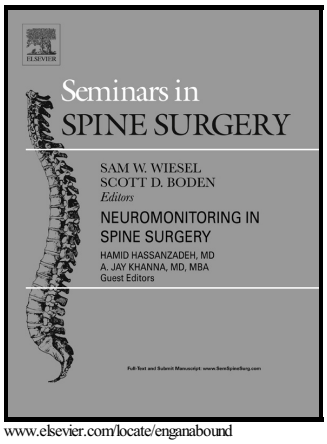

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Spinal Implant options to optimize fixation in patients with osteopenia/osteoporosis

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Abstract

The challenges presented by osteoporotic spines for creating a strong bone-implant interface are substantial. Many devices have been specifically designed to enhance fixation of screws, hooks, and cages in order to create an optimal healing environment for patients with low bone mineral density. Screw design has been enhanced via differing screw pitches, shapes, materials, coating and sizes in order to enhance fixation in both the posterior and anterior osteoporotic spine. Several novel designs for cages, plates, anchors, hooks and bands can be used to achieve fixation as well. With appropriate surgical technique, these technological advances can dramatically improve fixation for a construct to treat osteoporotic spines.