**An audit of lumbar spine radiography for low back pain**

**Descriptor:**

An audit tool to evaluate the appropriateness of lumbar spine radiography requests for low back pain with reference to the 2016 NICE guidance on Low back pain and sciatica in over 16s: assessment and management (updated in 2020) and 2017 Royal College of Radiologists’ referral guidance "iRefer".

**Background:**

The 2016 NICE guidance on management of low back pain with or without sciatica, proposes no useful role for lumbar radiography.  The 2016 NICE guidance recommends to think about alternative diagnoses when examining or reviewing people with low back pain, particularly if they develop new or changed symptoms, and to exclude specific causes of low back pain, for example, cancer, infection, trauma or inflammatory disease such as spondyloarthritis [1]. This definition does not include radicular pain resulting from possible nerve root compression or cauda equina syndrome.

iRefer provides guidance on the indications for lumbar radiography. In patients with chronic lumbar back pain (>6 weeks) with no clinical or serological indicators of infection or neoplasia (ie, no red flags) x-ray is only indicated if presentation suggests osteoporotic collapse in the elderly [2].

By reducing the number of lumbar spine radiographs performed inappropriately for low back pain patients can reach important points in the care pathway more rapidly also avoiding unnecessary radiation dose.

## The Cycle

**The standard:**

NICE guidance [NG59, 1.1.4] states, do not routinely offer imaging in a non-specialist setting for people with low back pain with or without sciatica [1]. Assumption, non-specialist setting implying referral from general practitioner (primary care) or hospital based non-specialist (secondary care).

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**Target:**

• 0% lumbar radiographs performed for low back pain with or without sciatica in a non-specialist setting

• 100% of lumbar radiographs performed for low back pain judged as indicated with reference to existing guidance, i.e. "osteoporotic collapse in the elderly"

• 0% of lumbar radiographs for low back pain performed with insufficient clinical details

## Assess local practice

**Indicators:**

• The percentage/proportion of lumbar radiographs performed if the clinical details on the request form suggest a diagnosis of low back pain with or without sciatica from a non-specialist referral setting

• The percentage/proportion of lumbar radiographs performed if clinical details suggest a specific low back pain cause judged as appropriate with reference to existing guidance

• The percentage/proportion of lumbar radiographs for low back pain performed despite insufficient clinical information included on the request

**Data items to be collected:**

The request forms for lumbar radiographs undertaken are to be collected. The clinical details reviewed and evaluation made as to which of the following outcome groups the request be classified in:

a) Low back pain with or without sciatica

b) Low back pain; clinical details reviewed radiograph appropriate

c) Insufficient clinical information provided to classify

**Suggested number:**

100 consecutive lumbar radiographs for low back pain. Data may be collected prospectively or retrospectively. The referral base examined can be primary care, secondary care or both depending on local requirements.

**Suggestions for change if target not met:**

• Amend departmental justification procedures, policies, rules and standards for lumbar radiography

• Circulate to referrers the November 2016 NICE guidance and additional 2017 iRefer guidelines for rational use of lumbar radiography in low back pain

• Make all referrers aware of amended departmental policies and rules

• Re-audit aiming for 100% compliance with standards

**Resources:**

Time for request card collection; review by experienced radiologist; report writing and presentation.

**References:**

1. Low back pain and sciatica in over 16s: assessment and management.  NICE guideline [NG59] Published date: November 2016. [https://www.nice.org.uk/guidance/ng59/ [accessed](https://www.nice.org.uk/guidance/ng59/%C2%A0%5Baccessed) 11 April 2018 and 2022]

1. Royal College of Radiologists. iRefer: Making the best use of clinical radiology. RCR iRefer Guidelines v. 8. 2017. [https://www.irefer.org.uk/](https://www.irefer.org.uk/%C2%A0) [accessed 11 April 2018]

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