Spinal implant costs decline modestly

Over the 8 years from 2001 to 2009, the cost of a lumbar spinal fusion with implants rose from under $6,000 to over $14,000 per case, with a small decline of 2% between 2008 and 2009. This was the second year in a row that the implant cost per case declined, Orthopedic Network News reported in its annual spine review. The data are for a group of hospitals monitored by ONN.

Part of the reason for the modest decline in cost may be a drop in the average selling prices for some spine components, including pedicle screws, lumbar nonbone interbody fusion devices (IBFs), and cervical bone IBFs, ONN reports. But average prices rose for cervical nonbone IBF devices and lumbar bone IBFs.

Spinal fusions

Spinal fusions account for the vast majority (89%) of spine-related expenses for hospitals. More than half of fusion cases (54%) are lumbar. In materials, the biggest change continues to be the move toward nonbone materials such as PEEK (polyetheretherketone) for interbody fusion (IBF) devices.

Here are highlights for lumbar spinal fusion.

Demographics

The patient population for lumbar fusions hasn’t changed significantly since 2001. In 2009, 57% of cases were for females, with about 35% over age 64.

Lumbar levels fused

The average number of vertebrae fused was 1.7 in 2009. Four combinations accounted for two-thirds of the fusions:
- two-level L4-S1
- single-level L5-S1
- single-level L4-L5
- two-level L3-L5.

Fusion method

The most common fusion methods were:
- pedicle screws and an IBF (47%)
- pedicle screw constructions without an IBF (31%)
- IBF alone (12%).

Cost of components

The greatest cost increases for lumbar fusion for 2009 were for:
- the “other” category, which includes items such as trauma screws and plates, disposables, and instruments (22%)
• bone grafts and substitutes (12%).
Three categories declined in cost per case: BMP, IBF devices, and metal components.

Use of BMP
Bone morphogenic protein, a genetically engineered material to induce bone growth, was used in 57% of lumbar fusions in 2009, up slightly from 56% in 2008. A single unit of BMP was used in 50% of lumbar fusions, while 6.5% of fusions used 2 units or more.

Though BMP continues to be the largest segment of the market for bone grafts and substitutes, sales of BMP fell by 7.8% between 2008 and 2009.

Move to nonbone IBFs
The nonbone material PEEK now accounts for over 70% of IBF devices used in lumbar fusion, reflecting a movement away from titanium and bone. Sales of bone substitutes rose by 15.4% between 2008 and 2009. Nonbone devices cost more than bone, averaging $3,768 compared to $3,328 for bone in spinal fusions.

The other major change in IBF devices is the introduction of devices with integrated screws for anchoring the device, used in 3.1% of lumbar fusions in 2009, up from 2.3% in 2008. The integrated devices keep the IBF device from migrating out of the lumbar space and reduce the need for a plate or...
other mechanism to prevent the outmigration. Examples are Synthes’s SynFix LR and NuVasive’s CoRoent XL-F.

**Reimbursement**

Medicare payment rates for fiscal 2010 increased by 1.8% to 8.2% for all spine-related MS-DRGs, except for MS-DRG 455 (360-degree fusion).

New technologies for spine, such as the artificial disc, however, are assigned to MS-DRG 490, with a payment of $10,017, which is less than the list price of most artificial discs sold to hospitals.

**Cervical fusions**

The cervical implant cost per case declined by 3% between 2008 and 2009 for this group of hospitals. The average cost in 2009 was $5,960 compared to $6,172 in 2008.

The vast majority of cervical spinal fusions used a cervical plate and screws and an IBF device, with this construct accounting for 68% of cervical fusions in 2008.

Orthopedic Network News monitors trends related to orthopedic implants.

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