Screw instrumentation

An understanding of fundamental biomechanical principles of the spine and fixation strategies is essential to avoid unnecessary subsequent failures.

Several implant devices are used for this purpose. The use of pedicle screws in spinal stabilization has gradually and dramatically increased [1) 2)].

With improved fixation techniques, surgeons have attempted to limit the use of extra autogenous bone graft to avoid making a separate incision over the iliac crest. Allograft and synthetic bone have been used with pedicle-screw-based constructs, with greater or lesser success depending on the pathology and the host-related variables [3) 4)].

see Cervical lateral mass screw fixation.

Cortical bone trajectory screw fixation

see Screw.

see Fixation.

see Lumbar Transfacet Screw Fixation.

see Iliac screw fixation.

see Anterior odontoid screw fixation.

see Occipitocervical fixation.

see Pedicle screw.

see Translaminar screw fixation.

1)
Gaines RW., Jr The use of pedicle-screw internal fixation for the operative treatment of spinal disorders. J Bone Joint Surg Am. 2000;82:1458–1476.
2)
Aebi M, Thalgott JS, Webb JK. Modular stabilization system: the universal spine system. In: Aebi M, Thalgott JS, Webb JK, editors. AO ASIF principles in spine surgery. Berlin: Springer-Verlag; 1998. pp. 123–196.
3)
Gibson JN, Grant IC, Waddell G. The Cochrane review of surgery for lumbar disc prolapse and degenerative lumbar spondylosis. Spine (Phila Pa 1976) 1999;24:1820–1832.
4)
Suk SI, Lee CK, Kim WJ, Lee JH, Cho KJ, Kim HG. Adding posterior lumbar interbody fusion to pedicle screw fixation and posterolateral fusion after decompression in spondylolytic spondylolisthesis. Spine (Phila Pa 1976) 1997;22:210–219.