

Total Knee Replacement
Measure #1a: Assessment of Patient History
(Measures #1a, #1b, and #1c are a composite measure and must be used together)

Measure Description

Percentage of patients undergoing a total knee replacement who had a history completed within one year prior to the procedure that included all of the following: onset and duration of symptoms, location and severity of pain, activity limitations (e.g., walking distance, use of assistive devices, and difficulty with stairs)

Measure Components

Numerator Statement	Patients who had a history completed within one year prior to the procedure that included all of the following: onset and duration of symptoms, location and severity of pain, activity limitations (e.g., walking distance, use of assistive devices, and difficulty with stairs)
Denominator Statement	All patients undergoing a total knee replacement
Denominator Exceptions	None
Supporting Guideline & Other References	The following evidence statements are quoted <u>verbatim</u> from the referenced clinical guidelines: The initial contact (for patients presenting with acute knee pain) may not require obtaining radiographs but should rely on a comprehensive history and physical exam. (AAOS, 2003) ¹⁶

Measure Importance

Relationship to desired outcome	A complete history of the patient will identify any medical problems that will need to be corrected prior to the procedure. In addition, the patient's preoperative activity level and symptoms are important to determine the severity of the patient's knee arthritis and baseline functionality.
Opportunity for Improvement	In a study conducted by SooHoo and colleagues at 3 hospitals, 54 percent of the patients had documentation of the history of the present illness with variation between the 3 hospitals. Pain evaluation was documented 60 percent of the time and the documentation ranged from 99 percent of the time at the best performing hospital down to 25 percent at the least performing hospital. ¹³
IOM Domains of Health Care Quality Addressed	<ul style="list-style-type: none"> • Safe • Effective • Efficient
Exception Justification	This measure has no exceptions.
Harmonization with Existing Measures	Harmonization with existing measures was not applicable to this measure.

Measure Designation

Measure purpose	<ul style="list-style-type: none">• Quality improvement• Accountability
Type of measure	<ul style="list-style-type: none">• Process
Level of Measurement	<ul style="list-style-type: none">• Individual practitioner
Care setting	<ul style="list-style-type: none">• Ambulatory care
Data source	<ul style="list-style-type: none">• Electronic health record (EHR) data• Administrative Data/Claims (inpatient or outpatient claims)• Administrative Data/Claims Expanded (multiple-source)• Paper medical record• Registry data

Technical Specifications: Administrative/Claims Data

Administrative claims data collection requires users to identify the eligible population (denominator) and numerator using codes recorded on claims or billing forms (electronic or paper). Users report a rate based on all patients in a given practice for whom data are available and who meet the eligible population/denominator criteria.

The specifications listed below are those needed for performance calculation. Additional CPT II codes may be required depending on how measures are implemented. (Reporting vs. Performance)

Denominator (Eligible Population)

All patients undergoing a total knee replacement

CPT Service Code: 27446, 27447, 27438, or 27442

Numerator

Patients who had a history completed within one year prior to the procedure that included all of the following: onset and duration of symptoms, location and severity of pain, activity limitations (e.g., walking distance, use of assistive devices, and difficulty with stairs),

Report the CPT Category II code:

XXXXF: *Patients who had a history completed* in development for this numerator

Total Knee Replacement
Measure #1b: Physical Examination
(Measures #1a, #1b, and #1c are a composite measure and must be used together)

Measure Description

Percentage of patients undergoing a total knee replacement who had a physical examination completed within one year prior to the procedure that included all of the following: gait, knee range of motion, presence or absence of deformity of the knee, stability of the knee, neurologic status (sensory and motor function), vascular status (peripheral pulses), skin, height, and weight

Measure Components

Numerator Statement	Patients who had a physical examination completed within one year prior to the procedure that included all of the following: gait, knee range of motion, presence or absence of deformity of the knee, stability of the knee, neurologic status (sensory and motor function), vascular status (peripheral pulses), skin, height, and weight
Denominator Statement	All patients undergoing a total knee replacement
Denominator Exceptions	None
Supporting Guideline & Other References	<p>The following evidence statements are quoted <u>verbatim</u> from the referenced clinical guidelines:</p> <p>The initial contact (for patients presenting with acute knee pain) may not require obtaining radiographs but should rely on a comprehensive history and physical exam.</p> <p>Significant Physical Examination:</p> <ul style="list-style-type: none"> • Visual inspection for abnormalities • Presence and location of warmth • Tenderness (location) • Presence and location of swelling • Range of motion (active and passive) • Meniscal compression • Varus/valgus instability (0° and 30° of flexion) • Anterior Drawer with + or - Lachman • Foot pulse • Presence and location of erythema • Hip pain or abnormalities present • Patella apprehension • Crepitance (AAOS, 2003)¹⁵ <p>On physical examination, patients with OA often have tenderness on palpation, bony enlargement, crepitus on motion, and/or limitation of joint motion. (American College of Rheumatology, 2000)¹⁷</p>

Measure Importance

Relationship to desired A complete examination of the knee is necessary to plan for the surgical procedure. In addition, the patient's preoperative evaluation is important to

outcome	determine the severity of the patient's knee arthritis and baseline functionality.
Opportunity for Improvement	A study conducted by SooHoo and colleagues found that all components of the physical examination were documented only 5 percent of the time for the patients undergoing total knee replacement at the 3 hospitals. ¹³
IOM Domains of Health Care Quality Addressed	<ul style="list-style-type: none"> • Safe • Effective • Efficient
Exception Justification	This measure has no exceptions.
Harmonization with Existing Measures	The American Medical Association (AMA)-convened Physician Consortium for Performance Improvement® (PCPI™) osteoarthritis measure addressing the physical examination of the involved joint includes visual inspection, palpation, and degree of range of motion of the joint. This measure addresses additional items that should be documented in the medical record prior to total knee replacement.

Measure Designation

Measure purpose	<ul style="list-style-type: none"> • Quality improvement • Accountability
Type of measure	<ul style="list-style-type: none"> • Process
Level of Measurement	<ul style="list-style-type: none"> • Individual practitioner
Care setting	<ul style="list-style-type: none"> • Ambulatory care
Data source	<ul style="list-style-type: none"> • Electronic health record (EHR) data • Administrative Data/Claims (inpatient or outpatient claims) • Administrative Data/Claims Expanded (multiple-source) • Paper medical record • Registry data

Technical Specifications: Administrative/Claims Data

Administrative claims data collection requires users to identify the eligible population (denominator) and numerator using codes recorded on claims or billing forms (electronic or paper). Users report a rate based on all patients in a given practice for whom data are available and who meet the eligible population/denominator criteria.

The specifications listed below are those needed for performance calculation. Additional CPT II codes may be required depending on how measures are implemented. (Reporting vs. Performance)

Denominator (Eligible Population)	All patients undergoing a total knee replacement CPT Service Code: 27446, 27447, 27438, or 27442
Numerator	<p>Patients who had a physical examination completed within one year prior to the procedure that included all of the following: gait, knee range of motion, presence or absence of deformity of the knee, stability of the knee, neurologic status (sensory and motor function), vascular status (peripheral pulses), skin, height, and weight</p> <p>Report the CPT Category II code: XXXXF: <i>Patients who had a physical examination completed</i> in development for this numerator</p>

Total Knee Replacement
Measure #1c: Radiographic Evidence of Arthritis

(Measures #1a, #1b, and #1c are a composite measure and must be used together)

Measure Description

Percentage of patients undergoing a total knee replacement with radiographic evidence of arthritis within one year prior to the procedure

Measure Components

Numerator Statement	Patients with radiographic evidence of arthritis within one year prior to the procedure
Denominator Statement	All patients undergoing a total knee replacement
Denominator Exceptions	Documentation of medical reason for no radiographic evidence of arthritis (e.g., patients with osteonecrosis or bone tumor, MRI studies showing full thickness cartilage loss)
Supporting Guideline & Other References	The following evidence statements are quoted <u>verbatim</u> from the referenced clinical guidelines: Candidates for elective TKR should have radiographic evidence of joint damage, moderate to severe persistent pain that is not adequately relieved by an extended course of nonsurgical management, and clinically significant functional limitation resulting in diminished quality of life. (NIH Consensus Statement 2003) ¹⁸

Measure Importance

Relationship to desired outcome	Prior to total knee replacement, there should be radiographic evidence of arthritis including joint space narrowing and deformity.
Opportunity for Improvement	Radiographic evidence of arthritis was identified 80 percent of the time on the patients undergoing total knee replacement at the 3 California hospitals studied by SooHoo and colleagues. Adherence ranged from 71 to 85 percent. ¹³
IOM Domains of Health Care Quality Addressed	<ul style="list-style-type: none"> • Safe • Effective • Efficient
Exception Justification	A denominator exception has been added to capture those patients who require total knee replacement due to osteonecrosis or a bone tumor.
Harmonization with Existing Measures	Harmonization with existing measures was not applicable to this measure.

Measure Designation

- Measure purpose**
- Quality improvement
 - Accountability

Type of measure	<ul style="list-style-type: none"> • Process
Level of Measurement	<ul style="list-style-type: none"> • Individual practitioner
Care setting	<ul style="list-style-type: none"> • Ambulatory care
Data source	<ul style="list-style-type: none"> • Electronic health record (EHR) data • Administrative Data/Claims (inpatient or outpatient claims) • Administrative Data/Claims Expanded (multiple-source) • Paper medical record • Registry data

Technical Specifications: Administrative/Claims Data

Administrative claims data collection requires users to identify the eligible population (denominator) and numerator using codes recorded on claims or billing forms (electronic or paper). Users report a rate based on all patients in a given practice for whom data are available and who meet the eligible population/denominator criteria.

The specifications listed below are those needed for performance calculation. Additional CPT II codes may be required depending on how measures are implemented. (Reporting vs. Performance)

Denominator (Eligible Population)	<p>All patients undergoing a total knee replacement</p> <p>CPT Service Code: 27446, 27447, 27438, or 27442</p>
Numerator	<p>Patients with documented radiographic evidence of arthritis within one year prior to the total knee replacement</p> <p>Report the CPT Category II code: XXXXF: <i>Patients with radiographic evidence of arthritis</i> in development for this numerator</p>
Denominator Exceptions	<p>Documentation of medical reason for no radiographic evidence of arthritis (e.g., patients with osteonecrosis or bone tumor, MRI studies showing full thickness cartilage loss)</p> <ul style="list-style-type: none"> • Append modifier to CPT Category II code: XXXXF-1P