The 2016 NPA General Spine Care Measures

NPASGC 1
Spine Pain Assessment

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

**PQRS No./NQF No.:** Non-PQRS; PQRS 131, NQF 420, modification of PQRS 109, modification of NPA 1

**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) at baseline and 2 +/-1 months following initial assessment and therapy(-ies) for treatment of spine-related pain symptoms and documentation of follow-up plan.

**DENOMINATOR:** NPA General Spine Care QCDR patients, See Appendix 1

**NUMERATOR:** Number 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) at baseline and 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 is a highly prevalent and disabling condition. 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 N2QOD 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 Given the prevalence and debilitating nature of spine related pain, accurate assessment of patients’ spine discomfort pre- and post-therapy is essential to assess the impact of interventions and make appropriate plans for continuing care.

**REFERENCES:**


**NPASGC 2**

**Extremity (Radicular) Pain Assessment**

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

**PQRS No./NQF No.:** Non-PQRS; PQRS 131, modification of PQRS 109 and modification of NPA 2

**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 leg or arm pain tool(s) at baseline and 2 +/- 1 months following initial assessment and therapy(-ies) for treatment of spine-related pain symptoms and documentation of follow-up plan.

**DENOMINATOR:** NPA General Spine Care QCDR patients, See Appendix 1

**NUMERATOR:**
Number of patients aged 18 years and older with documentation of a pain assessment through discussion with the patient including the use of a standardized 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 and documentation of follow-up plan.

**RATIONALE:**
Extremity pain related to spinal disorders (i.e., radicular pain) is a highly prevalent and disabling condition. Lumbosacral radicular pain alone has been estimated to have an annual prevalence of 10-25% in the general population. A recent analysis of 4,970 patients enrolled in the N2QOD 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). Several studies have established the minimal clinically important change in radicular pain scores following therapy, representing a threshold to distinguish meaningful patient improvements. Given the prevalence and debilitating nature of radicular pain, accurate assessment before and after therapy is essential to assess the impact of interventions and make appropriate plans for continuing care.

**REFERENCES:**


NPAGSC 3
Functional Outcome Assessment for Spine Intervention

NQS Domain: Person and Caregiver-Centered Experience Outcomes

PQRS No./NQF No.: Non-PQRS; PQRS 220, PQRS 223, PQRS 182, PQRS 109, PQRS 217, PQRS 218, PQRS219 and NQF 0422, 0423, modification of 0424, 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.

DENOMINATOR: NPA General Spine Care QCDR patients, 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) functional outcome assessment.

RATIONALE:
Degenerative spine disease is recognized as a leading cause of disability in society\(^9\), 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 N\(^2\)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:

NPASGC 4
Quality-of-Life Assessment for Spine Intervention

NQS Domain: Person and Caregiver-Centered Experience Outcomes

PQRS No./NQF No.: Non-PQRS, 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.

DENOMINATOR: NPA General Spine Care QCDR patients, See Appendix 1
N2QOD QCDR Non-PQRS Measure Specifications
NPA General Spine Care Measures
April 2016 Revision v7 – FINAL APPROVED

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 N2QOD 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:


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NPASGC 5
Patient Satisfaction with Spine Care

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

**PQRS No./NQF No.:** Non-PQRS; modification of PQRS 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 2 +/- 1 month follow-up (patient-reported) satisfaction with care assessment.

**DENOMINATOR:** NPA General Spine Care QCDR patients, 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 NQOD 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 health-care 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:**
NPASGC 6
Depression and Anxiety Assessment Prior to Spine-Related Therapies

NQS Domain: Communication and Care Coordination

PQRS No./NQF No.: Non-PQRS; 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: NPA General Spine Care QCDR patients, 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 N2QOD 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. Despite the evidence for screening, only a minority of spine specialists currently screen for psychological factors, suggesting that there is an opportunity to improve outcomes by encouraging screening.

REFERENCES:

NPASGC 7
Narcotic Pain Medicine Management Prior to and Following Spine Therapy

NQS Domain: Communication and Care Coordination

PQRS No./NQF No.: Non-PQRS; modification of PQRS 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 at 2 +/- 1 months following initial assessment and therapy (ies) for treatment of spine-related pain symptoms and documentation of follow-up plan.

DENOMINATOR: NPA General Spine Care QCDR patients, See Appendix 1
NUMERATOR:
Number of patients aged 18 years and older with documentation of narcotic use/requirements at baseline (initial encounter) and at 2 +/- 1 months following initial assessment and therapy (ies) for 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. 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. 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. 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.

REFERENCES:

NPASGC 8
Complication Following Percutaneous Spine-Related Procedure

NQS Domain: Effective Clinical Care

PQRS No./NQF No.: Non-PQRS; 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:** NPA General Spine Care QCDR patients, 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.\(^1,2\) 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\(^3,4,5,6,7\) 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.\(^8,9\) 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:**
NPASGC 9
Unplanned Admission to Hospital Following Percutaneous Spine Procedure within the 30-Day Post-procedure Period

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

PQRS No./NQF No.: Non-PQRS; modification of PQRS 355, modification of NPA 11

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: NPA General Spine Care QCDR patients, 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.1 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.2 In neurosurgery-specific data, a study of 4970 patients undergoing lumbar spine surgery in the N2QOD registry demonstrated an overall 30-day readmission rate of 3.7%, with a 90-day readmission rate of 8.9%.3 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:
Appendix 1: 2016 NPA General Spine Care QCDR Patients Denominator

NPA General Spine Care 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). For the NPA General Spine Care QCDR, the measures apply to patients undergoing initial and continuing therapy for either lumbar or cervical spine symptoms and the treating clinician’s selection of either lumbar or cervical or both lumbar and cervical registry participation. Lumbar diagnostic categories include patients with symptomatic lumbar radiculopathy, neurogenic claudication or back pain. Cervical diagnostic categories include patients with cervical radiculopathy, and/or neck pain. CPT codes listed are consistent with, and applicable to, these clinical inclusion criteria.

Diagnosis codes consistent with the Lumbar Registry include: M54.4 (and all sub codes); M54.16; M48.06

Diagnosis codes consistent with the Cervical Registry include M54.2 (and all sub codes); M54.12

CPT codes consistent with the Lumbar Registry include: 64483, 62311, 64493

CPT codes consistent with the Cervical Registry include: 64479, 62310, 64490

Denominator Exclusions
Excluded are patients with circumstances that interfere with or prevent data collection or patients with conditions that confound interpretation of patient outcomes.

General Exclusions:
- Spinal infection (including osteomyelitis, TB, discitis)
- Tumor (malignant, cancer)
- Fracture (or Kyphoplasty)
- Traumatic dislocation
- Incarceration (prisoner)
- Hospital/Facility/Surgeon is not a participant
- Refused Informed Consent: if informed consent is required by the local IRB, then refusal of consent
- Medical records or documentation are not available, cannot be accessed
- Age < 18yrs
- Neurological paralysis due to pre-existing spinal disease or injury (such as traumatic brain injury resulting in lower limb weakness)
- Severe Peripheral Neuropathy or Primary Neuropathy. Severe peripheral neuropathy indicates that the patient has objective sensory loss or weakness that might interfere with daily activities. We are trying to exclude those patients as this will affect the patient-reported quality of life surveys and our interpretation of patient outcomes. The question, however, raises the issue of having the symptoms documented as present but without the degree of severity. For example if the documentations states only diabetic neuropathy or peripheral neuropathy without the designation of severe or primary neuropathy, then the case is included and not excluded. If the documentation fails to specify that the neuropathy is severe or primary, include the patient. Only “severe or primary” neuropathy is excluded.
- Tardive Dyskinesia
- Chronic Regional Pain Syndrome (CPRS)
- Multiple Sclerosis
- Parkinson’s Disease
- Amyotrophic Lateral Sclerosis
- Myasthenia gravis
- Patients with the presence of any neurologic condition or deficit that would cause the interpretation of outcome to be unclear; for instance: hand weakness, atrophy and numbness from a chronic ulnar neuropathy or end stage carpal tunnel syndrome with numbness, atrophy and weakness or severe peripheral neuropathy with sensory loss or weakness.
- Central nervous system disorders, including:
  - Huntington’s Disease
  - Advanced dementia
  - Alzheimer’s Disease
  - Cerebral Palsy
  - Locked-in Syndrome
  - Arachnoid Cysts
  - Brain tumor affecting movement (parietal lobe, cerebellum)
  - Encephalitis

**Administrative Exclusions**
- Unable to collect baseline patient-reported outcome data