

**RADIATION PROTECTION  
POLICY AND PROCEDURES  
NUMBER : 12**

**UNTOWARD INCIDENTS - DIAGNOSTIC PROCEDURES**

1. Any untoward occurrence which may result in excess radiation to staff or patients must be referred to the Radiation Protection Supervisor and the Radiation Protection Adviser, who will estimate the dose and liaise with management, HSE, DoH, HMIP, etc. as appropriate.
2. Suspect equipment must be withdrawn from service and labelled according.

**Patients - Much Greater than Intended**

Where a patient has received a dose greater than that intended by one of the following factors

- 20 times - for extremities, skull, chest, dental x-ray examinations, other simple examinations such as elbow, knee & shoulder, and for nuclear medicine where intended  $H_E \leq 0.5$  mSv [e.g.  $^{51}\text{Cr}$  (EDTA) GFR measurement],
- 10 times - Lumbar spine, abdomen, pelvis, mammography and other examinations not referred to elsewhere, and for nuclear medicine where intended  $H_E \leq 5$  mSv but  $> 0.5$  mSv [e.g.  $^{99\text{m}}\text{Tc}$  (MAA Lung imaging)],
- 3 times - for fluoroscopy, digital radiography, C.T, and for nuclear medicine where intended  $H_E > 5$  mSv [e.g.  $^{201}\text{Tl}$  myocardial imaging],

then they will be considered as having been "*exposed to ionising radiation to an extent much greater than intended*" under both IRR99 and IRMER regulations. Such incidents must be investigated in detail, and the appropriate authority must be notified.

Patients who undergo a procedure that was not intended, as a result of mistaken identification or other procedural failure, and consequently have been exposed to an ionising radiation dose, should also be considered as having received an unintended dose of radiation.

The **detailed investigation** required by the Regulations should be aimed at: -

- establishing what happened
- identifying the failure
- deciding on remedial action to minimise the chance of a similar failure

- estimating the doses involved.

If the overdose was due to an equipment fault, the HSE are the appropriate authority. Otherwise, the DoH are the appropriate authority. Consult an RPA before informing the HSE or DoH.

### **Informing Patients**

The advise from DoH is, "As a matter of good practice, patients who have been exposed to a dose of ionising radiation much greater than intended, should be informed of the incident, unless there is a good reason for them not to be. It should be a local decision on how, when and by whom the patient is notified, but the practitioner and referring clinician should be involved. When the patient is unable to understand the information given, it may be more appropriate to inform the patient's representative or parent/guardian. It would be advisable to record decisions not to inform the patient or the patient's representative or parent/guardian in the patient's case notes."

### **Reporting of Staff Overexposure**

"Overexposure" of staff, i.e. breaching a dose limit, must be reported to the HSE.

For unclassified staff, over 18 years of age, these are

- Whole body: 6 mSv in a year
- Eyes: 50 mSv in a year
- Hands, etc.: 150 mSv in a year

Consult an RPA before reporting.