Understanding the issues involved in requesting X-rays

**Author** Peter Ford, MSc, BSc, HDCR, is consultant radiographers, department of medical imaging, St Richard’s Hospital, Chichester, West Sussex.


Ordering X-rays is one of the 10 key roles for nurses (DoH, 2003). Increasing numbers of nurses are requesting examinations involving the use of ionising radiations, such as X-rays and computerised tomography (CT) scans. This article explains some of the issues, suggests ways to go about gaining requesting rights and gives practical advice on the process.

A recent report from the RCN (Ball, 2005) highlighted the difficulty nurses have in requesting diagnostic tests, despite the chief nursing officer identifying the ordering of X-rays as the first of her 10 key roles for nurses (Department of Health, 2003). This issue has caused frustration within nursing as these new roles were a key part of the radical reform in *The NHS Plan* (DoH, 2001).

While nurses and health professionals in some trusts have been allowed requesting rights, in others difficulties have been experienced. In practice, anyone who has tried approaching their radiology department and asked if they can order X-rays will not have had their request greeted with enthusiasm, and a request phrased in such a way is almost guaranteed to create some resistance, if not hostility.

The use of the word ‘ordering’ by the chief nursing officer was unfortunate. No one orders X-rays, whether they are junior medical staff or consultants. X-rays can only be requested.

**Legal aspects**

The use of radiation is governed by the ionising Radiations Regulations (DoH, 1999). This provides the framework for the use of all forms of ionising radiation, from the nuclear power industry to the health service. Subsequently, the Ionising Radiations (Medical Exposure) Regulations (IRMER) (DoH, 2000) regulated the exposure of patients to ionising radiation, which include X-rays, computerised tomography (CT) scans and radiopharmaceuticals used in nuclear medicine.

This legislation was designed to prevent the exposure of patients to radiation where the examination does not affect the patient’s treatment. Under regulation 6(1)(a) of IRMER, once a request for an examination has been received, it must be justified to the radiographer before it can be done. Justification is the term used to describe the proof that there is sufficient net benefit to the patient to outweigh any potential detriment, and that no alternative imaging would achieve the same result.

This is a very important concept. Radiographers are not allowed to expose a patient to ionising radiation unless the examination is justified on clinical grounds. Failure to provide clear clinical justification means the X-ray must not be done. Should there be a subsequent query about an X-ray examination and it was not justified, it is the radiographer who is legally liable, not the person who initiated the request.

Reservations are often cited to opening up requesting rights to non-medical staff on clinical governance and radiation safety grounds. There are two reasons for this:

- Despite recent discussions about the threshold above which damage occurs, all the existing evidence shows that ionising radiations are harmful to human tissue and that this effect is cumulative (National Radiation Protection Board, 1990);
- Despite the teaching and publicity about the dangers, audit has repeatedly shown that doctors have very little appreciation of the amount of radiation patients are exposed to (Shiralkar et al, 2003).

Articles on the best use of X-rays have been published in the past (De Lacey et al, 1980), and regular guidelines are now issued (Royal College of Radiologists, 2003) to reduce the number of examinations that are done but have no effect on patient treatment. Despite this, research shows medical trainees still have a poor understanding of the indications for common radiological examinations (Pissay Gopalara Rao and Reed, 2005).

**Learning objectives**

Each week *Nursing Times* publishes a guided learning article with reflection points to help you with your CPD. After reading the article you should be able to:

- Appreciate the rational for extending or restricting X-ray requesting rights;
- Understand the legal aspects of X-ray examinations;
- Know the issues to include in a protocol for X-ray requesting rights;
- Be aware of the importance of accurate referral details.

**References**


Gaining requesting rights
This background and an annual increase in requests of over 10 per cent in many departments could be responsible for reluctance to give requesting rights to more people. However, experience shows that, generally, the clinical information and the quality of requesting from non-medically qualified referrers such as nurses is superior to that of many medical staff (RCN and DoH, 2005).

An understanding of the reasons behind these concerns can enable nurses to put together a robust justification for X-ray requesting rights.

Some trusts have developed systems of applying for requesting rights. Where these do not exist, a protocol can be written to show that areas of concern have been addressed (Box 1). This must show that:
- The radiation implications are understood;
- There has been a sound clinical examination of patients before deciding to request an X-ray;
- There is a robust system for noting and acting on the results of such examinations.

The completed protocol should be signed by the clinical director of the specialty concerned and of the radiology department. In some trusts it will need to be sent to the medical physics department for consideration by the radiation protection committee, in others the clinical governance committee.

Once the protocol has been approved, named individuals can be authorised. An appendix must list all these referrers under the protocol with specimen signatures. A copy of the protocol and list of referrers must be sent to the radiology department so request forms can be checked against these specimen signatures.

**Box 1. Protocol for the Requesting of X-ray Examinations**

<table>
<thead>
<tr>
<th>Title</th>
<th>Summary of proposed scheme such as protocol for the requesting of extremity X-ray examinations by nurse practitioners.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aim</td>
<td>A description of what the protocol aims to achieve, for example to allow nurses working in A&amp;E to refer patients directly for extremity examinations, without referral to a member of the medical staff.</td>
</tr>
<tr>
<td>Staff group involved</td>
<td>The generic staff group who will be referring patients, for example nurses working at nurse practitioner level in the minor injuries unit.</td>
</tr>
<tr>
<td>Patient cohort</td>
<td>The patient group, for example patients who have self-referred to the minor injuries unit following trauma. Equally importantly, the protocol should identify specific clinical exclusions.</td>
</tr>
<tr>
<td>Scheme of work</td>
<td>Describes in detail the clinical criteria used to assess the patient, for example Ottawa ankle rules for trauma patients. This will provide the clinical justification required. If a pathway of care is used, this must be included. A paragraph must cover pregnancy and action in case of possible pregnancy.</td>
</tr>
<tr>
<td>Training</td>
<td>This should describe the training that the referrers must undertake if they are to be able to assess whether an imaging examination is justified. There should be specific mention that referrers must have a certificate that confirms they have been trained in the requirements of schedule 2 of the Ionising Radiations (Medical Exposure) Regulations 2000. This can be arranged in many trusts.</td>
</tr>
<tr>
<td>Responsibility for results</td>
<td>By law all examinations involving the use of ionising radiations must be recorded in the patient’s notes. The protocol must identify who will examine the films if the patient returns with them to the clinic, who will check the radiology report, what action they will take and who is responsible for ensuring that the results are entered in the patient’s notes.</td>
</tr>
<tr>
<td>Audit process</td>
<td>There needs to be an audit process that monitors the number of referrals, the accuracy of referral criteria and accuracy of actions on results, for example all nurses’ notes of X-ray findings will be compared to the radiology report. If accuracy rates fall below for example 90 per cent, referrers will be required to undertake refresher training before they can start requesting again.</td>
</tr>
<tr>
<td>References</td>
<td>Any references that support the practice, such as guidelines, NSFs and/or relevant articles.</td>
</tr>
<tr>
<td>Named referrers</td>
<td>Once the protocol has been approved, named individuals can be authorised. An appendix must list all these referrers under the protocol with specimen signatures. A copy of the protocol and list of referrers must be sent to the radiology department so request forms can be checked against these specimen signatures.</td>
</tr>
</tbody>
</table>

**References**

Department of Health (2003) The Chief Health Professions Officer’s Ten Key Roles for Allied Health Professionals. London: DoH.


Guided reflection

Use the following points to write a reflection for your PREP portfolio:

- List your place of work and why you read this article;
- Explain the process of X-ray requesting in your area of practice;
- Outline what you have learnt in reading this article;
- How can you use this information to improve patient care?
- Write about the actions you will take to follow up this learning.

Requesting an X-ray

All X-ray request forms sent to the imaging department are checked to ensure that they comply with the Ionising Radiations Regulations (DoH, 1999) and Ionising Radiations (Medical Exposure) Regulations (IRMER) (DoH, 2000). The regulations define certain roles and responsibilities that must be complied with, all of which are laid out in each radiology department’s operating procedures.

The practitioner (radiologist or radiographer), who makes sure that the examination is justified and takes responsibility for making an exposure, will check the form for three things:

- Sufficient detail has been provided on the request form for it to comply with the Ionising Radiations Regulations and IRMER;
- The examination requested complies with clinical guidelines (Royal College of Radiologists, 2003);
- The patient details are sufficient.

The operator has the responsibility under IRMER to ensure that the request form is completed sufficiently to comply with the regulations.

Request forms will vary slightly from department to department but they all have the same basic requirements. As a minimum, the form must have the patient’s full name, hospital number and date of birth. IRMER requires that a patient must confirm to the operator a minimum of three different details of their identity before they can be examined, such as forename, surname and date of birth.

Inclusion of the hospital number ensures that all patient details are known so it is easier to check examination history and old films can be found, as required under IRMER, before the patient is examined. It could delay the examination if the radiology department does not know where the patient is coming from such as outpatient clinic, day centre or ward. Details of any requirements for timing related to a specific event – such as before theatre at 2pm or following removal of a plaster – need to be included.

The method of transport to the department is often omitted. Failure to provide this information may delay the X-ray examination, especially if the patient needs to come to the department in a chair or bed.

Confirmation is required that there is no possibility of pregnancy in patients typically aged between 15 and 55 years. This may vary from trust to trust and usually depends on advice from the obstetric team.

Imaging departments undertake tens of thousands of examinations a year, including typically over 90 per cent of all inpatients. To reduce the possibility of cross-infection to staff and other patients, any biohazards must be identified. This allows appropriate action, such as patients with MRSA being X-rayed at the end of sessions, to allow extra time for cleaning.

Dating the form ensures that the age of the request is known. Examinations are normally graded for priority, according to the clinical urgency identified in the justification. Dating helps to ensure that non-urgent examinations do not wait excessively.

Justification

The examination requested should be clearly stated. Qualifying comments such as oblique or lateral are not usually necessary but, if specific views are required, the reason must be stated in the clinical details.

The radiographer will provide images that reflect the reasons given for doing the examination. It is essential to know how the request is referred to in the guidelines, and that the correct examination is being requested. For example, X-rays for ribs are not done as it does not affect patient management but a chest X-ray will be done to exclude a pneumothorax.

Clinical details should be sufficient to show that the X-ray is justified. It is good practice to ask the question that the examination is designed to answer. For example ‘fall from tree? Fractured clavicle’.

Legislation defines the referrer as the health professional entitled to refer patients to a practitioner for an examination involving ionising radiation. It is important to emphasise the responsibilities of this role (Martin et al, 2004). All referrers must state the consultant in charge of the patient, their own name, sign the form, and provide a contact/bleep number.

Radiology departments are under huge pressure. In recent years they have been running with increases of 10 per cent per year or more, and national vacancy rates in excess of 10 per cent (Audit Commission, 2003). Although the situation is no longer critical, the target of reducing waiting times to 18 then 12 weeks (DoH, 2004) and the cancer two-week rule are putting extreme pressure on radiology departments.

Conclusion

It is only by correct, accurate and comprehensive completion of request forms that patients will be provided with a better service.