

# Stent-screw-assisted internal fixation (SAIF)

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## **Stent-Screw Assisted Internal Fixation (SAIF): Minimally Invasive Vertebral Body Reconstruction in Extensive Neoplastic and Osteoporotic Lesions**

By Alessandro Cianfoni

1. SAIF effectively restores the load-bearing capacity of the vertebral body to the values of an intact spine (this thesis, Chapters 4, 6)
2. SAIF is more effective in reducing strains on the superior endplate and anterior and posterior wall of the vertebral body than surgical pedicle screw instrumentation, leading to a lower (re)fracture risk (this thesis, Chapters 4, 6)
3. SAIF is a safe and effective less invasive surgical technique to restore stability and alignment in extreme osteolytic thoraco-lumbar spine lesions (this thesis, Chapter 5)
4. “Armed Kyphoplasty” techniques can be considered in neoplastic and osteoporotic vertebral fractures with posterior wall retropulsion, for vertebral stabilization and for indirect central canal decompression (this thesis, Chapter 8a)
5. SAIF can be applied as a stand-alone technique or in combination with posterior instrumented fixation, as a less invasive surgical technique to avoid vertebral corpectomy in advanced neoplastic lesions and severe osteoporotic fractures (this thesis)
6. There is enough biomechanical and clinical evidence to justify randomized controlled trials to test SAIF versus standard surgical stabilization techniques in osteoporotic and neoplastic fractures in neurologically intact patients (this thesis, Chapter 9)
7. Is it time to get past the pain when it comes to vertebral augmentation with advanced vertebral reconstruction techniques (Hirsch JA, et al.)
8. To treat or not to treat osteoporotic vertebral fractures with an invasive approach? A prudential conservative approach may be taking a greater risk
9. Movement and sparks to find balance and light