

Repeat radiographs in GP referrals to an orthopaedic clinic

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SUMMARY

Repeat radiographs are expensive, both financially and in terms of cancer risks. This study looks at new referrals to an orthopaedic clinic, and examines the extent and some of the causes of the problem.

Introduction

Most new patients at orthopaedic clinics are X-rayed. Bransby-Zachary and Sutherland¹ found that a third of new patients already had radiographs, yet few were available in the clinic and almost all were repeated. They did not investigate why previous radiographs were unavailable. The aim of this study was to identify the number and some of the causes of repeat X-rays in new patients at orthopaedic clinics.

Method

Five hundred general practitioner (GP) referrals to an orthopaedic clinic were surveyed. Every patient attended with a letter of referral from their GP. Inter- and intra-hospital referrals and follow-up patients were excluded. Information about previous radiographic examinations was obtained from the referral letters and by asking patients. Details were corroborated by checking the previous radiographs or by contacting the department where the previous examination had been obtained.

Results

'Orthopaedic' radiographs had been taken for 201 (40.2%) of the patients in the previous 12 months (Table 1). One hundred and thirty-eight radiographs (27.6%) were not available in the clinic and 81 (16.2%) were repeated.

Referral letters identified 41.3% of the previous examinations; 24.3% of the letters indicated the hospital or clinic where the examination had been performed, 20.4% gave the date of the examination, and 11.9% supplied the examination number. The medical records department identified 72.2% of the previous examinations mentioned in the referral letters; radiographs were sought for 66.3% of these examinations and obtained for 56.6% of them.

Discussion

Almost all new orthopaedic patients are examined radiographically (523 examinations in 500 patients in this series). Bransby-Zachary and Sutherland¹ found that a third of new patients had already been X-rayed by their GPs but were given repeat examinations because the original films were not available in the clinic.

There are several reasons why previous radiographs may not be available. The referral letter is the obvious source of relevant information about the patient and should include details of pre-

vious radiographs. Yet, in this study, referral letters failed to mention nearly 60% of previous examinations, and 75% of the letters failed to identify the hospital or clinic where the examination was performed. Attempts to obtain previous examinations are handicapped if such basic information is not provided. Even when the referral letter stated that a patient had been X-rayed, the medical records department failed to identify, or did not attempt to obtain, a significant proportion of previous examinations; it eventually retrieved 56.6% of radiographs identified in referral letters.

The difficulty in obtaining previous examinations may be exacerbated if GPs send patients to different hospitals for radiological and orthopaedic opinions.² Although 83% of previous examinations in this series came from 13 hospitals, at least 30 different hospitals or clinics had performed the examinations. It is important that referral letters state if there has been a previous examination and provide appropriate details.

In this study, 57 (11.4%) of the patients whose previous examinations were not at the clinic were managed without a repeat examination. Superficially, this was encouraging since Bransby-Zachary and Sutherland¹ found that 94.7% of their patients in this category had a repeat examination. In fact, a different area was examined in all but three of the patients who did not have repeat radiographs, suggesting that the GPs and orthopaedic surgeons disagreed in their clinical assessment.

Repeat radiographs when previous films are unavailable cost in excess of £20 000 annually in my department. Lumbar spine radiographs account for 14.5% of the repeat examinations, at an average radiation dose of 2–2.5 mSv and a cancer induction rate of 67 per million exposures.³ Not all repeat examinations are unnecessary, but there is potential for savings in both financial and radiation costs. Further audit will be required to show if measures to increase awareness of the problem among GPs lead

Table 1. Number of repeat radiographs for new referrals to an orthopaedic clinic.

Number of new patients	500
Number of previous radiographs	201 (40.2%)
Number of these unavailable	138 (27.6%)
Number repeated	81 (16.2%)
Number not repeated	57 (11.4%)

to significant changes in practice and repeat rates.

References

1. Bransby-Zachary MAP, Sutherland GR. Unnecessary X-ray examinations. *BMJ* 1989; **298**: 1294.
2. De Lacey G, McQueen A. Unnecessary radiology. *BMJ* 1992; **304**: 572-573.
3. Richardson RB. Past and revised risk estimates for cancer induced by irradiation and their influence on dose limits. *Br J Radiol* 1989; **63**: 235-245.

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