**Tables**

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| Table 1. Eligibility criteria |
| **Inclusion criteria**Full-text article:1) Study population consisting of patients with spinal metastases or model simulating spinal metastatic disease2) Describing the radiographic signs and/or classification and/or (clinical) definition of neoplastic related spinal instability\*3) Using the SINS as study variable\* |
| **Exclusion criteria**1) Non-homogenous study population (>25% of the patients with a diagnosis other than spinal metastatic disease)2) Sample size <10 cases. 3) Not describing, defining or classifying spinal instability4) Systematic reviews, meta-analysis, case reports and conference abstracts |
| **\*** Either adherence to criteria 2 or 3 |

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| **Table 2. SINS score according to Fisher et al. [3]** | **Score** |
| **Location** |
| Junctional (occiput-C2, C7-T2, T11-L1, L5- S1)Mobile spine (C3-C6, L2-L4)Semi rigid (T3-T10)Rigid (S2-S5) | 3210 |
| **Pain\*** |
| YesOccasional pain but not mechanicalPain-free lesion | 310 |
| **Bone lesion** |
| LyticMixed (lytic/blastic)Blastic | 210 |
| **Radiographic spinal alignment** |
| Subluxation/translation presentDe novo deformity (kyphosis/scoliosis)Normal alignment | 420 |
| **Vertebral body collapse** |
| > 50% collapse< 50% collapseNo collapse with > 50% body involvedNone of the above | 3210 |
| **Posterolateral involvement of spinal elements†** |
| BilateralUnilateralNone of the above | 310 |
| \* Pain improvement with recumbency and/or pain with movement/loading of spine† Facet, pedicle, or costovertebral joint fracture or replacement with tumor |

**Table 3**. **Hazard ratios and 95%CI for VCF risk.**

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| **Authors** | **Sample size** | **Study design** | **Risk factors**  | **[HR, 95%CI]** |
| Cunha et al. [50] | 90  | R | Spinal alignment Lytic lesion  | [0.09, 0.024-0.33][0.082, 0.017-0.386] |
| Sahgal et al. [51] | 252  | R | Spinal alignment Baseline VCF <50% collapse  No VCF but >50% involved Lesion type Dose per fraction >24Gy  20-23Gy  | [2.99, 1.57-5.70][8.98, 4.48-18.0][4.46, 2.08-9.57][3.53, 1.58-7.93][5.25, 2.29-12.01][4.91, 1.96-12.28] |
| Thibault et al. [53] | 37 | R | Baseline VCF Single fraction SBRT  | [9.25, 1.64-52.31][5.03, 1.19-21.28] |
| Finnigan et al. [54] | 34 | R | Overall SINS score\* |  |
| Lee et al. [55] | 79 | R | SINS score (>7) Age  | [5.63, 2.41-13.13][2.15, 1.07-4.32] |

\* no hazard ratios reported