Position Statement
on
Arthrodesis of the Spine by the Non-Spine Surgeon

Background

Patient safety and optimal outcomes are maximized by team-based treatment of patients with either trauma or degenerative diseases of the spine involving a collaborative relationship between neurosurgery and orthopaedic spine surgeons and non-surgeon spine clinicians who practice within the scope of their training. With continued development of minimally invasive technology, several options now exist to alter the biomechanics of the spine using percutaneous techniques. Arthrodesis of the sacroiliac joints, facet joints and stabilization of a lumbar segment with interspinous process clamps is now performed in various settings, including hospital inpatient, hospital outpatient, ambulatory surgical centers and even — in some instances — physician offices.

As patient demand for minimally invasive techniques has increased, a significant number of non-surgeon clinicians now perform arthrodesis procedures that alter the biomechanics of the spine — despite the fact that arthrodesis of the spine remains outside of the training curriculum of physiatrists and pain management anesthesiologists who are currently performing these procedures. The absence of formal training raises patient safety and quality of care considerations, given that these non-surgeon clinicians are not required to undergo training in spinal biomechanics or in the broad spectrum of spinal fusion and instrumentation techniques. These physicians lack the necessary understanding of the potential ramifications of such interventions and cannot render the appropriate management of common surgical complications. Neurosurgeons and orthopaedic surgeons, on the other hand, are fully trained in these surgical techniques — having gained this experience throughout their residencies and/or spine surgery fellowships. Additionally, both the neurosurgery and orthopaedic surgery certifying boards specifically recognize surgical competency for instrumentation in the spine.

Position Statement

Optimal patient care and patient safety are best served when surgical diseases affecting the spine are managed by neurosurgeons and orthopaedic spinal surgeons trained in the full spectrum of spinal biomechanics, including instrumentation and fusion techniques. Therefore, arthrodesis or any other intervention that alters the biomechanics of the spine should not be performed by practitioners in other fields outside of specialty-trained neurosurgery or orthopaedic spinal surgeons.

Rationale

- Neurosurgeons and orthopaedic spine surgeons are the only physicians who have undergone extensive training in the biology, biomechanics, surgical anatomy and techniques of instrumentation/stabilization of the human spine. That foundation provides them with expertise in diagnosis, decision-making, formulation of treatment plans — which may or may not involve instrumentation of the spine — and alteration of biomechanics in the treatment of spinal disorders.

- Neurosurgeons and orthopaedic spine surgeons can directly address the common potential complications that arise from instrumentation and/or arthrodesis of the spine.

- This unique range and depth of surgical skills are acquired throughout the neurosurgeon's and orthopaedic surgeon's career, including residency, fellowship and post-training continuing education and practice.

- Non-surgeon spine practitioners, such as pain-management anesthesiologists or physiatrists, are valuable members of the spine care team. These practitioners play a role in the diagnosis and treatment of nerve root compression, commonly using nonoperative interventions such as medial branch blocks, radiofrequency ablations, epidural steroid injections, etc. However, these nonoperative measures do not result in arthrodesis, which invariably alters spinal biomechanics.

- Non-surgeon spine practitioners do not have the training and expertise to deal with the potential complications that may arise from percutaneous instrumentation or stabilization of the spine. The downstream consequences of such instrumentation fall outside the purview of a pain management or physiatry physician's training curriculum.

- There are confounding issues that impact the decision to stabilize the spine. Spino-pelvic parameters — specifically sagittal balance, pelvic incidence and lumbar lordosis — must all be incorporated into the calculus of the stabilization. Consideration of overall spinal balance is particularly critical because stabilizing the lumbar spine may lead to adjacent segment degeneration, which may require further surgery. Given patient safety and quality of care considerations and education and training experience, managing surgical or other stabilizing interventions for spinal degeneration falls exclusively within the purview of the neurosurgeon and orthopaedic spine surgeon.

***Endorsed by the*:**

American Academy of Orthopaedic Surgeons/
American Association Orthopaedic Surgeons
American Association of Neurological Surgeons
Cervical Spine Research Society
Congress of Neurological Surgeons
AANS/CNS Joint Section on Disorders of the Spine and Peripheral Nerves
International Society for the Advancement of Spine Surgery
Lumbar Spine Research Society
Scoliosis Research Society

Adopted on Oct. 14, 2021