



Complete Summary

GUIDELINE TITLE

Review criteria for knee surgery.

BIBLIOGRAPHIC SOURCE(S)

Washington State Department of Labor and Industries. Review criteria for knee surgery. Provider Bull 2003 Dec;(PB 03-16):1-7. [8 references]

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Washington State Department of Labor and Industries. Criteria for knee surgery. Olympia (WA): Washington State Department of Labor and Industries; 1999 Jun (republished Aug 2002).

COMPLETE SUMMARY CONTENT

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SCOPE

DISEASE/CONDITION(S)

Injuries of the knee for which surgery is indicated

GUIDELINE CATEGORY

Evaluation
Treatment

CLINICAL SPECIALTY

Orthopedic Surgery

INTENDED USERS

Health Care Providers
Health Plans
Physicians
Utilization Management

GUIDELINE OBJECTIVE(S)

To provide the criteria that will be used by the department's Utilization Review vendor to review knee surgery requests

TARGET POPULATION

The injured worker with knee injury

INTERVENTIONS AND PRACTICES CONSIDERED

Evaluation

1. Evaluation of subjective clinical findings (rest/sitting or night pain, joint pain, locking or clicking, knee stability, effusion, swelling, range of motion)
2. Evaluation of objective clinical findings (Lachman's sign, McMurray's sign, pivot shift, anterior drawer, KT 1000 measurements, pain with patellar/femoral movement, recurrent dislocations, loss or erosion of knee cartilage)
3. Imaging studies (arthrogram, magnetic resonance imaging [MRI], arthroscopy, x-ray, computed tomography [CT])

Knee Surgery

1. Anterior cruciate ligament (ACL) repair
2. Lateral retinacular release, patella tendon re-alignment, or Maquet procedure
3. Knee joint replacement
4. Diagnostic arthroscopy
5. Meniscectomy or meniscus repair
6. Chondroplasty
7. Subchondral drilling or microfracture
8. Osteochondral autograft (mosaicplasty or osteochondral autograft transfer system [OATS] procedure)
9. Autologous chondrocyte implantation (ACI)
10. Meniscal allograft transplantation

MAJOR OUTCOMES CONSIDERED

Not stated

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The guideline developer performed literature searches of the U.S. National Library of Medicine's Medline database to identify data related to the injured worker population.

The current medical literature was reviewed, with an emphasis on randomized, double blind control trials, for the knee procedures contained in this medical treatment guideline.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Not stated

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not applicable

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The guideline is based on a literature review of the current scientific information regarding surgical procedures on the knee, and on expert opinion from actively practicing physicians who regularly treat knee conditions.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Following input from community-based practicing physicians, the guideline was further refined.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Review Criteria for Knee Surgery

PROCEDURE	CONSERVATIVE CARE	Clinical Findings			
			SUBJECTIVE		OBJECTIVE
ANTERIOR CRUCIATE LIGAMENT (ACL) REPAIR	(Not required for acute injury with hemarthrosis) Physical therapy OR Brace	AND	Pain alone is not an indication for surgery Instability of the knee, described as "buckling or give way" OR Significant effusion at the time of injury OR Description of injury indicates rotary twisting or hyperextension incident	AND	Positive Lachman's sign OR Positive pivot shift OR Positive anterior drawer OR Positive KT 1000 >3-5 mm = +1 >5-7 mm = + 2 >7 mm = +

PROCEDURE	CONSERVATIVE CARE	Clinical Findings			
			SUBJECTIVE		OBJECTIVE
LATERAL RETINACULAR RELEASE OR PATELLA TENDON REALIGNMENT OR MAQUET PROCEDURE	Physical therapy (not required for acute patellar dislocation with associated intra-articular fracture) OR Medications	AND	Knee pain with sitting OR Pain with patellar/femoral movement OR Recurrent dislocations	AND	Lateral tracking of the patella OR Recurrent effusion OR Patellar apprehension OR Synovitis with or without crepitus OR Increased Q angle >15 degrees
KNEE JOINT REPLACEMENT If only 1 compartment is affected, a unicompartmental or partial replacement is indicated. If 2 of the 3 compartments are affected, a total joint replacement is	Medications OR Visco supplementation injections OR Steroid injection	AND	Limited range of motion OR Night time joint pain OR No pain relief with conservative care	AND	Over 50 years of age AND **Body Mass Index of less than 35

PROCEDURE	CONSERVATIVE CARE	Clinical Findings			
			SUBJECTIVE		OBJECTIVE
indicated.					
DIAGNOSTIC ARTHROSCOPY	Medications OR Physical therapy	AND	Pain and functional limitations continue despite conservative care		
MENISCECTOMY OR MENISCUS REPAIR	(Not required for locked/blocked knee) Physical therapy OR Medication OR Activity modification	AND	Joint pain OR Swelling OR Feeling of give way OR Locking, clicking, or popping	AND	Positive McMurray's sign OR Joint line tenderness OR Effusion OR Limited range of motion OR Locking, clicking, or popping OR Crepitus
CHONDROPLASTY (Shaving or debridement of an articular surface)	Medication OR Physical therapy	AND	Joint pain AND Swelling	AND	Effusion OR Crepitus

PROCEDURE	CONSERVATIVE CARE	Clinical Findings			
			SUBJECTIVE		OBJECTIVE
					OR Limited range of motion
SUBCHONDRAL DRILLING OR MICROFRACTURE	Medication OR Physical therapy	AND	Joint pain AND Swelling	AND	Small full thickness chondral defect on the weight bearing portion of the medial or lateral femoral condyle AND Knee is stable with intact, fully functional menisci and ligaments AND Normal knee alignment AND Normal joint space AND Ideal age 40 or younger
OSTEOCHONDRAL AUTOGRAFT (MOSAICPLASTY OR	Medication OR	AND	Joint pain AND	AND	Failure of previous subchondral drilling or

PROCEDURE	CONSERVATIVE CARE	Clinical Findings			
			SUBJECTIVE		OBJECTIVE
OSTEOCHONDRAL AUTOGRAPH TRANSFER SYSTEM [OATS] PROCEDURE)	Physical therapy		Swelling		<p>microfracture</p> <p>Large full thickness chondral defect that measures less than 3 cm in diameter and 1 cm in bone depth on the weight bearing portion of the medial or lateral femoral condyle</p> <p>AND</p> <p>Knee is stable with intact, fully functional menisci and ligaments</p> <p>AND</p> <p>Normal knee alignment</p> <p>AND</p> <p>Normal joint space</p> <p>AND</p> <p>**Body mass index of less than 35</p>

PROCEDURE	CONSERVATIVE CARE	Clinical Findings			
			SUBJECTIVE		OBJECTIVE
AUTOLOGOUS CHONDROCYTE IMPLANTATION (ACI)	Physical therapy for a minimum of 2 months	AND	Injured worker (IW) is capable and willing to follow the rehabilitation protocol.	AND	<p> Failure of traditional surgical intervention (i.e., microfracture, drilling, abrasion, osteochondral graft). Debridement alone does not constitute a traditional surgical intervention for ACI </p> <p> AND </p> <p> Single, clinically significant, lesion that measures between 1 to 10 sq cm in area that affects a weight-bearing surface of the medial femoral condyle or the lateral femoral condyle. </p> <p> AND </p> <p> Full-thickness lesion (*Modified Outerbridge Grade III-IV) </p>

PROCEDURE	CONSERVATIVE CARE	Clinical Findings			
			SUBJECTIVE		OBJECTIVE
					<p>that involve only cartilage</p> <p>AND</p> <p>Knee is stable with intact, fully functional menisci and ligaments.</p> <p>AND</p> <p>Normal knee alignment</p> <p>AND</p> <p>Normal joint space</p> <p>AND</p> <p>IW is less than 60 years old.</p> <p>AND</p> <p>**Body Mass Index of less than 35</p>

ACI Exclusion Criteria

ACI is not a covered procedure in any of the following circumstances:

- Lesion that involves any portion of the patellofemoral articular cartilage, bone, or is due to osteochondritis dissecans
- A "kissing lesion" or *Modified Outerbridge Grade II, III, or IV exists on the opposite tibial surface.

- Mild to severe localized or diffuse arthritic condition that appears on standing x-ray as joint space narrowing, osteophytes, or changes in the underlying bone
- Unhealthy cartilage border; the synovial membrane in the joint may be used as a substitute border for up to 1/4 of the total circumference.
- Prior total meniscectomy of either compartment in the affected knee. Must have at least 1/3 of the posterior meniscal rim.
- History of anaphylaxis to gentamycin or sensitivity to materials of bovine origin
- Chondrocalcinosis is diagnosed during the cell culture process.

Please refer to Provider Bulletin 03-02 for additional coverage

information. Surgeon should have performed or assisted in 5 or more ACI procedures; or will be performing the ACI under the direct supervision and control of a surgeon who has experience with 5 ACI procedures.

Inclusion Criteria

PROCEDURE	CONSERVATIVE CARE	Clinical Findings			
			SUBJECTIVE		OBJECTIVE
MENISCAL ALLOGRAFT TRANSPLANTATION	Physical therapy OR Nonsteroidal anti-inflammatory drugs (NSAID) OR Activity modification	AND	Capable and willing to follow the rehabilitation protocol AND Knee pain that has not responded to conservative treatment	AND	Previous meniscectomy with at least two-thirds of the meniscus removed AND If *Modified Outerbridge Scale Grade III then debridement must first produce an articular surface sufficiently free of irregularities to maintain the integrity of the transplanted meniscus.

PROCEDURE	CONSERVATIVE CARE	Clinical Findings			
			SUBJECTIVE		OBJECTIVE
					AND Stable knee with intact ligaments, normal alignment, and normal joint space AND Ideal age 20-45 years (too young for total knee) AND **Body Mass Index of less than 35

Meniscal Allograft Transplantation Exclusion Criteria

Meniscal Allograft Transplantation is not a covered procedure in **any** of the following circumstances:

- Mild to severe localized or diffuse arthritic condition that appears on standing x-ray as joint space narrowing, osteophytes, or changes in the underlying bone
- Articular cartilage in the affected compartment demonstrates a chondrosis classified by the *Modified Outerbridge Scale as Grade III that has not undergone debridement; Grade III with debridement that has not produced an articular surface that can maintain the integrity of the transplanted meniscus; or Grade IV.

Please refer to Provider Bulletin 03-02 for additional coverage

information. Surgeon should have performed or assisted in 5 or more meniscal allograft transplantation procedures; or will be performing the meniscal allograft transplantation under the direct supervision and control of a surgeon who has experience with 5 procedures.

(Refer to the original Guideline for a listing of the knee surgeries that will and will not require utilization review).

***Modified Outerbridge Classification**

- I. Articular cartilage softening
- II. Chondral fissures or fibrillation <1.25 cm in diameter
- III. Chondral fibrillation >1.25 cm in diameter ("crabmeat changes")
- IV. Exposed subchondral bone

****Body Mass Index:** The equation for calculating the Body Mass Index (BMI) = (Weight in pounds ÷ Height in inches ÷ Height in inches) x 703. For example, a person weighing 210 pounds and 6 feet tall would have a BMI of (210 pounds ÷ 72 inches ÷ 72 inches) x 703 = 28.5.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for each recommendation.

The recommendations were developed by combining pertinent evidence from the medical literature with the opinions of clinical expert consultants and community-based practicing physicians. Because of a paucity of specific evidence related to the injured worker population, the guideline is more heavily based on expert opinion.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

The (surgical) guidelines are meant to increase the proportion of surgical requests authorized for workers who truly require surgery, and to decrease the proportion of such authorizations among workers who do not fall within the guideline.

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- The Office of the Medical Director works closely with the provider community to develop medical treatment guidelines on a wide range of topics relevant to injured workers. Guidelines cover areas such as lumbar fusion, indications for lumbar magnetic resonance imaging (MRI), and the prescribing of controlled

substances. Although doctors are expected to be familiar with the guidelines and follow the recommendations, the department also understands that guidelines are not hard-and-fast rules. Good medical judgment is important in deciding how to use and interpret this information.

- The guideline is meant to be a gold standard for the majority of requests, but for the minority of workers who appear to fall outside of the guideline and whose complexity of clinical findings exceeds the specificity of the guideline, a further review by a specialty-matched physician is conducted.
- The guideline-setting process will be iterative; that is, although initial guidelines may be quite liberally constructed, subsequent tightening of the guideline would occur as other national guidelines are set, or other scientific evidence (e.g., from outcomes research) becomes available. This iterative process stands in contrast to the method in some states of placing guidelines in regulation. Although such regulation could aid in the dissemination and quality oversight of guidelines, flexibility in creating updated guidelines might be limited.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

This guideline is published in a provider bulletin which is mailed to all health care providers (e.g., physicians, osteopaths, physician assistants, nurse practitioners, pain clinics, and pharmacists) that have a provider number with the Washington State Department of Labor and Industries. Specialized training on the guideline is also given to all department claim managers.

In addition, all of the surgical guidelines established by the Department of Labor and Industries in collaboration with the Washington State Medical Association (WSMA) have been implemented in the context of the Utilization Review (UR) program (complete details regarding the Utilization Review program can be found on the [Washington State Department of Labor and Industries Web site](#)). It has been critical in contract negotiations with UR vendors to specify that the vendor is willing to substitute WSMA-generated guidelines for less specific standards already in use by the company. The Department of Labor and Industries has also initiated an outpatient UR program, and this has allowed full implementation of guidelines related to outpatient procedures (e.g., carpal tunnel surgery, magnetic resonance imagings [MRIs]). The scheduled drug use guideline has been used internally, but has not been formally implemented in a UR program.

The intention of the WSMA Medical Guidelines Subcommittee was to develop treatment guidelines that would be implemented in a nonadversarial way. The subcommittee tried to distinguish between clear-cut indications for procedures and indications that were questionable. The expectation was that when surgery was requested for a patient with clear-cut indications, the request would be approved by nurse reviewers. However, if such clear-cut indications were not present, the request would not be automatically denied. Instead, it would be referred to a physician consultant who would review the patient's file, discuss the case with the requesting surgeon, and make recommendations to the claims manager.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Washington State Department of Labor and Industries. Review criteria for knee surgery. Provider Bull 2003 Dec;(PB 03-16):1-7. [8 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1991 Jan (revised 2004 Jan)

GUIDELINE DEVELOPER(S)

Washington State Department of Labor and Industries - State/Local Government Agency [U.S.]

SOURCE(S) OF FUNDING

Washington State Department of Labor and Industries

GUIDELINE COMMITTEE

Washington State Department of Labor and Industries (L&I), Washington State Medical Association (WSMA) Industrial Insurance Advisory Section of the Interspecialty Council

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Medical Director, Washington State Department of Labor and Industries (L&I):
Gary Franklin, MD

The individual names of the Washington State Medical Association (WSMA) Industrial Insurance Advisory Committee are not provided in the original guideline document.

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Washington State Department of Labor and Industries. Criteria for knee surgery. Olympia (WA): Washington State Department of Labor and Industries; 1999 Jun (republished Aug 2002).

GUIDELINE AVAILABILITY

Electronic copies: Available from the [Washington State Department of Labor and Industries Web site](#).

Print copies: L&I Warehouse, Department of Labor and Industries, P.O. Box 44843, Olympia, Washington 98504-4843.

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Washington State Department of Labor and Industries. Utilization Review Program. New UR Firm. (Provider Bulletin: PB 02-04). Olympia (WA): Washington State Department of Labor and Industries; 2002 Apr. 12 p.

Electronic copies: Available from the [Washington State Department of Labor and Industries Web site](#).

- Grannemann TW (editor). Review, regulate, or reform? What works to control workers' compensation medical costs? In: Medical treatment guidelines. Olympia (WA): Washington State Department of Labor and Industries, 1994 (republished 2002). p. 3-19.

Electronic copies: Available from the [Washington State Department of Labor and Industries Web site](#).

Print copies are available from the L&I Warehouse, Department of Labor and Industries, P.O. Box 44843, Olympia, Washington 98504-4843.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on February 14, 2000. It was sent to the guideline developer for review on February 15, 2000; however, to date, no comments have been received. The guideline developer has given NGC permission to publish the NGC summary. This summary was updated by ECRI on May 28, 2004. The information was verified by the guideline developer on June 14, 2004.

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Date Modified: 11/3/2008

