.1.3 To review incidents and identify underlying trends in order to minimise future risks and recurrence.

4.1.4 To ensure that diagnostic procedures are performed in such a way that the radiation dose to the patient is as low as reasonably practicable and that therapeutic procedures are consistent with the required clinical outcome;

4.1.5 To ensure that employees, contractors and others are adequately informed of identified radiation risks and, where appropriate, ensure they receive instruction, training and supervision;

4.1.6 To consult with employees' representatives on radiation safety issues;

4.1.7 To make arrangements for liaison with other employers, especially Cardiff University, where the activities of one employer could affect the safety of individuals associated with the other;

4.1.8 To safeguard the environment from the effects of the activities of the UHB.;

4.1.9 To make available records at the request of authorised external agencies;

4.1.10 To monitor and review the effectiveness of the Policy and, where appropriate, implement improvements.

5 ORGANISATION AND RESPONSIBILITIES

5.1 The Radiation Employer, as defined in the regulations[1-3], is the UHB. The Chief Executive takes overall responsibility on behalf of the UHB for compliance with legislation governing the use of ionising radiation and radiation safety. The responsibility for the monitoring of the operation of this Policy lies with the Executive Board of the UHB through its line management structure.

5.2 The UHB has established a Radiation Protection Group (RPG) which is responsible for overseeing the management of radiation safety throughout the UHB. The RPG reports to the Quality and Safety Committee which in turn provides assurance to the Board around the arrangements within the UHB for protecting and improving the quality and safety of patient centred healthcare. It may, on occasion, also be necessary to escalate relevant issues to the Health and Safety Committee which also provides assurance to the Board around the arrangements of the UHB for ensuring the health, safety and welfare of all employees and of those who may be affected by work-related activities, such as patients, members of the public, volunteers and contractors. The RPG is responsible for formulating and reviewing this Policy on ionising radiation, and for recommending appropriate action to the Chief Executive via the formalised route where necessary. The membership of the RPG is given in Appendix 1 while its Terms of Reference are in Appendix 2.

5.3 The UHB management arrangements place the responsibility for the day to day operational delivery of services on the Divisional Directors and their line managers supported by the Radiation Protection Supervisors.

In addition, the Divisional Director for the Division of Clinical Diagnostics and Therapeutics is responsible for the co-ordination of UHB activities and facilitates the Radiation Protection Group. These duties are delegated on a day to day basis to the Divisional Manager.

Designated UHB contacts for external agencies with regards to issues related to ionising radiation and/or radioactive substances are listed in Appendix 3.

5.4 One or more suitable Radiation Protection Advisers (RPAs)[1] are appointed by the UHB.

5.4.1 The RPAs are members of, and report to, the RPG.

5.4.2 The UHB shall consult with and receive advice from the RPAs on all aspects of its compliance with statutory requirements concerning the use of ionising radiation.

5.4.3 As regards the use of radioactive substances and the disposal of radioactive waste, the RPAs are responsible for preparing and submitting to the Environment Agency requests for Environmental Permits and for making copies of such permits available to the UHB.

5.4.4 On the advice of the RPAs, the UHB has appointed an Approved Dosimetry Service to measure and monitor radiation doses to ensure exposure to ionising radiation is properly controlled and dose limits are not exceeded.

5.5 One or more Medical Physics Experts (MPEs) are appointed by the UHB as a statutory requirement under IR(ME)R[3,4] to give advice on matters relating to medical exposures, including dose optimisation.

5.6 With regard to certificates issued by the Department of Health Administration of Radioactive Substances Advisory Committee (ARSAC) to registered doctors and dentists[5-7]:

5.6.1 The Chief Executive or their nominated deputy is responsible for sending copies to the Head of Medical Physics and Clinical Engineering and the RPA(s);

5.6.2 The Head of Medical Physics and Clinical Engineering is responsible for keeping a record of such certificates;

5.6.3 Individual certificate holders are responsible for giving copies of the certificates to their Head of Department;

5.6.4 The Clinical Director is responsible for ensuring that copies are available so that operators may inspect them.

5.7 As regards the transport of radioactive substances, advice should be sought from the Dangerous Goods Safety Adviser and the Head of Medical Physics and Engineering.

5.8 Within each Directorate, the Clinical Director is responsible for ensuring compliance with this Policy and the requirements of legislation and guidance pertaining to the use of ionising radiation[1-15]. However, these responsibilities may be delegated to the Directorate Manager or other senior member of the Directorate staff (e.g. a Head of Department).

5.9 Within each Directorate, the Clinical Director has the following responsibilities:

5.9.1 To ensure that responsibilities for radiation protection are documented;

5.9.2 To ensure that there exist written Local Rules and operating protocols and that these are reviewed regularly at intervals not exceeding one year;

5.9.3 To ensure that for medical exposures, standard operating procedures exist that describe the eligible referrer(s), the practitioner(s) and the operator(s) as defined under IR(ME)R[3].

5.9.4 To keep a record of the training of the practitioners and operators[3];

5.9.5 To ensure that each request for a medical exposure (including research, occupational health, health screening and medico-

legal procedures) is justified and authorised and that this process is recorded prior to the exposure[3];

5.9.6 To ensure that for medical exposures, rigorous patient and subject identification procedures are followed[3];

5.9.7 To ensure that up to date copies of Environmental Permits issued by the Environment Agency are available in areas where work with radioactive substances is carried out.

5.9.8 To ensure that records are kept of radioactive substances and the disposal of radioactive waste.

5.9.9 To ensure that those who have responsibility for the administration of radioactive substances to humans are in possession of the appropriate ARSAC certificate(s).

5.9.10 To ensure that appropriate arrangements are in place for the transport of radioactive substances.

5.10 Radiation Protection Supervisors (RPSs)[1] are appointed in consultation with the RPAs and designated officers at Directorate level. The suitability of persons to be appointed as RPSs is determined with the assistance of official guidance[2]. The Role Specification of the RPS is given in Appendix 4. A current list of appointed RPSs is held by the Chair of the RPG.

5.11 The Medical Director is responsible for ensuring that this Policy, and any relevant Local Rules and procedures issued under the authority of this Policy are brought to the attention of all medical staff. They should ensure that medical staff are adequately informed of identified radiation risks and ensure that they receive instruction, training and supervision as appropriate.

5.12 Standard operating procedures required by IR(ME)R[3] for medical exposures have been established by the UHB at two levels – corporate IR(ME)R procedures[15] and departmental IR(ME)R procedures. Corporate procedures cover processes that apply throughout the UHB whilst departmental procedures are tailored to the work of individual departments and may vary in content between one department and another.

5.13 In the event of a suspected radiation incident, the procedure described in Appendix 5 should be followed.

5.14 In seeking to minimise radiation dose to patients from diagnostic investigations, the UHB is mindful of the recommendations of expert organisations regarding referrals[13] and equipment replacement. The UHB is committed to achieving mean patient radiation doses that are less than national reference levels for the examination.

5.15 The Head of Medical Physics and Clinical Engineering is responsible for the ordering and receipt of all radioactive substances (unless a special arrangement has been made with individual Directorates), the accumulation and disposal of solid and organic liquid radioactive waste, maintaining a record of radioactive waste disposal for the premises of the UHB and the transmission of these records to the RPA.

5.16 Although the UHB accepts ultimate responsibility for implementing this Policy, individuals are required to abide by its stipulations and employees need to be aware of their duties under IRR99 legislation[1].

6 RESOURCES

6.1 The resources required for training are provided by Directorates from existing budgets.

6.2 RPA's are provided by the Radiation Protection Group with adequate information and facilities for the performance of their duties.

6.3 RPS's are given sufficient time, facilities and training to discharge their duties by the Divisional Managers through the line management structure.

6.4 Any resources required for implementation of this policy are within existing Directorate budgets.

7 TRAINING

7.1 Training needs are identified at Directorate level.

7.2 Each Directorate keeps records of staff training.

7.3 Directorates will ensure that induction and update training is provided for staff at suitable intervals.

8 EQUALITY IMPACT ASSESSMENT

The UHB is committed to ensuring that, as far as is reasonably practicable, the way it provides services to the public and the way it treat its staff reflects their individual needs and does not discriminate against individuals or groups. The UHB has undertaken an Equality Impact Assessment and received feedback on this policy and the way it operates. The UHB wanted to know of any possible or actual impact that this policy may have on any groups in respect of gender (including maternity and pregnancy as well as marriage or civil partnership issues), race, disability, sexual orientation, Welsh language, religion or belief, transgender, age or other protected characteristics. The assessment found that there was **no impact** to the equality groups mentioned.

9 AUDIT

9.1 This policy is monitored by the Radiation Protection Group. The following indicators will be used to monitor the effectiveness of the policy:

9.1.1 RPS annual reports.

9.1.2 Reported radiation incidents.

9.1.3 RPA inspection visits and audit including review of personal dosimetry results.

9.1.4 Reports of inspections by the Health and Safety Executive, the Environment Agency, Healthcare Inspectorate Wales and the Department for Transport.

10 REVIEW

10.1 This Policy will be reviewed, as a maximum, every three years.

11 REFERENCES

1. The Ionising Radiations Regulations 1999. SI 1999/3232.

2. Work with Ionising Radiation. Approved Code of Practice and Guidance. HSE Books 2000.

3. The Ionising Radiation (Medical Exposure) Regulations 2000, SI 2000/1059.

4. Ionising Radiation (Medical Exposure) Amendment Regulations 2006, SI 2006/2523

5. The Radioactive Substances Act 1993. Chapter 12.

6. Environmental Permitting (England and Wales) Regulations 2010 SI 2010/675

7. The Medicines (Administration of Radioactive Substances) Regulations 1978. SI 1993/1006.

8. Notes for Guidance on the Clinical Administration of Radiopharmaceuticals and Use of Sealed Radioactive Sources. Administration of Radioactive Substances Advisory Committee. Department of Health 2006.

9. Accord Européen relatif au Transport International des Marchandises Dangereuses par Route (ADR) 2009

10. Carriage of Dangerous Goods and the use of Transportable Pressure Equipment Regulations 2009 SI 2009/1348

11. Protection of pregnant patients during diagnostic medical exposures to ionising radiation. Advice from the Health Protection Agency, The Royal College of Radiologists and the College of Radiographers 2009

12. Pregnancy and Work in Diagnostic Imaging Departments 2nd Edition, British Institute of Radiology

13. Making the Best Use of a Department of Clinical Radiology. Royal College of Radiologists, Sixth Edition 2007

14. Best Available Technique for the Disposal of Radioactive Waste, Cardiff and Vale ULHB, 2010

15. Corporate IR(ME)R procedures, Cardiff and Vale UHB, 2010

Appendix 1

MEMBERSHIP OF RADIATION PROTECTION GROUP

Chair

Divisional Manager for the Division of Clinical Diagnostics and Therapeutics

Radiation Protection Adviser(s)

Radiation Protection Adviser (Cardiff University)

Laser Protection Adviser

Radiation Protection Supervisor (Radiology, University Hospital of Wales)

Radiation Protection Supervisor (Radiology, University Hospital Llandough)

Representative from Medical Physics

Representative from the Dental Division

Representative from Patient Safety & Quality

Representative from Health, Safety and Environment Unit

Staff Side Representative

Appendix 2

TERMS OF REFERENCE OF RADIATION PROTECTION GROUP

AIM

The aim of the Group is to provide the Cardiff and Vale University Local Health Board (UHB) with advice regarding all matters involving ionising and non-ionising radiation and ensure that the UHB is compliant with all legislative requirements.

The objectives of this Group are to establish systems which:

1. Review the current arrangement for the management of radiation protection within the UHB and plan and implement effectively a corporate model based on best practice.

2. Ensure that there is a structured process for implementation of new Regulations, Approved Codes of Practice, and Guidance.

3. Identify and monitor all current activities and co-ordinate all developments related to the use of ionising radiation and the storage and disposal of radioactive substances in the UHB. Ensure that these activities are carried out in line with National Legislation, Guidelines and Local Rules and within the Controls Assurance framework.

4. Ensure that up to date policies, procedures and certifications, which are held within the Local Rules, are accurate and reviewed routinely.

5. Record and monitor incidents and near misses. Ensure that appropriate action is taken within a corporate framework.

6. Ensure that all aspects of personal risk from radiation exposure are monitored and addressed.

7. Ensure that the Group's activities integrate with the Divisional, Health and Safety, Risk Management and Clinical Governance arrangements of the UHB.

8. Ensure close liaison with all relevant external agencies as appropriate.

9. Plan and co-ordinate preparations for Health and Safety Executive, the Environment Agency, Healthcare Inspectorate Wales and the Department for Transport inspections.

10. Ensure that effective two-way communication lines are established with the senior management, departmental heads and staff within the UHB via designated channels.

11. To conform as appropriate with the Standards for Health Services in Wales.

REPORTING ARRANGEMENTS

The RPG reports to the Quality and Safety Committee which in turn provides assurance to the Board around the arrangements of the UHB for protecting and improving the quality and safety of patient centred healthcare. It may, on occasion, be necessary to escalate relevant issues to the Health and Safety Committee.

FREQUENCY OF MEETINGS

The Group will meet on a quarterly basis.

Appendix 3

DESIGNATED CONTACTS WITH EXTERNAL AGENCIES (WITH REGARDS TO ISSUES RELATED TO IONISING RADIATION AND/OR RADIOACTIVITY)

Environment Agency	Divisional Manager, Division of Clinical Diagnostics and Therapies
Department of Transport	Head of Medical Physics and Clinical Engineering
Health and Safety Executive	Head of Health and Safety
Health Inspectorate Wales	Assistant Director of Patient Safety and Quality

Appendix 4
ROLE SPECIFICATION OF RADIATION PROTECTION SUPERVISOR

Base Hospital

Department

Accountable to

Reports to

Liaises with Radiation Protection Adviser

Job Summary The Radiation Protection Supervisor (RPS) will play a supervisory role in assisting the UHB to comply with the requirements of the Ionising Radiation Regulations 1999. The RPS will be directly involved in the work with ionising radiation and will exercise close supervision to ensure that the work is done in accordance with Local Rules.

MAIN DUTIES AND RESPONSIBILITIES

1. Notification of work and certain occurrences

To notify, in writing, the responsible manager:

(i) of any proposed changes in, or additions to, work activity

(ii) immediately of any damage to a radioactive source, spillage, loss or suspected loss of radioactive substances.

(iii) of any change of equipment, usage or conditions, which might affect radiological safety; of any monitoring instrument used to demonstrate compliance with the Regulations which has not been calibrated to acceptable national standards.

(iv) immediately of any incident involving equipment malfunction resulting in patient exposure much greater than intended.

(v) immediately of any incident or suspected incident involving staff exposure much greater than intended.

2. Restriction of Exposure

(i) To help to ensure that controls for the restriction of exposure are used in accordance with the procedures in the Local Rules and Systems of Work.

(ii) To observe, from time to time, all procedures involving ionising radiation and to issue instructions necessary to maintain radiation doses as low as reasonably practicable.

3. Local Rules and Systems of Work

(i) To help to ensure adherence to Local Rules and systems of work.

4. Information, Instruction and Training

(i) To attend courses and receive training as recommended by the RPA.

(ii) To promulgate local Rules and Systems of Work to ensure that necessary safety information and guidance is given to all staff, outside contractors and any other persons who enter controlled or supervised radiation areas.

5. Additional Duties

(i) Dependent on the work carried in the Department the responsible manager may delegate to the RPS specific tasks to comply with Regulations (a) to (p) as listed in the Note below. These requirements must be listed and attached to both this Role Specification and to the Local Rules.

(ii) The RPS must provide the RPA with an Annual Report in the required format. This will be forwarded to the Radiation Protection Group.

NOTE:

The duties and responsibilities outlined in this role specification should be read in conjunction with:

a) The Ionising Radiations Regulations 1999. SI 1999/3232.

b) Work with Ionising Radiation. Approved Code of Practice and Guidance. HSE Books 2000.

c) The Ionising Radiation (Medical Exposure) Regulations 2000. SI 2000/1059.

d) Ionising Radiation (Medical Exposure) Amendment Regulations 2006 SI 2006/2523

e) The Radioactive Substances Act 1993. Chapter 12.

f) Environmental Permitting (England and Wales) Regulations 2010 SI 2010/675

g) The Medicines (Administration of Radioactive Substances) Regulations 1978. SI 1993/1006.

h) Notes for Guidance on the Clinical Administration of Radiopharmaceuticals and Use of Sealed Radioactive Sources. Administration of Radioactive Substances Advisory Committee. Department of Health 2006.

i) Accord Européen relatif au Transport International des Marchandises Dangereuses par Route (ADR) 2009

j) Carriage of Dangerous Goods and the use of Transportable Pressure Equipment Regulations 2009 SI 2009/1348

k) Protection of pregnant patients during diagnostic medical exposures to ionising radiation. Advice from the Health Protection Agency, The Royal College of Radiologists and the College of Radiographers 2009

l) Pregnancy and Work in Diagnostic Imaging Departments 2nd Edition, British Institute of Radiology

m) Making the Best Use of a Department of Clinical Radiology. Royal College of Radiologists, Sixth Edition 2007

n) Best Available Technique for the Disposal of Radioactive Waste, Cardiff and Vale ULHB, 2010

o) Corporate IR(ME)R procedures, Cardiff and Vale UHB, 2010

A list of RPSs is available from the Chair of the Radiation Protection Group.

Appendix 5

PROCEDURE FOR REPORTING RADIATION INCIDENTS

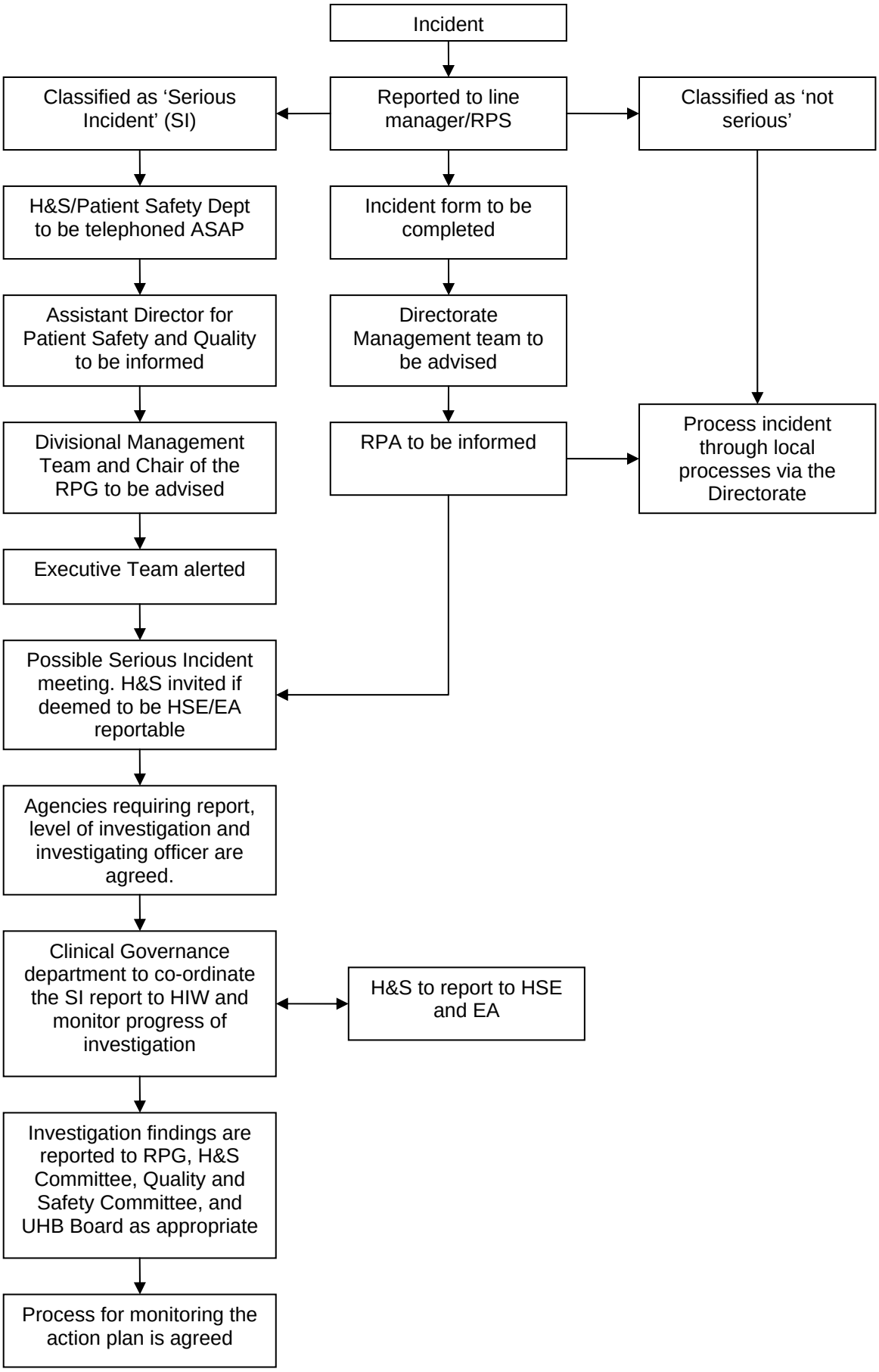
In the event of a suspected radiation incident, the employee should immediately notify the RPS/line manager and complete an incident form. The Directorate Management Team will be advised and advice will be sought from the RPA at this stage.

If the incident is classified as a ‘Serious Incident’, the Health and Safety Adviser (for H&S incidents) or the Patient Safety Adviser (for clinical incidents) should be contacted as soon as possible. The Divisional Management Team, Chair of the Radiation Protection Group and Assistant Director for Patient Safety and Quality will be informed.

Health Inspectorate Wales, the Health and Safety Executive and Environment Agency (as appropriate) should be notified by the Patient Safety Adviser in the case of clinical incidents, or by the Health and Safety Adviser in the case of Health and Safety incidents.

A flow chart for the reporting of radiation incidents is attached.

FLOWCHART


Incident
Reported to line manager/RPS
Classified as 'Serious Incident' (SI)
Classified as 'not serious'
H&S/Patient Safety Dept to be telephoned ASAP
Incident form to be completed
Assistant Director for Patient Safety and Quality to be informed
Directorate Management team to be advised
Divisional Management Team and Chair of the RPG to be advised
RPA to be informed
Process incident through local processes via the Directorate
Executive Team alerted
Possible Serious Incident meeting. H&S invited if deemed to be HSE/EA reportable
Agencies requiring report, level of investigation and investigating officer are agreed.
Clinical Governance department to co-ordinate the SI report to HIW and monitor progress of investigation
H&S to report to HSE and EA
Investigation findings are reported to RPG, H&S Committee, Quality and Safety Committee, and UHB Board as appropriate
Process for monitoring the action plan is agreed