Management of Vertebral Compression Fractures

**Variant 1:** New symptomatic vertebral compression fracture (VCF) identified on radiographs. No known malignancy. Next imaging study.

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CT spine area of interest without IV contrast

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**Image-guided biopsy spine area of interest**

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**CT myelography spine area of interest**

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**Variant 3:** New back pain. Previously treated VCF or multiple VCFs. Initial Imaging.

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| MRI spine area of interest with IV contrast | Usually not appropriate | Limited | O 0 mSv | O 0 mSv [ped] | 3 | 3 | 7 | 1 | 6 | 0 | 7 | 0 | 0 | 0 | 0 |
| References | Study Quality |
| 80 (17361377) | 2 |
| 79 (24792612) | 4 |

| CT myelography spine area of interest | Usually not appropriate | Expert Consensus | Varies | Varies | 3 | 3 | 7 | 2 | 4 | 5 | 2 | 0 | 0 | 0 | 0 |

| References | Study Quality |
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| 95 (27441748) | 4 |

**Variant 4:** Asymptomatic VCF identified on radiographs. History of malignancy. Next imaging study.

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- Usually appropriate
- Strong
- O 0 mSv
- Varies
- Varies
- Study Quality: 8, 8, 0, 0, 1, 1, 1, 3, 4, 7, 3

For MRI spine area of interest without IV contrast:
- Usually appropriate
- Strong
- O 0 mSv
- O 0 mSv [ped]
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**Variant 5: Asymptomatic, osteoporotic VCF. Initial treatment.**

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Variant 6:  Symptomatic osteoporotic VCF with bone marrow edema or intravertebral cleft. Initial treatment.

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| 120 (27400110)                                 |                          |       |            |          |        |        |                   |
| 22 (27544377)                                  |                          |       |            |          |        |        |                   |
| 122 (25404372)                                 |                          |       |            |          |        |        |                   |
| 21 (24315046)                                  |                          |       |            |          |        |        |                   |
| 33 (23021641)                                  |                          |       |            |          |        |        |                   |
| 23 (21375382)                                  |                          |       |            |          |        |        |                   |
| 34 (22116114)                                  |                          |       |            |          |        |        |                   |
| 36 (24325929)                                  |                          |       |            |          |        |        |                   |
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**Surgical consultation**

**Percutaneous ablation spine**

**Radiation oncology consultation**

**Systemic radionuclide therapy**

**Variant 7:** New symptomatic VCF. History of prior vertebroplasty or surgery. Initial treatment.
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Variant 8:  Benign VCF with worsening pain, deformity, or pulmonary dysfunction. Initial treatment.
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**Variant 9: Pathological VCF with ongoing or increasing mechanical pain. Initial treatment.**

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Systemic radionuclide therapy may be appropriate.

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Appendix Key
A more complete discussion of the items presented below can be found by accessing the supporting documents at the designated hyperlinks.

**Appropriateness Category:** The panel's recommendation for a procedure based on the assessment of the risks and benefits of performing the procedure for the specified clinical scenario.

**SOE:** Strength of Evidence. The assessment of the amount and quality of evidence found in the peer reviewed medical literature for an appropriateness recommendation.

- **References:** The citation number and PMID for the reference(s) associated with the recommendation.
- **Study Quality:** The assessment of the quality of an individual reference based on the number of study quality elements described in the reference.

**RRL:** Relative Radiation Level. A population based assessment of the amount of radiation a typical patient may be exposed to during the specified procedure.

**Rating:** The final rating (1-9 scale) for the procedure as determined by the panel during rating rounds.

**Median:** The median rating (1-9 scale) for the procedure as determined by the panel during rating rounds.

**Final tabulations:** A histogram showing the number of panel members who rated the procedure as noted in the column heading (ie, 1, 2, 3, etc.).

Additional supporting documents about the AC methodology and processes can be found at [www.acr.org/ac](http://www.acr.org/ac).