### 1. Objectives

To ensure that information relevant to the radiation dose delivered to each patient undergoing a medical exposure is collected and recorded. The information recorded shall be sufficient to ensure that an assessment of effective dose relating to each patient can be carried out.

### 2. Responsibilities

The Service Lead shall each authorise a procedure for their Service that defines how patient doses shall be measured and recorded for medical exposures.

The Head of Health Physics will ensure that there is a rolling programme for carrying out patient dose surveys for diagnostic radiology examinations.

The appropriate Medical Physics Expert (MPE) for each hospital will ensure that survey results are compared with relevant Diagnostic Reference Levels (DRLs) and actions recommended to address any deficiencies.

### 3. Patient dose assessments

The data recorded for each medical exposure should include those items listed below. This should provide sufficient data to enable an assessment of the effective dose for a reference patient to be made.

For nuclear medicine doses, the ARSAC Notes for Guidance, Section 5 gives effective doses relating to the ARSAC DRLs, and this may be used to establish the effective dose for a reference 70kg patient.

For radiology examinations, surveys of patient doses for a representative selection of examinations will be arranged at intervals of three years by the relevant MPE.

The Service Lead with responsibility for the relevant units must ensure that data collection for dose surveys is completed in a timely manner and data returned to the relevant MPE.

A representative dose assessment should apply to an average patient (usually taken at 70 kg). Restrictions will be applied to the range of patient weights that are included within the survey, which might typically be 50-90 kg, to ensure an average weight of 70 ± 5 kg for the group.

The relevant MPE will compare mean doses for each type of examination with the relevant DRL, and prepare reports of dose survey results that will identify whether any of the dose levels measured either approach or exceed the DRLs.

# 4. Information recorded for each procedure

# This should include the following:

###### Radiography

* All examinations including all projections used
* Total dose-area product for the examination
* Number of exposures
* If there is no DAP data, the kV and mAs must be recorded.

###### Mammography

###### mAs

* Compressed breast thickness
* Anode/Target filter combination or displayed Mean Glandular Dose

###### Dental

###### Teeth imaged or selected exposure settings

* Patient size setting
* Dose Area Product where available

###### Fluoroscopy

* Name of procedure carried out
* Screening time
* Total dose-area product for whole examination including additional exposures such as decubitus (number of images recorded if dose-area product not available)

###### Angiography and Interventional Procedures

* Name of procedure
* Screening Time
* Dose area product for whole procedure
* Cumulative air kerma (if available)

**Computerised Tomography**

# Name of procedure

# Two alternative sets of dose variables are given for this:

# Total Dose-length Product (DLP) if available

# If CTDI only available

# CTDIvol

# Scan length

# Bone densitometry

* Names of all examinations performed

###### Nuclear Medicine

* The activity administered to the patient
* The radiopharmaceutical administered
* Any attempt to reduce dose (e.g. thyroid blocking)