

CO-ORGANIZED EVENT

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&  
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### Complex spine revisions: Dream or nightmare for spine surgeons

**Introduction:** The type and extent of revision surgeries carried out in the management of complex spine iatrogenic disorders still lacks evidence based medicine proof. It is up to the health care provider's sound judgment and expertise to do what is needed for the patient. Management challenges include, yet not limited to; dealing with infected or deformed hardware, decompression near vital vascular or neural structures- already distorted by adhesions or radiation effects-, decompression at a blind angle, difficult deformities corrections and difficult trajectories for re-instrumentation. The use of intraoperative CT-quality O-arm and neuronavigation are still tested as aiding tools in such operative modalities.

**Methods:** Among our 600+ cases operated with guidance of O-arm and neuronavigation since 2008, we randomly selected four cases of complex spine modalities that were operated upon in our institute by the authors to be included in this retrospective study. Cases include traumatic spinal fractures, complex-degenerative, infective, inflammatory-disorders, benign and malignant neoplasms affecting different parts of the spinal column. All of them had technical challenges. All had undergone a combination of decompression deformity correction, and instrumentation of different modalities and/or bone grafting. In all cases the Medtronic O-arm® and Medtronic StealthStation® were used as intraoperative mapping tools.

**Results:** We managed to safely remove the problematic hardware, deal with the underlying pathology, reapply the new hardware to an acceptable degree, and secure safe neurologic result of all surgeries in the series despite the high technical challenges.

**Conclusion:** The intraoperative use of the O-arm and stealth Station is very useful in different modalities of complex spine surgeries.

### Biography

Walid Ismail Attia is a Consultant Neurosurgery and Spine Surgery Director at King Fahad Medical City. He completed his Bachelor of Medicine/Bachelor of Surgery at Tanta University, Egypt and Residency in Neurosurgery at Tanta University Hospital, Egypt.

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