NPAGSC3
Functional Outcome Assessment for Spine Intervention

NQS Domain: Person and Caregiver-Centered Experience Outcomes

MIPS No./NQF No.: Non-PQRS; MIPS 220, MIPS 223, MIPS 182, MIPS 109, MIPS 217, MIPS 218, MIPS 219 and NQF 0422, modification of NPA 3

Measure Type (Process/Outcome): Outcome

DESCRIPTION:
Percentage of patients aged 18 years and older undergoing spine therapy(-ies) who completed baseline and 2 +/- 1 month follow-up (patient-reported) functional outcome assessment with at least 10% improvement in the functional status from the baseline. This measure will be calculated using two performance rates. Two rates can be reported for baseline and follow-up:

- Rate 1: Patient population with Follow-up/Patient population with baseline
- Rate 2: Patient population with improvement in functional status (at least 10% improvement) from the baseline.
- Thus Rate 2 <= Rate 1
- Overall Rate = Rate 1

DENOMINATOR: SQOD Spine Codes, See Appendix 1

NUMERATOR:
Percentage of patients who completed 2 +/- 1 month follow-up (patient-reported) functional outcome assessment post spine therapies.

RATIONALE:
Degenerative spine disease is recognized as a leading cause of disability in society9, and low back pain is the most expensive cause of work-related disability in the United States.1 Measures of spine-related patient disability have been established and validated.10 A recent analysis of 4,970 patients enrolled in the QOD Spine Registry found significant levels of self-reported baseline functional impairment in spine patients (average disability index 50 [severe disability]).2 Improvements in disability scores following therapy have been demonstrated in a number of conditions.3-7,11,12 One multicenter study investigated the outcomes of treatment for lumbar spinal stenosis.12 In an as-treated analysis of 654 patients with 4-year follow-up, functional disability was found to be significantly reduced in patients undergoing surgery compared those treated without surgery.12 Given the prevalence, socio-economic impact and relative severity of spine related functional impairment, accurate assessment of patients’ functional status pre and post therapy is essential to assess the impact of interventions and make appropriate plans for continuing care.

REFERENCES:


NPAGSC4
Quality-of-Life Assessment for Spine Intervention

NQS Domain: Person and Caregiver-Centered Experience Outcomes

MIPS No./NQF No.: Non-MIPS, modification of NPA 4

Measure Type (Process/Outcome): Outcome

DESCRIPTION:
Percentage of patients aged 18 years and older undergoing spine therapy(ies) who completed baseline and 2 +/- 1 month follow-up (patient-reported) quality-of-life assessment with an improvement in the quality of life status from the baseline. This measure will be calculated using two performance rates. Two rates can be reported for baseline and follow-up:

Rate 1: Patient population with Follow-up/Patient population with baseline
Rate 2: Patient population with improvement in Quality of life status from the baseline

Thus Rate 2 <= Rate 1
Overall Rate = Rate 1

DENOMINATOR: SQOD Spine Codes, See Appendix 1
NUMERATOR:
Number of patients aged 18 years and older undergoing spine therapy(-ies) who completed baseline and 2 +/- 1 month follow-up (patient-reported) quality-of-life assessment.

RATIONALE:
Patient reported quality of life is increasingly recognized as an important tool to allow clinicians to assess the effectiveness of various therapies, particularly when combined with traditional clinical measures of health. Impaired quality of life is commonly caused by spinal disorders, and routine use of quality-of-life instruments along with other patient reported outcomes tools has been recommended in association with spine therapies. A recent analysis of 4,970 patients enrolled in the QOD Spine Registry found significantly diminished levels of baseline patient reported quality of life (average baseline EQ-5D 0.54 on a scale of 0-1 where 0 is the worst) in spine patients. Improvements in quality of life measures following treatment for spine disorders have been demonstrated in a number of conditions. One multicenter study investigated the outcomes of treatment for lumbar spinal stenosis. In an as-treated analysis of 654 patients with 4-year follow-up, quality of life was found to be significantly improved in patients undergoing surgery compared those treated without surgery. Given the prevalence, and relative severity of spine-related impairment of quality of life, accurate assessment of patients’ self-reported QOL pre and post therapy is essential to assess the impact of interventions and make appropriate plans for continuing care.

REFERENCES:


**NPAGSCS**

Patient Satisfaction with Spine Care

**NQS Domain:** Person and Caregiver-Centered Experience Outcomes

**MIPS No./NQF No.:** Non-MIPS; modification of MIPS 304, modification of NPA 5

**Measure Type (Process/Outcome):** Outcome

**DESCRIPTION:**

Percentage of patients aged 18 years and older undergoing spine therapy(-ies) who completed satisfaction with care assessment prior to the treatment and at 2 +/- 1 month follow-up (patient-reported) satisfaction with care assessment with an improvement in the satisfaction with care status from the baseline. This measure will be calculated using two performance rates. Two rates can be reported for baseline and follow-up:

- Rate 1: Patient population with Follow-up/Patient population with baseline
- Rate 2: Patient population with improvement in satisfaction with care status from the baseline
- Thus Rate 2 =< Rate 1
- Overall Rate = Rate 1

**DENOMINATOR:** SQOD Spine Codes, See Appendix 1

**NUMERATOR:**

Number of patients aged 18 years and older undergoing spine therapy(-ies) who completed 2 +/- 1 month follow-up (patient-reported) satisfaction with care assessment.

**RATIONALE:**

Patient satisfaction represents a subjective assessment of a patient’s overall healthcare experience and has emerged as a common outcome measure following treatment of spine disorders. In part due to its ease of assessment, both healthcare organizations and third-party payers have used patient satisfaction as a proxy for quality of care. Further, The Joint Commission on Accreditation of Healthcare Organizations has identified patient satisfaction as an important measure and suggests that it be used for accreditation purposes. A recent analysis of 4,970 patients enrolled in the QOD Spine Registry found significant improvements in patient-reported satisfaction after treatment of spine disorders, although almost 20% of patients reported less than satisfactory experiences. While there is some evidence that patient satisfaction may not be a valid means of assessing quality, other studies have found positive correlations between patient satisfaction and measures of pain and disability. Given the increased interest in patient satisfaction, studies have more recently sought to determine what factors contribute to these scores. At least two such studies have now found that one important factor in improving patient satisfaction following treatment is establishing realistic patient expectations. Given the increasing relevance of satisfaction metrics in advancing patient-centered measures of healthcare services, along with improvement opportunities identified in a large national clinical data program, accurate assessment of patients’ self-reported satisfaction with care pre and post therapy is essential to assess the impact of interventions and make appropriate plans for continuing individual care as well as to improve the systemic aspects of care.
REFERENCES:

NPAGSC6
Depression and Anxiety Assessment Prior to Spine-Related Therapies

NQS Domain: Communication and Care Coordination

MIPS No./NQF No.: Non-MIPS; modification of NPA 16

Measure Type (Process/Outcome): Process

DESCRIPTION:
Percentage of patients aged 18 years and older with documentation of depression and/or anxiety assessment through discussion with the patient including the use of a standardized assessment tool prior to therapy(ies) for treatment of spine-related pain symptoms.

DENOMINATOR: SQOD Spine Codes, See Appendix 1

NUMERATOR:
Number of patients aged 18 years and older with documentation of depression and/or anxiety assessment through discussion with the patient including the use of a standardized assessment tool prior to therapy(ies) for treatment of spine-related pain symptoms.

RATIONALE:
Psychological screening is emerging as an important method to predict outcomes following treatment for spinal disorders and potentially identify modifiable conditions to improve spine care outcomes. Depression and anxiety are prevalent in patients undergoing spine surgery. A recent analysis of the QOD Spine Registry found that 12.8 and 21.3% of spine patients identified themselves as anxious or depressed, respectively. Furthermore, baseline depression and
anxiety were strongly associated with worse patient outcomes following treatment. There is evidence that depression and anxiety predict outcomes including return to work,¹ medical complications,² functional recovery,³,⁴ and quality of life.⁵ Screening may aid in appropriate patient selection. In one large prospective study, depressive symptoms predicted functional improvement after non-surgical treatment of chronic low back pain.⁶ Screening may also guide interventions aimed at treating depression and anxiety that can in turn improve outcomes after treatment. In one study, patients whose depression improved after treatment for spine disorders had better outcomes resembling those of non-depressed patients.⁷ Despite the evidence for screening, only a minority of spine specialists currently screen for psychological factors,⁸ suggesting that there is an opportunity to improve outcomes by encouraging screening.

REFERENCES:

NPAGSC7
Narcotic Pain Medicine Management Prior to and Following Spine Therapy

NQS Domain: Communication and Care Coordination

MIPS No./NQF No.: Non-MIPS; modification of MIPS 180, modification of NPA 17

Measure Type (Process/Outcome): Process

DESCRIPTION:
Percentage of patients aged 18 years and older with documentation of narcotic use/requirements at baseline (initial encounter) and documentation of decreased narcotic use/requirements at 2 +/-1 months following initial assessment and therapy (ies) for treatment of spine-related pain symptoms with an improvement in pain status from the baseline.
and documentation of follow-up plan. This measure will be calculated using two performance rates. Two rates can be reported for baseline and follow-up:

- Rate 1: Patient population with Follow-up/Patient population with baseline
- Rate 2: Patient population with improvement in pain status from the baseline.

Thus Rate 2 <= Rate 1

Overall Rate = Rate 1

**DENOMINATOR:** SQOD Spine Codes, See Appendix 1

**NUMERATOR:**

Percentage of patients with a documentation of decreased narcotic use/requirements at 2 +/-1 months following initial assessment and therapy(ies) for the treatment of spine-related pain symptoms and documentation of follow-up plan.

**RATIONALE:**

Narcotic medications are an important part of pain management before and after spine therapy. However, long-term use of narcotics should be avoided due to adverse effects, the risk of opioid dependence, and diminished effectiveness in treating pain.\(^1\,^2\) Chronic opioid therapy places patients at risk of intolerable adverse effects, aberrant drug-related behaviors, opioid dependence, and failure to make progress towards therapeutic goals. Furthermore, total pain relief with chronic opioid therapy is rare. Trials suggest that improvement averages less than 2 to 3 points on a 0 to 10 scale.\(^3\,^4\) Monitoring length and dose of narcotic pain medication for spine patients is integral to appropriate management. Opioid use before spine therapy is strongly associated with persistent opioid use after therapy making it feasible to predict which patients will require longer-term narcotic management.\(^5\,^6\) In cases of chronic opioid therapy, it is important for clinicians to discuss a management plan prior to initiating a course of treatment and on an ongoing basis while patients are on therapy with plans varying based on patient needs and risks.\(^2\,^7\)

**REFERENCES:**

**NPAGS98**
Complication Following Percutaneous Spine-Related Procedure

**NQS Domain:** Effective Clinical Care

**MIPS No./NQF No.:** Non-MIPS; modification of NQF 0705, modification of NPA 7

**Measure Type (Process/Outcome):** Outcome

**DESCRIPTION:**
Proportion of patients undergoing percutaneous spine-related procedures who have a complication (specifically, CSF leak, deep venous thrombosis [DVT], pulmonary embolism [PE], myocardial infarction [MI], stroke, procedure related infection or unexpected new neurological deficit) in the 30-day post-procedure period.

**DENOMINATOR:** SQOD Spine Codes, See Appendix 1

**NUEMRATOR:**
Number of patients undergoing percutaneous spine-related procedures who have a complication (specifically, CSF leak, deep venous thrombosis [DVT], pulmonary embolism [PE], myocardial infarction [MI], stroke, procedure related infection or unexpected new neurological deficit) in the 30-day post-procedure period.

**RATIONALE:**
Although overall complication rates for percutaneous spine-related procedures are low, certain potentially preventable complications such as CSF leak, DVT, PE, MI, stroke, and unexpected neurological deficit, is associated with significant morbidity and economic burden resulting in functional impairment, increased resource utilization, and delayed return to activity and work. In the pre-procedure phase, certain high-risk modifiable risk factors, mainly insulin-dependent diabetes, smoking, and long-term steroid use, should be identified and mitigated. In the intra-procedure phase, attention to physiological parameters, image-guided techniques, and shorter procedure times may facilitate a reduction in the likelihood of a complication. In the post-procedure phase, appropriate mobilization of patients, meticulous blood glucose control, and close neurological monitoring may help reduce the incidence of these complications. Regardless, implementation of most of these factors is non-uniform and often varies by physician within a given institution, leading to variability in complication rates and types.

**REFERENCES:**
NPAGSC9
Unplanned Admission to Hospital Following Percutaneous Spine Procedure within the 30-Day Post-procedure Period

NQS Domain: Patient Safety (also Efficiency and Cost Reduction)

MIPS No./NQF No.: Non-MIPS; modification of NPA 10; modification of MIPS 356

Measure Type (Process/Outcome): Outcome

DESCRIPTION:
Percentage of patients aged 18 years and older who had any unplanned admission following percutaneous spine-related procedure within the 30-day post-procedure period.

DENOMINATOR: SQOD Spine Codes, See Appendix 1

NUMERATOR:
Number of patients aged 18 years and older who had any unplanned admission following percutaneous spine-related procedure within the 30-day post-procedure period.

RATIONALE:
Unplanned postoperative readmissions contribute significantly to excessive resource utilization and drive increased health care cost. Consequently, readmissions have been under increasing scrutiny by CMS. Their prevalence is high in spine surgery. Analysis of 343,068 Medicare patients in the period 2003–2007 revealed an overall 30-day readmission rate of 7.3% for lumbar operations. The most common cause of readmission in this cohort was surgical complications, which accounted for 26%–33% of all events. Analysis of the 2011 and 2012 ACS NSQIP data revealed an overall unplanned readmission rate of 4.4%. The most common etiology was wound complications (38.6%), including superficial and deep infection, hematoma, or seroma development. In neurosurgery-specific data, a study of 4970 patients undergoing lumbar spine surgery in the QOD registry demonstrated an overall 30-day readmission rate of 3.7%, with a 90-day readmission rate of 8.9%. Readmissions are often associated with poor outcomes and increased hospitalization costs. Rates of unplanned hospital admission following percutaneous spine procedures are less well understood. Tracking of this metric is essential to better understand overall resource utilization in spine care and assist in the planning of continuing care, all of which is consistent with our efforts to promote value-based care.

REFERENCES:

NPAGSC10
Spine/Extremity Pain Assessment

National Quality Strategy (NQS) Domain: Person and Caregiver-Centered Experience Outcomes

MIPS No./NQF No.: Non-MIPS; MIPS 131, NQF 420, modification of MIPS 109, modification of NPA 22

Measure Type (Process/Outcome): Outcome

DESCRIPTION:
Percentage of patients aged 18 years and older with documentation of a pain assessment through discussion with the patient including the use of a standardized back or neck pain tool(s) AND/OR Leg or arm pain tool(s) at baseline and 2 +/- 1 month following initial assessment and therapy(-ies) for treatment of spine-related pain symptoms with an improvement in the pain status from the baseline and documentation of follow-up plan. This measure will be calculated using two performance rates. Two rates can be reported for baseline and follow-up:

Rate 1: Patient population with Follow-up/Patient population with baseline
Rate 2: Patient population with improvement in the pain status from the baseline
Thus Rate 2 \leq Rate 1
Overall Rate = Rate 1

DENOMINATOR: SQOD Spine Codes, See Appendix 1

NUMERATOR:
Number of patients with documentation of a pain assessment through discussion with the patient including the use of a standardized back or neck pain tool(s) AND/OR Leg or arm pain tool(s) at 2 +/- 1 month following initial assessment and therapy(-ies) for treatment of spine-related pain symptoms and documentation of follow-up plan.

RATIONALE:
Spine related pain and extremity pain related to spinal disorders (i.e., radicular pain) are highly prevalent and disabling conditions. Approximately one quarter of adults in the United States reported at least 1 full day of low back pain over a 3-month span and low back pain accounts for 2.3-2.8% of all physician visits. Low back pain alone represents the most expensive cause of work-related disability in the United States.\(^1\) A recent analysis of 4,970 patients enrolled in the QOD Spine Registry found significant levels of baseline low back pain in spine patients (average pain score 6.5 on a scale of 1-10).\(^2\) Several studies have established the minimal clinically important change in back pain scores following therapy, representing a threshold to distinguish meaningful patient improvements.\(^3,7\)

Lumbosacral radicular pain alone has been estimated to have an annual prevalence of 10-25% in the general population.\(^8\) A recent analysis of 4,970 patients enrolled in the QOD Spine Registry found significant levels of patient reported baseline radicular pain in spine patients (average pain score 6.9 on a scale of 1-10).\(^2\) Several studies have established the minimal clinically important change in radicular pain scores following therapy, representing a threshold to distinguish meaningful patient improvements.\(^3,7\) Given the prevalence and debilitating nature of spine related pain and radicular pain, accurate assessment before and after therapy is essential to assess the impact of interventions and make appropriate plans for continuing care.
REFERENCES:
Appendix 1: 2017 Spine Quality Outcomes Database (SQOD) QCDR Patients Denominator

**SQOD QCDR Patients Denominator:** The patient population includes patients aged 18 years and older eligible for, enrolled, and engaged in the Qualified Clinical Data Registry (QCDR).

**Diagnosis codes consistent with the SQOD Registry include:**

M43.02, M43.06, M43.07, M43.12, M43.16, M43.17, M46.00, M46.02, M46.04, M46.06, M46.07, M46.09, M46.1, M47.811, M47.812, M47.814, M47.816, M47.817, M48.02, M48.04, M48.06, M48.07, M48.9, M50.00, M50.10, M50.33, S22.000A, S22.009A, S22.060A, S22.080A, S32.010A, S32.010D, S32.000A, M50.90, M51.04, M51.06, M51.14, M51.16, M51.17, M51.24, M51.26, M51.27, M51.34, M51.36, M51.37, M53.2X2, M53.2X6, M53.2X7, M54.12, M54.14, M54.16, M54.17, M54.2, M54.31, M54.32, M54.5, M54.6, S13.4XXA, S13.4XXD, S13.8XXA, S16.1XXA, S23.3XXD, S23.3XXA, S23.3XXS, S23.8XXA, S33.5XXA, S23.3XXD, S33.5XXA, S33.5XXD, S33.6XXA, S33.6XXD, S33.100A, S34.3XXS, S34.4XXA, S34.3XXS, S39.012A, M54.41, M54.42, M54.16, M48.06, M54.2, M54.12, M40.03, M40.04, M41.24, M41.25, M41.26, M41.27, M41.84, M41.85, M41.86, M41.87, M41.9, M62.830