ROBERT PETTIT, MD
Restoring Function. Maximizing Performance.
ORTHOPAEDIC SPORTS MEDICINE · BEACON ORTHOPAEDICS & SPORTS MEDICINE

CINCINNATI, OH · FORT THOMAS, KY
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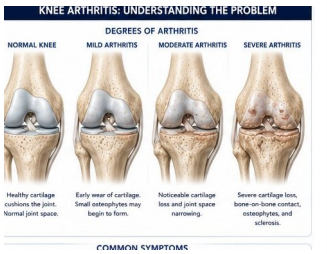
FELLOWSHIP-TRAINED · BOARD CERTIFIED (ABOS) · MAKO ROBOTICS CERTIFIED · CINCINNATI REDS TEAM PHYSICIAN

KNEE CONDITION

Knee Arthritis

Degenerative Joint Disease of the Knee — Patient Condition Guide



Progression of knee arthritis · for education; your anatomy may differ

OVERVIEW

Knee arthritis is the gradual breakdown of the cartilage that cushions the joint, leading to pain, stiffness, and swelling. Osteoarthritis is the most common form, developing over years from wear, prior injury, or genetic factors.

ANATOMY

The knee has three compartments — medial, lateral, and patellofemoral — each covered by cartilage. Arthritis can affect one, two, or all three compartments, which influences whether partial or total joint replacement is appropriate when surgery is needed.

SYMPTOMS

- Pain that worsens with activity and improves with rest
- Morning stiffness and stiffness after sitting
- Swelling and a feeling of warmth in the joint
- Reduced range of motion and a grinding or crunching sensation

DIAGNOSIS

Weight-bearing X-rays are the primary tool, showing joint space narrowing, bone spurs, and alignment changes. MRI is used selectively when a mechanical symptom (locking, catching) suggests an associated meniscus or cartilage issue.

TREATMENT OPTIONS

Initial treatment includes activity modification, weight management, physical therapy, anti-inflammatory medication, and sometimes injections. When conservative care no longer provides relief and arthritis limits daily life, options range from osteotomy in younger patients to partial or total knee replacement.

RECOVERY TIMELINE

- Non-surgical care: ongoing, with periodic reassessment

— If replacement is pursued: walking with assistance within a day

— Weeks 2–6: progressive strength and motion with physical therapy

— Months 3–6: return to most low-impact activities

FAQS

Q Do I need a knee replacement right away?

Not necessarily. Most patients try activity modification, therapy, and other non-surgical measures first.

Q How do I know if I need a partial or total replacement?

This depends on which compartments of your knee are affected, determined by exam and imaging with Dr. Pettit.

SCAN FOR THE LATEST VERSION ONLINE

robertpettitmd.com/handouts/knee-arthritis.pdf

This handout is for general patient education and does not replace personalized medical advice. Always follow the specific instructions given by Dr. Pettit and your care team.

ROBERT PETTIT, MD
ORTHOPAEDIC SURGERY & SPORTS MEDICINE

KNEE ARTHRITIS & KNEE REPLACEMENT

TREATMENT OPTIONS WITH MAKO® ROBOTICS

Knee arthritis occurs when the articular cartilage wears down, causing pain, stiffness, and loss of function.
Treatment ranges from conservative care to knee replacement when symptoms become severe.

KNEE ARTHRITIS: UNDERSTANDING THE PROBLEM

DEGREES OF ARTHRITIS

Healthy cartilage cushions the joint. Normal joint space.

Early wear of cartilage. Small osteophytes may begin to form.

Noticeable cartilage loss and joint space narrowing.

Severe cartilage loss, bone-on-bone contact, osteophytes, and sclerosis.

COMMON SYMPTOMS

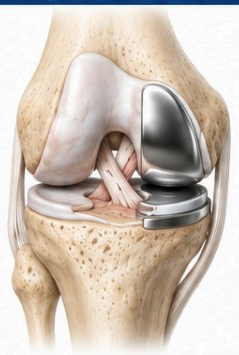
- Pain with activity or after sitting
- Stiffness and decreased motion
- Difficulty with stairs or uneven ground
- Swelling and inflammation
- Reduced activity and quality of life

NON-SURGICAL TREATMENT OPTIONS

- Activity modification
- Physical therapy & exercise
- Weight management
- Anti-inflammatory medication
- Bracing or assistive devices
- Injections (corticosteroid, viscosupplementation)
- Platelet-rich plasma (PRP)

When pain and limitations persist despite non-surgical care, knee replacement may be the best option to restore function and improve quality of life.

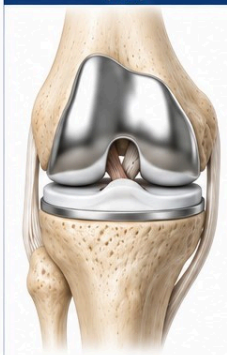
PARTIAL KNEE REPLACEMENT (UNICOMPARTMENTAL)



- Replaces only the damaged compartment (medial, lateral, or patellofemoral).
- Preserves healthy bone, cartilage, and ligaments.
- Smaller incision, less blood loss, faster recovery than total knee replacement.
- Not ideal for multi-compartment arthritis or ligament instability.

BEST SUITED FOR:
Arthritis limited to one compartment of the knee with intact ligaments.

TOTAL KNEE REPLACEMENT (TKA)



- Replaces all three compartments of the knee.
- Most predictable pain relief and improvement in function.
- Ideal for moderate to severe arthritis in multiple compartments.
- Proven long-term durability and outcomes.

BEST SUITED FOR:
Advanced arthritis in multiple compartments causing pain, deformity, and loss of function.

MAKO® ROBOTIC-ASSISTED KNEE REPLACEMENT

HOW IT WORKS

1. **CT-BASED 3D IMAGING**
   A CT scan creates a 3D model of your unique knee anatomy.

2. **SURGICAL PLAN**
   Your surgeon uses the Mako software to create a personalized surgical plan for alignment, bone removal, and implant positioning.

3. **ROBOTIC GUIDANCE**
   During surgery, the Mako robot guides your surgeon's hand in real time within the planned boundaries for unmatched accuracy.

4. **IMPLANT PLACEMENT**
   The implant is placed based on your personalized plan to restore alignment, balance, and motion.

MAKO® ROBOTICS ADVANTAGES

- Personalized Surgical Plan
- Improved Alignment
- Bone & Soft Tissue Preservation
- Proven Accuracy & Outcomes
- Faster Recovery & Better Function

EVIDENCE.
EXPERIENCE.
EXCEPTIONAL CARE.

IMPLANT EXAMPLES

EXPECTED BENEFITS

- Significant pain relief
- Improved function and mobility
- Return to the activities you enjoy
- Enhanced quality of life

This information is provided for educational purposes only and is not a substitute for professional medical advice, diagnosis, or treatment. Each patient's condition is unique.
Discuss your options with Dr. Robert Pettit to determine the best treatment for you.

robertpettitmd.com

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HOME EXERCISE PROGRAM

Knee Arthritis: Exercises & Strengthening

Strong quads are the best brace for an arthritic knee. Daily motion plus progressive strengthening reduces pain and improves function.

Stop and call the office at (513) 354-3700 if any exercise causes sharp pain, swelling, numbness, or symptoms that worsen into the next day. This general program does not replace an individualized plan from Dr. Pettit or your physical therapist.

Quad Set

10-second holds × 10, 2 sets daily

Sitting or lying with the leg straight, tighten the muscle on top of the thigh, pressing the back of the knee toward the floor. Hold, then relax.

Straight Leg Raise

2 sets of 10, daily

Tighten the thigh, lock the knee straight, and lift the entire leg about 12 inches. Lower slowly with control.

Heel Slides

10 reps, 2–3 times daily

Lying on your back, slowly slide your heel toward your buttock as far as comfortable, then slide back out.

Knee Flexion & Extension

10 reps, 2–3 times daily

Seated, slowly bend the knee as far as comfortable, then straighten fully. Move through a pain-free range.

Wall Sit (Isometric)

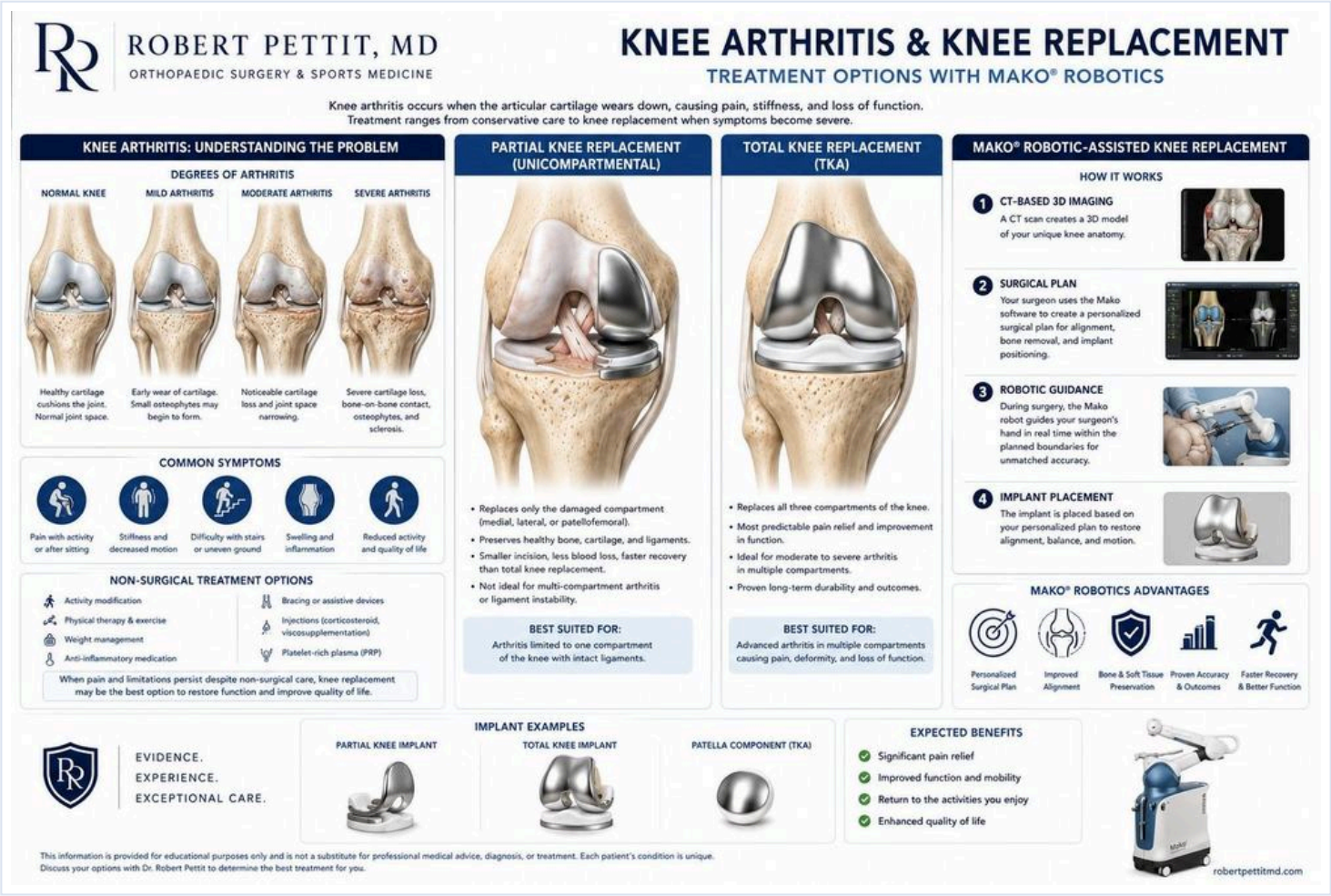
3 × 30–45-second holds, daily

Back flat against the wall, slide down to a partial squat (well short of pain) and hold. Isometric holds are excellent for calming irritable tendons.

Hamstring Stretch

3 × 30-second holds, daily

Seated with the leg straight, hinge forward from the hips until a stretch is felt behind the thigh. Keep the back long.



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