IOF
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Foundation

SIMPLE TIPS

TO HELP CLINICIANS AND RADIOLOGISTS DETECT & REPORT VERTEBRAL FRACTURES DUE TO OSTEOPOROSIS

Fragility fractures, including vertebral fractures, are a major cause of pain, immobility, and long-term disability. Vertebral fractures are the most common fragility fractures and are powerful predictors of future spine and hip fractures.

ONLY 1/3
COME TO CLINICAL ATTENTION

Under-reporting of vertebral fractures is very common and only about 1/3 of these fractures come to clinical attention. This represents **a missed opportunity** to prevent a cycle of more vertebral and non-vertebral fractures, including life-threatening hip fractures.

> "If the vertebral fracture I suffered in my spine had been spotted earlier, I would have been spared a great deal of pain and suffering."
>
> *Christine, UK*

Without identification and treatment for osteoporosis **women** with vertebral fractures:

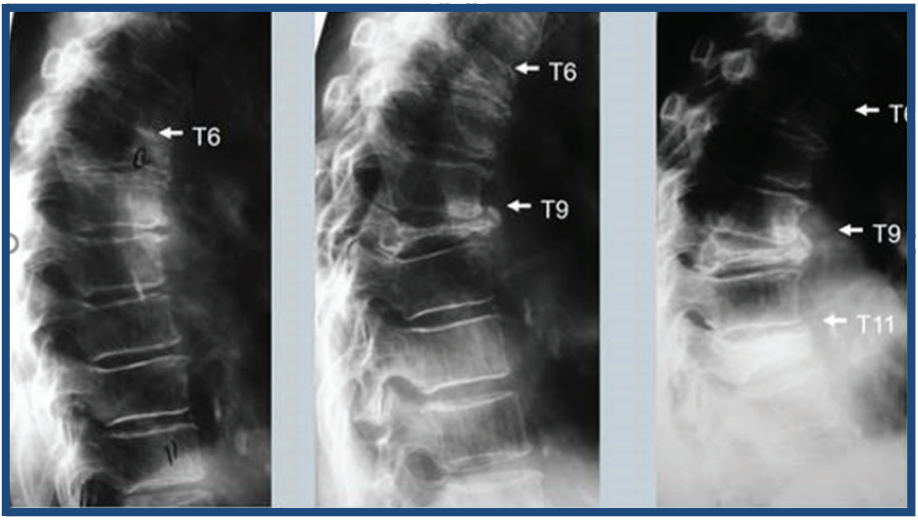
have a 5-fold increased risk of a new vertebral fracture and a 2-fold increased risk of hip fracture

1/5

1 in 5 will suffer from another vertebral fracture within a year

AS A CLINICIAN OR RADIOLOGIST

Be alert to the signs of vertebral fractures in your patients and ensure that any vertebral fractures are spotted and accurately reported. The patient must then be referred for follow-up assessment and treatment for osteoporosis to protect against future fractures.



These X-rays of a 70-year old woman's spine show **the progression of vertebral fractures**.

The first fracture was not spotted by the radiologist. One year later a new X-ray revealed a second fracture, but the patient did not receive treatment for osteoporosis. By the end of the second year, she had suffered a third fracture and lost 3 cm in height.

TIPS FOR CLINICIANS

- **Evaluate** your patients over age 50 years, particularly those with risk factors for osteoporosis.

LOOK FOR:

LOSS OF HEIGHT
(MORE THAN 3CM/JUST OVER AN INCH

SUDDEN SEVERE BACK PAIN
IN THE MID AND LOWER SPINE

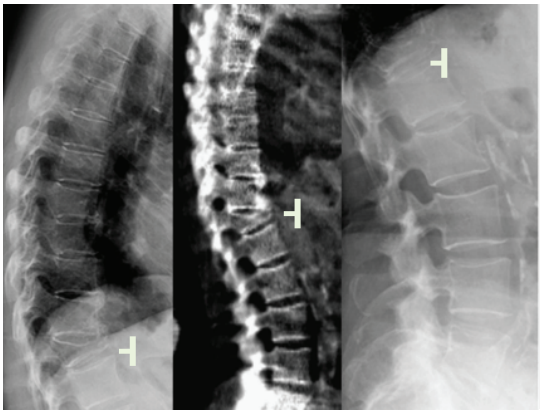
INCREASED STOOP
OR 'DOWAGER'S HUMP'

A FRAX assessment will help you identify risk factors in your patients aged 40 years and over, although in the majority of cases, the presence of a vertebral fracture will be an indication for osteoporosis treatment. Find your country calculator at https://www.sheffield.ac.uk/FRAX/

- **Do a baseline height measurement** of your patients and do yearly comparisons
- **Consider using lateral DXA** (or vertebral fracture assessment VFA) to identify vertebral fractures at the time of a bone densitometry test
- **Use lateral spinal X-rays** to confirm vertebral fractures
- **Initiate treatment for patients with prevalent vertebral fractures** with appropriate therapy to prevent further fractures

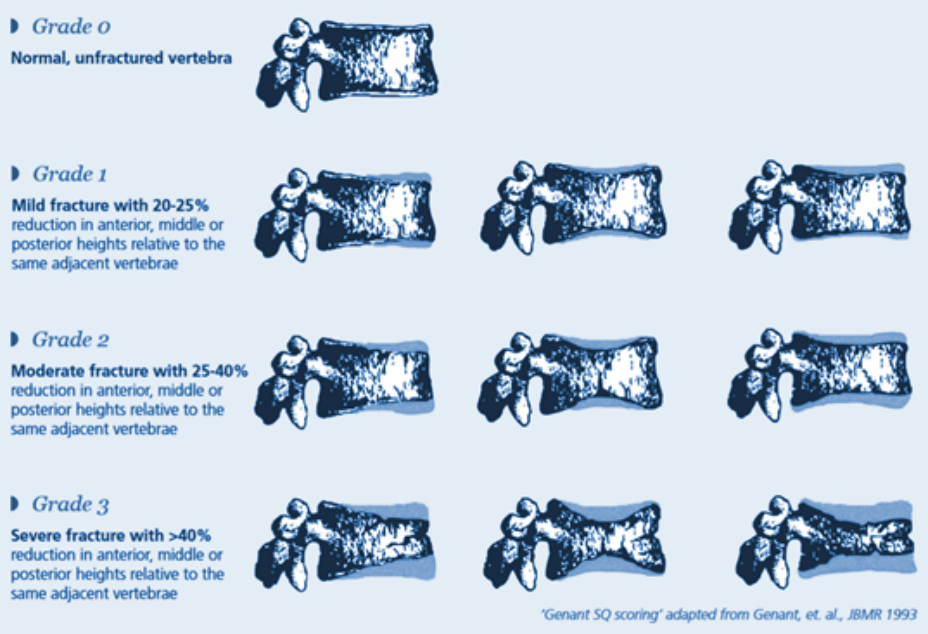
TIPS FOR RADIOLOGISTS

- **Recognize the importance of the identification of vertebral fractures** using radiography, DXA-based VFA and other spinal imaging techniques
- **Report all osteoporotic fractures** as FRACTURED to avoid ambiguity
- **Give grades of fractures** (mild, moderate, severe)
- **Indicate if the vertebral fracture is osteoporotic, traumatic or pathological** & suggest further appropriate imaging, if relevant
- If the change in vertebral shape is not due to a fracture, **use the term 'deformity' and suggest cause** (e.g. congenital anomaly)
- **Give number of fractures**
- **Alert the referring clinician** to the need for further assessment of fracture risk and treatment, potentially via the Fracture Liaison Service, where available (next page), particularly if the fracture is very recent.



Severe vertebral fracture of T12 on VFA thoraco-limbar spine image (center) and radiographs of thoratic spine (left) and lumbar spine (right).

Semi-quantitative visual grading of vertebral fractures



Fracture Liaison Services

In a hospital setting, effective case-finding and management of patients with osteoporotic vertebral fractures requires an integrated approach. Worldwide, guidance from leading stakeholders now recommend Fracture Liaison Services (FLS) to help prevent secondary fractures. FLS identify patients with a fragility fracture using dedicated case-finding, provide assessment for osteoporosis, and, where appropriate, ensure treatment and follow-up.

FLS improve outcomes for patients: they are associated with reduction in re-fracture risk, reduced mortality, increased assessment of bone mineral density, increased treatment initiation, and far greater adherence to treatment (65%–88% at 1 year).

Visit **www.capturethefracture.org** to find out more about FLS.

References and further reading:

1. Reporting of vertebral fragility fractures: can radiologists help reduce the number of hip fractures? R. M. Mitchell, P. Jewell, M. K. Javaid, D. McKean, S. J. Ostlere Arch Osteoporos (2017) 12: 71 DOI 10.1007/s11657-017-0363-y

2. Clinical Guidance for the Effective Identification of Vertebral Fractures. National Osteoporosis Society (UK) November 2017.

https://nos.org.uk/media/100017/vertebral-fracture-guidelines.pdf

3. Vertebral Fracture Initiative, IOF CSA Bone Imaging Working Group, 2010

https://www.iofbonehealth.org/what-we-do/training-and-education/educational-slide-kits/vertebral-fracture-teaching-program

4. The Breaking Spine – IOF thematic report 2010

https://www.iofbonehealth.org/breaking-spine-report-2010

IOF
International Osteoporosis Foundation

Our vision is a world without fragility fractures in which healthy mobility is a reality for all

"IOF urges all healthcare professionals to be on the alert for vertebral fractures. By ensuring early detection, accurate reporting, and follow-up with osteoporosis management, you can help your patients avoid potentially devastating and life-threatening secondary fractures."

Prof. Cyrus Cooper, President, International Osteoporosis Foundation

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