**Radiological Guidance for the Recognition and Reporting of Osteoporotic Vertebral Fragility Fractures (VFFs)**

**Descriptor:**

Improving the recognition and reporting of vertebral fragility fractures (VFFs). Taken from the RCR Publication [Radiological Guidance for the Recognition and Reporting of Osteoporotic Vertebral Fragility Fractures (VFFs)](https://www.rcr.ac.uk/publication/radiological-guidance-recognition-and-reporting-osteoporotic-vertebral-fragility)

**Background:**

In an ageing population, identification of VFFs is an opportunity to reduce the significant burden of future hip fractures by beginning osteoporosis treatment [1-3]. Many VFFs present as an incidental finding on imaging where the spine is not the primary anatomical region being examined and may go unreported [4, 5]. Ambiguous terminology used in reporting may lead to the fracture being overlooked by the referring clinician, who may also be unaware of services such as the Fracture Liaison Service (FLS)/metabolic units. In 2019, a UK-wide audit led by The Royal College of Radiologists confirmed a lack of compliance with audit standards derived from Royal Osteoporosis Society guidance [6] – in particular pertaining to report comment on bone integrity, severity of fractures (using the semiquantitative technique from Genant et al. [7]), use of recommended terminology and appropriate recommendations for further investigation/referral [8].

## The Cycle

**The standard:**

1. The reporting radiologist (or radiographer) should comment on the integrity of the bones.

2. Moderate/severe VFFs should be correctly identified on the report.

3. VFFs should be reported using correct terminology (i.e. “vertebral fracture”).

4. Reports of scans with VFFs should contain appropriate recommendations for further assessment.

5. A local policy for adopting a consistent approach to the identification and reporting of VFFs should be agreed.

**Target:**

1. 100%

2. >90%

3. 100%

4. 100%

5. Agreed

## Assess local practice

**Indicators:**

1. The proportion of reports in which the reporting radiologist (or radiographer) has commented on the integrity of the bones.

2. The proportion of reports in which moderate/severe VFFs are correctly identified.

3. The proportion of VFFs reported using correct terminology.

4. The proportion of reports of scans with VFFs which contain appropriate recommendations for further assessment.

5. Whether a local policy for adopting a consistent approach to the identification and reporting of VFFs has been agreed.

**Data items to be collected:**

CT chest, abdomen and pelvis scans (CT-CAP) in patients aged 70 and above. Findings are compared to the clinical report.

Local policy for adopting a consistent approach to the identification and reporting of VFFs.

**Suggested number:**

Based on an incidence of 21% using 50 scans across a large number of sites [8], 50 scans is the recommended minimum but larger numbers, more than 100 are encouraged.

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

- Consider a policy for template reporting of cross-sectional imaging studies that include the spine to include bone integrity, presence of VFF, level and grade/severity.

- Implement a policy for standardised use of terminology for VFF.

- Agree local policy for onward alerting of referrers or referral to fracture prevention pathways.

- Appoint a radiology osteoporosis lead to support development, delivery and audit of policy and protocol in the identification and reporting of fragility fractures (including VFFs) and to act as part of a multi-disciplinary team (within a local FLS – if available).

[**vertebral\_fragility\_fractures\_-\_data\_collection\_spreadsheet.xlsx**](https://www.rcr.ac.uk/sites/default/files/audit_template/vertebral_fragility_fractures_-_data_collection_spreadsheet.xlsx)EXCEL - 5.19 MB

**References:**

1. Gonnelli S, Caffarelli C, Maggi S et al. The assessment of vertebral fractures in elderly women with recent hip fractures: the BREAK Study. Osteoporos Int. 2013;24(4):1151-9.
2. Jalava T, Sarna S, Pylkkänen L et al. Association between vertebral fracture and increased mortality in osteoporotic patients. J Bone Miner Res. 2003;18(7):1254-60.
3. Williamson S, Landeiro F, McConnell T et al. Costs of Fragility Hip Fractures Globally: a Systematic Review and Meta-Regression Analysis. Osteoporos Int. 2017; 28(10); 2791-2800.
4. Lenchik L, Rogers LF, Delmas PD et al. Diagnosis of osteoporotic vertebral fractures: importance of recognition and description by radiologists. AJR Am J Roentgenol. 2004;183(4):949-58
5. Delmas PD, van de Langerijt L, Watts NB et al. Underdiagnosis of vertebral fractures is a worldwide problem: the IMPACT study. J Bone Miner Res. 2005;20(4):557-63.
6. <https://theros.org.uk/media/3daohfrq/ros-vertebral-fracture-guidelines-november-2017.pdf> (last accessed 7/8/20)
7. Genant HK, Wu CY, van Kuijk , Nevitt MC (1993). Vertebral fracture assessment using a semiquantitative technique. J Bone Miner Res 8:1137-48.
8. Howlett D C, Drinkwater K, Mahmood N, Illes J, Griffin J, Javaid K. Radiology Reporting of Osteoporotic Vertebral Fragility Fractures on Computed Tomography Studies: Results of a UK National Audit. European Radiology – <https://doi.org/10.1007/s00330-020-06845-2>.

**Submitted by:**

K Drinkwater

**Co-authors:**

Prof David C. Howlett

K Drinkwater

**Published Date:**

Tuesday 29 March 2022

**Last Reviewed:**

Tuesday 29 March 2022