Roentgen’s discovery of the property of x-rays in 1895 gave medicine one of its most powerful tools. It is now accepted that there is no safe level of radiation and even a single low dose exposure carries an associated risk, and that its application should be carefully controlled. This risk increases with the dose received.

Medical exposure constitutes by far the largest percentage of man-made radiation and therefore controllable radiation dose to the general public. In a recent survey in the UK it was estimated that the level of medical radiation exposure to the general public could be halved without any detriment to patient management.

Medical exposure to ionising radiation is governed by EU legislation in the form of a Statutory Instrument. The existing directive (84/466/EURATOM) is currently being revised and new legislation, based on the recommendations of directive (97/13/EURATOM), will come into effect May 13, 2000. The new directive (in Article 6), reinforces the role of the prescriber, the GP in this instance, in ensuring radiation exposure is kept to an acceptable level.

Article 6 relates to the justification of all medical exposures and stresses the importance of doctors, prior to requesting an x-ray, being convinced that the benefit gained from any x-ray investigation must outweigh any risks incurred.

To facilitate meeting the criteria laid down, particularly in relation to justification, member states are encouraged to introduce a course on radiation protection into all undergraduate medical and dental degree programmes.

Member states are also asked to ensure that referral criteria for medical exposure, including radiation doses received as a result of each procedure, are available to all prescribers. National reference levels for Ireland are currently being established.

Referral criteria within the hospital setting have been the subject of discussion for some time and guidelines are now in place for a wide range of practices.

These guidelines were drawn up by the scientific committee of the Royal College of Radiologists (London) and are outlined in a booklet entitled, ‘Making the best use of a department of radiology.’ They have been endorsed by the Irish Institute of Radiography and the Faculty of Radiologists (RCSI) and are now followed by all our diagnostic imaging departments.

In relation to justification of procedures, the guidelines pose a number of questions which should ideally be asked prior to the GP referral of a patient for x-ray examination. (See Table)

Two specific situations which would also be of relevance to the

<table>
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<th>Pre-referral guidelines</th>
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<tr>
<td>Do you need it?</td>
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<tr>
<td>Do you need it now?</td>
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<tr>
<td>Has it already been done?</td>
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<tr>
<td>Have I found the problem?</td>
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<tr>
<td>Can I get the information?</td>
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GP are referred to within the guidelines and specific recommendations made.

**Six week suggestion**

Where a clinical problem usually resolves with time, the guidelines indicate waiting six weeks and then only requesting an x-ray if the symptoms persist. Acute pain in the cervical or lumbar regions, in the absence of neurological signs, is a common example.

**The pregnant/potentially pregnant patient**

Irradiation of the uterus of females of childbearing age should be avoided if at all possible. If an x-ray procedure is deemed to be justified it must be carried out within the parameters of the 10-28 day rule being applied for women of child bearing age.

As with all medical personnel, radiographers have a duty of care to reduce any unnecessary medical radiation exposure to their patients.

Requests for x-rays which do not fit the criteria of justification outlined above are therefore likely to be queried. The Irish Institute of Radiography wishes to encourage a more critical and protective approach to requests for x-rays.

Mary A Coffey and Liam Murray are President and Vice President of the Irish Institute of Radiography.