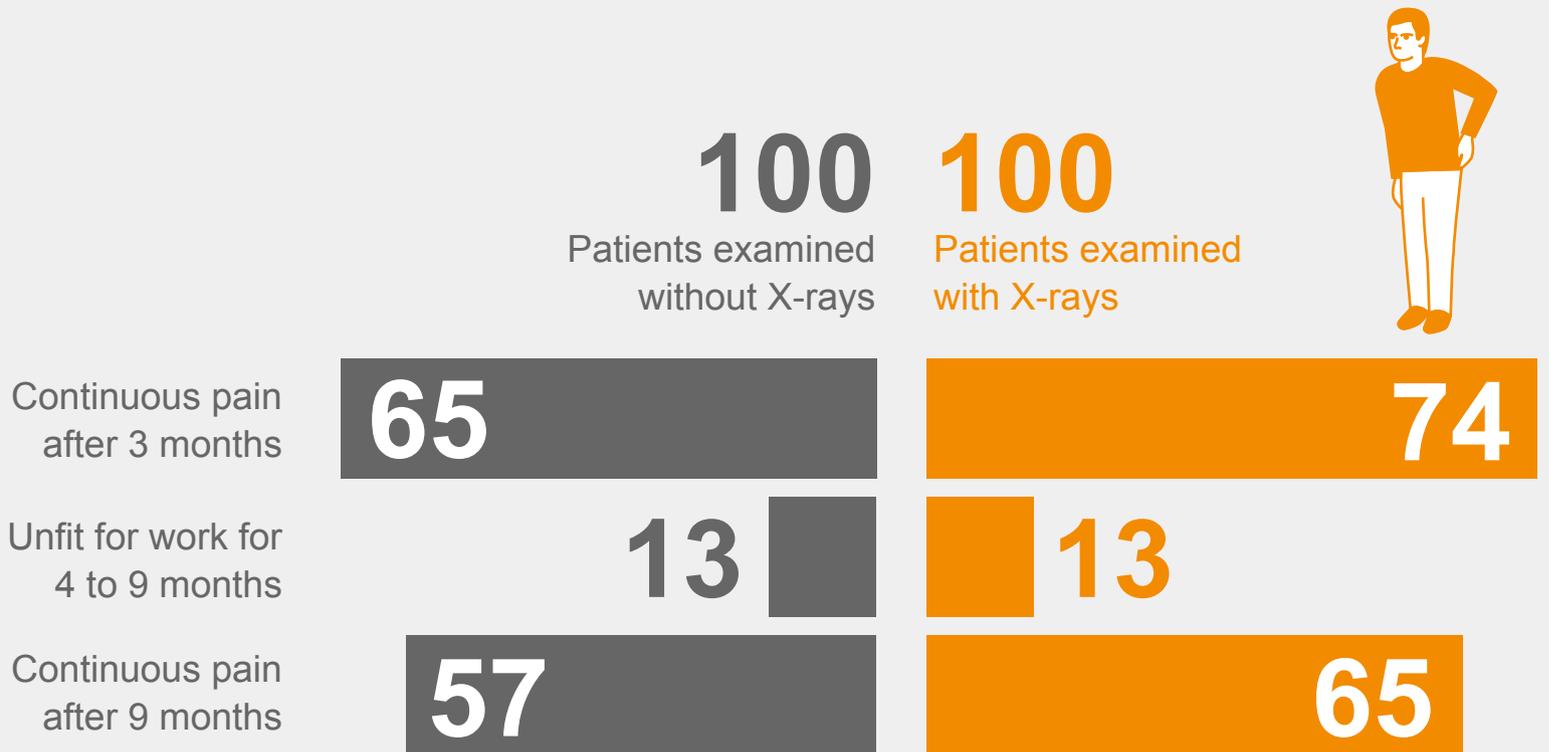




X-rays for general back problems

Should I get an X-ray of my back if I have back pain?

! No benefits: An X-ray image has no positive influence on the course of treatment. There are exceptions: X-rays can be necessary if your back pain is due to an accident or injury.



Explanations and sources

! Harms: X-ray images often bring abnormalities to light that are, however, of no relevance to the pain and its progression. This can unsettle patients. In addition, X-rays exact a toll on the body.

| | with X-rays |
|-----------------------------------|-------------|
| Patients | per 1,000 |
| Unnecessary exposure to radiation | 999–1,000 |

Explanations and sources

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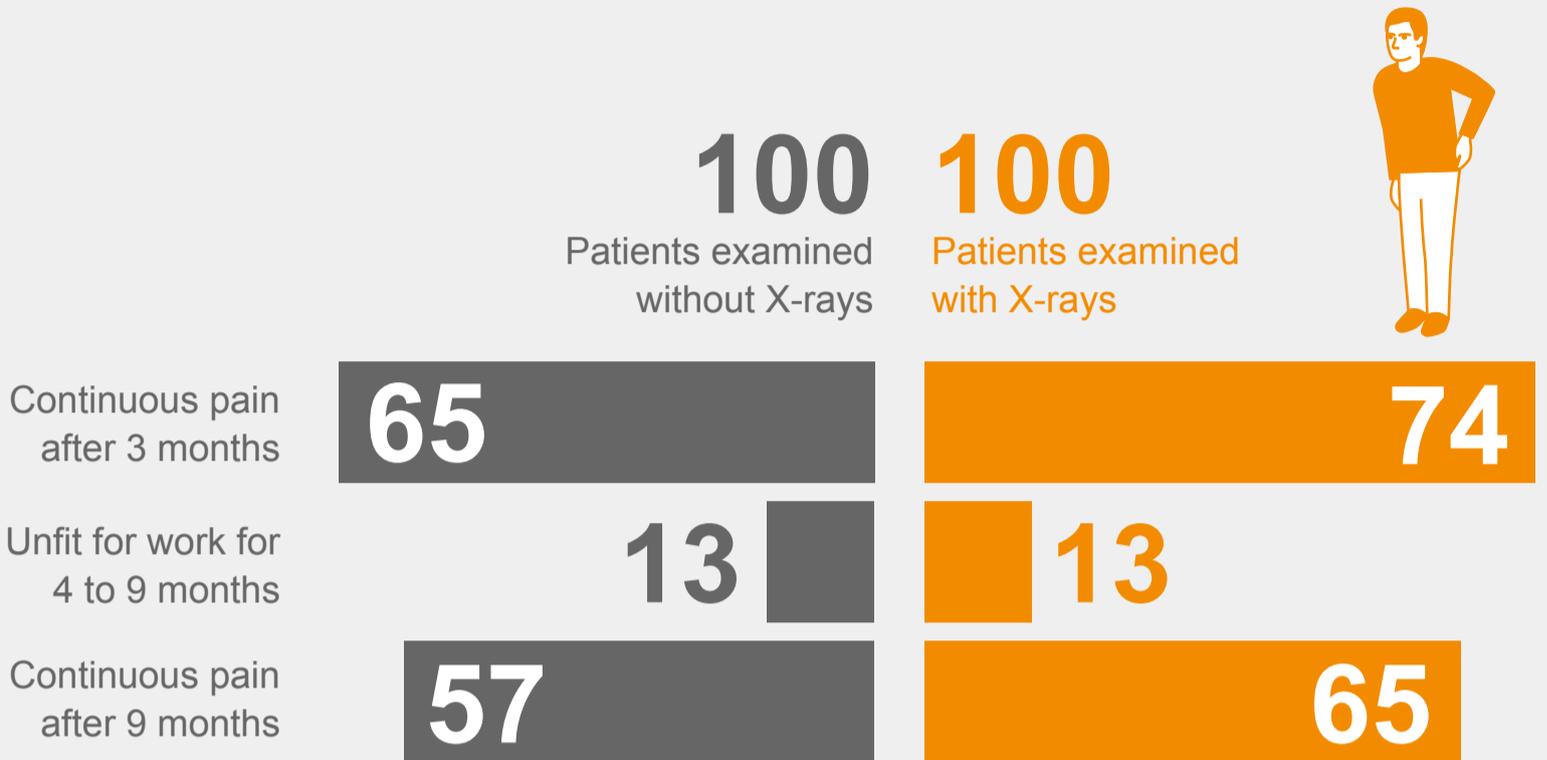




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Scientific examinations show that, for the majority of patients, an X-ray doesn't contribute towards a swifter recovery. In certain cases, however, an X-ray examination can be advisable, such as when the pain is preceded by an accident or a fall. Other indications for which an X-ray is appropriate include fever, increasing back pain, signs of paralysis, diagnosed osteoporosis, diagnosed tumours or unexplained weight loss.

The figures show that of every 100 patients with lower back pain, 65 of them still had pain three months after their first medical examination. In the six months after that examination, 13 of these patients were unable to work due to back pain at least once. In a final examination after a total of nine months, 57 of 100 patients still had back pain. In the group of 100 patients with lower back pain who received an X-ray examination, the figures were similar to the group without an X-ray examination. However, more patients from the group who had an X-ray examination reported pain three months after the first examination. The fluctuating figures between the groups with regard to the pain after nine months are likely coincidental. The data are rounded.

Sources: The data on pain and inability to work are based on Kendrick et al. (2001). [British Medical Journal](#), 322, pp 400–405 (400 participants). An overview of the findings and the research can be found in Chou et al. (2009). [The Lancet](#), 373, pp 463–472.

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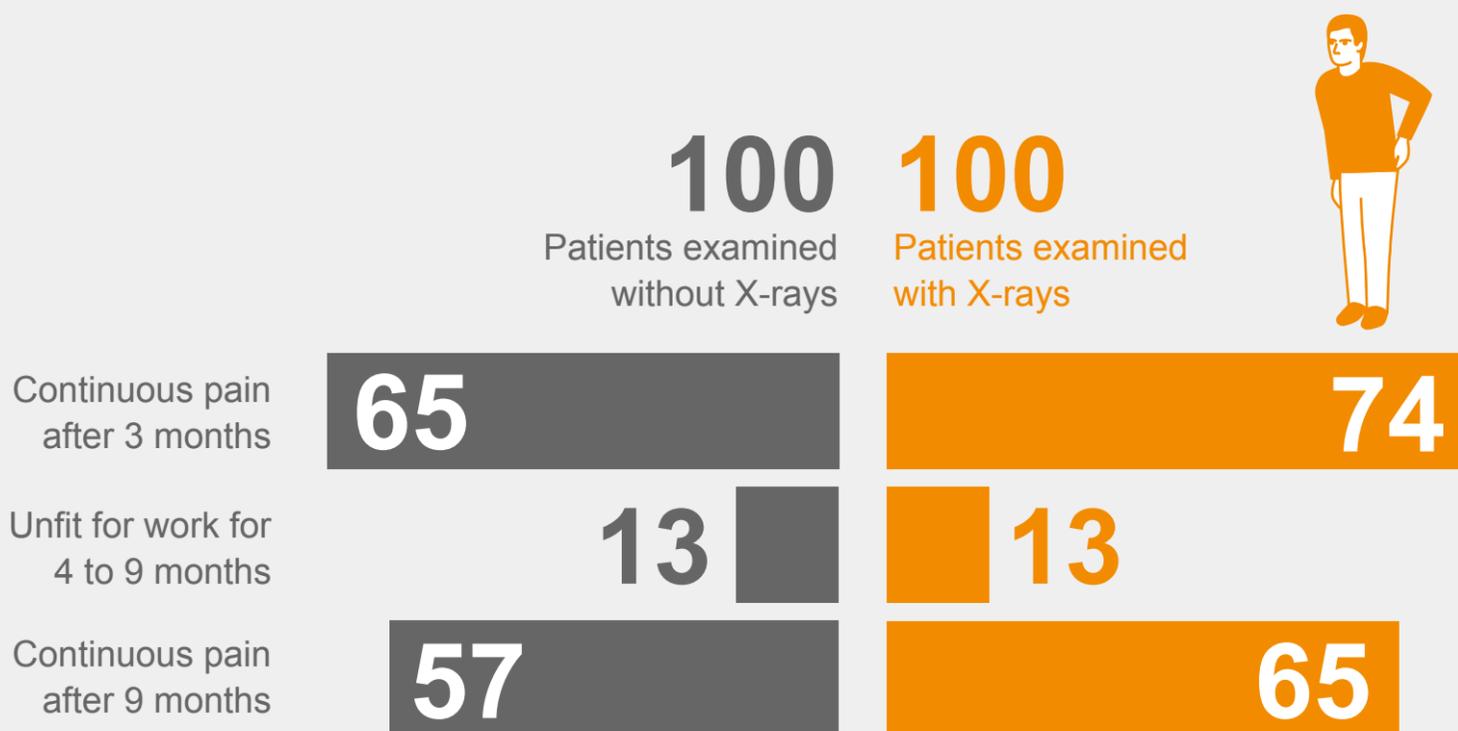




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As the figures show, if 1,000 patients aged 20 to 50 with unspecific lower back pain each had an X-ray taken, it would be useless for almost all of them. It is extremely rare that an X-ray image provides the doctor with any new information which would be meaningful for recommending treatment. The data are rounded.

Resorting to X-rays, MRI scans or computer tomographic examinations for lower back pain without any clear criteria or routinely would, however, carry risks. For one, most of the time such examinations find small signs of deterioration. Normally, these have nothing to do with the acute symptoms, but can unsettle patients and lead to a delay in recovery. That can be the case, for instance, if the signs of deterioration found influence choice of treatment.

Furthermore, each X-ray examination means that the body absorbs potentially unnecessary radiation. Approx. 2,000 cancer incidences in Germany per year can be ascribed to X-rays and computer tomographic examinations, albeit not only of the lower back.

Sources: The information on the relevance of X-ray findings is based on Nachemson (1976). *Spine*, 1, pp 59–71. The data on cancer cases are based on De Gonzalez & Darby (2004). *The Lancet*, 363, pp 345–351. Additional source: Bundesärztekammer et al. (2013). *Programm für Nationale VersorgungsLeitlinien*.

Scientific development: Prof. Dr. med. A. Altiner, Director at the Institute for General Medical Science at the Rostock University School of Medicine.

The AOK, the federal association of health insurance funds, is developing its fact boxes together with Prof. Dr. Gerd Gigerenzer, director of the Harding Centre for Risk Literacy at the Max Planck Institute for Human Development in Berlin.

Last updated: 26 May 2015

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