

How Does Case Type, Length of Stay, and Comorbidities Affect Medicare DRG Reimbursement for Minimally Invasive Surgery (MIS) for Deformity?

Pierce Nunley; Richard Fessler; Paul Park; Joseph Zavatsky; Gregory Mundis; Juan Uribe; Robert Eastlack; Stacie Nguyen; Dean Chou; Michael Wang; Neel Anand; Adam Kanter; Christopher Shaffrey; Praveen Mummaneni; ISSG



Introduction

Hospitals must be able to adequately cover its costs in order to continue to provide the best surgeons and care for patients. Medicare established diagnosis related group (DRG) codes to provide a fixed payment to hospitals. Understanding DRG codes and the reimbursement values is essential for the financial stability of hospitals. We investigated Medicare DRG based reimbursement for MIS deformity procedures in our study group hospitals based on length of stay and presence of comorbid conditions (CC).

Methods

DRG based reimbursement was obtained for MIS anterior, posterior and circumferential 1-level and multi-level fusion for listhesis and deformity cases with and without CC from 12 institutions throughout the US. The 3 most common MIS procedures were analyzed to compare reimbursement based on DRG coding:

1. Fusion via anterior or posterior only
2. Fusion anterior with fixation posterior percutaneous (no dorsal fusion)
3. Fusion Combined anterior and posterior.

Table 1

Case Type	DRG Code	DRG Description
1 & 2	458	Spinal fus exc cerv w spinal curv/malig/infec or ext fus w/o CC/MCC
1 & 2 with CC	457	Spinal fus exc cerv w spinal curv/malig/infec or ext fus w CC
1 & 2 without deformity	460	Spinal fusion except cervical w/o MCC
3	455	Combined anterior/posterior spinal fusion w/o CC/MCC
3 with CC	454	Combined anterior/posterior spinal fusion with CC

Case type, DRG code and description

Results

The number of levels fused does not affect the reimbursement for all cases. Cases 1 and 2 reimburse the same, there is no additional reimbursement for posterior fixation without fusion. Cases 1 and 2 without CC, 3-day stay reimbursed \$41,404 vs 8-day reimbursed \$42,808. Cases 1 and 2 with CCs, 3-day stay reimbursed \$54,476 vs 8-day stay reimbursed \$55,881. Case 3 without CC, 3-day stay reimbursed \$47,992 vs 8-day stay reimbursed \$49,397. Case 3 with CC, 3-day reimbursed \$61,806 vs 8-day reimbursed \$63,212. The increased payment for an 8-day stay was \$1,405 or \$281 per day. If a deformity case 1 or 2 is coded incorrectly as a degenerative case the decrease in payment was \$9,769 lower (-24%) with no CC and \$22,841 lower (-42%) with CC.

Table 2

Case Type	3-Day	8-Day	Increase from 3 to 8 Days
Cases 1&2	\$41,404	\$42,808	\$1,404
with CC	\$54,476	\$55,881	\$1,405
Cases 1&2 NOT coded as deformity	\$31,635	\$33,040	\$1,405
Case 3	\$47,992	\$49,397	\$1,405
with CC	\$61,806	\$63,212	\$1,406

Medicare reimbursements for 3 and 8 day hospital stay

Conclusions

Regardless the direct costs, Medicare DRG based reimbursement was the same for single and multi-level MIS deformity cases. The reimbursement differences occur:

- Increase 3 to 8-day stay in the hospital is on average an additional \$281/day.
- The use of posterior percutaneous fixation without dorsal fusion resulted in a 13-16% lower reimbursement compared with the addition of a posterior arthrodesis.
- Coding a deformity case as degenerative by the hospital resulted in 24-42% lower DRG based reimbursement.

In today's challenging environment it is important that physicians and hospitals better understand procedure and coding issues in order to be able to continue to offer complex spinal surgeries cost effectively to our patients.

Learning Objectives

Hospital DRG coding and reimbursement is a separate system from physician professional CPT coding, billing and collecting and reimbursement. There exist several distinct differences that significantly affect hospital reimbursement. For example: Deformity coding was critical and resulted in reimbursement losses of 24% to 42% if not coded properly. We present these differences and most importantly how case type, length of stay, and concomitant medical comorbidities effect hospital reimbursement in spinal deformity surgery for MIS deformity techniques.