

A full-page background image of a Black woman with long braids, wearing a yellow t-shirt and purple leggings, in a starting crouch for a race. She is wearing large white headphones and looking upwards with a determined expression. The background is a blurred outdoor setting.

Learn more about Anika's
patellofemoral solutions

A Patient's Introduction to
Knee Solutions



Our Patients Stay Active

The active alternative to a total knee replacement

Have you been told that you may need a total knee replacement? Did you know that artificial joints can limit a person's range of motion and ability to perform daily tasks? Or that they also restrict physical activities such as cycling, martial arts, and weightlifting?

Unlike a traditional total knee replacement, the Anika® joint restoration systems can allow you to resume full activity by preserving the natural anatomy of your joint.

Consisting of a cap and screw that allow the surgeon to restore only the damaged area of the joint without removing excessive bone and tissue, the Anika PF Wave[®] implants preserve your natural anatomy and enable you to resume an active lifestyle without pain.

**Find out if the Anika
PF Wave is right for you!**





Knees and Arthritis

What parts of the knee can develop arthritis?

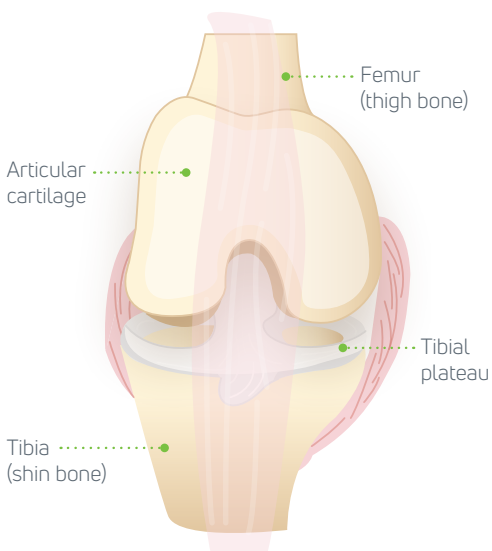
Arthritis commonly occurs in two areas:

- Where the joints in your knee meet, known as the condyles (the end of your thigh bone)
- In the area behind the kneecap (patellofemoral joint)

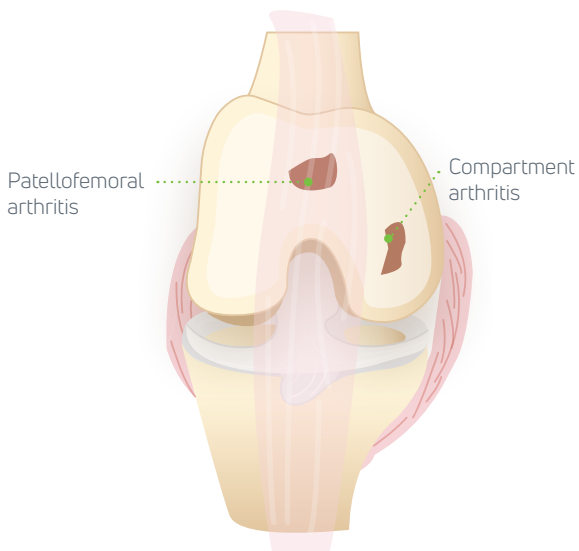
If you have pain in your knee when getting up from a chair or going up and down stairs, you may have damage in your kneecap. If your knee hurts after standing or long walks, then it may point to a problem in one of the condyles.

Can arthritis get worse?

Any event, continued malalignment or disease process (i.e. inflammation) that injures the cartilage may cause joint damage or arthritis. A minor cartilage injury may become larger and lead to widespread cartilage loss or degenerative joint disease over time.



Healthy knee



Arthritic knee



What are treatment options for damaged cartilage?

Depending on the degree of cartilage injury, patient age, and the level of activity desired, patients may be candidates for a variety of treatments. These include marrow stimulation, grafting, injections, an Anika implant, or a traditional total joint replacement. Outside the United States, Anika's Hyalofast® product, a biodegradable matrix comprised of hyaluronic acid, is used to repair cartilage defects.

Microfracture/NanoFx®

In a marrow stimulation procedure, a surgeon uses a pick or an awl to create holes in the exposed defect, which will cause bleeding. This initiates a fibrocartilage healing response. The fibrocartilage then grows and fills the lesion creating a new surface. This response is similar to a "scar" or the way a scab grows over a cut.



- This technique may provide short-term pain relief and is generally indicated for patients under 35 years old.
- The rehab for marrow stimulation can be lengthy and involve minimal weight bearing for weeks.
- Do not expect a full return to activity until at least one year post surgery.

Anika provides a device for marrow stimulation called NanoFx (Nanofracture®), which offers a better solution than a traditional microfracture technique. The NanoFx procedure creates smaller and deeper cell channels, therefore stimulating more bone marrow. Patients most likely to benefit from this procedure are the same as those targeted for any microfracture technique.

Allograft

Allografts are human donor tissues. Unless the allograft is "fresh," meaning that it has not been frozen or treated with a variety of preservation and other processes, the cartilage surface on the donor tissue is inactive. In essence, it is a bone graft and not a cartilage graft.



- Fresh allografts are available but they are difficult to find and are limited to key sites in the United States.
- The surgeon takes bone that is approximately the same size and shape as your knee and then creates a graft that will fit into the damaged area to be replaced.
- This is a difficult surgery as it is very hard to match each patient's individual surface curvatures.
- There is also a small risk of disease transmission, and there are lengthy wait lists for grafts and surgery.
- Outside the United States, grafting is limited or non-existent.

Injections

Injections provide an option where a cartilage biopsy is taken from the patient and then sent to a lab where new cartilage cells are grown. The patient then returns for a second surgery where the cells are placed in the damaged area and covered with a tissue patch so that the cells stay in place until healed. Some downsides of this procedure include:



- Varying results
- Lengthy rehab
- Multiple surgeries
- Expensive costs as it is not always covered by insurance. Almost half of these patients require a third surgery to address further issues in the joint. For the patellofemoral joint grafting using living cells is usually not an option because the contact pressures are estimated to be too high in the PF joint, which can cause premature damage to the cells.



ANIKA



Anika Patellofemoral Implant

Anika patellofemoral joint restoration is performed with the PF Wave® implant, a technologically advanced system designed to match the shape and contour of the individual patient's cartilage surface. The implant consists of a cap and screw that lock together via morse taper.



- The cap is a contoured surface that restores the area of damaged cartilage and is designed to protect the remaining healthy cartilage in the joint with minimal bone removal.
- The Anika system not only matches the diameter of the damaged area, but also the precise radius of both curvatures on the patient's joint surface, superior to inferior (top to bottom) and medial to lateral (side to side).
- Once the mapping points are defined, the appropriate implant is chosen and placed into the patient's joint.
- Different diameters and curvatures are available to provide a proper fit for each individual patient.

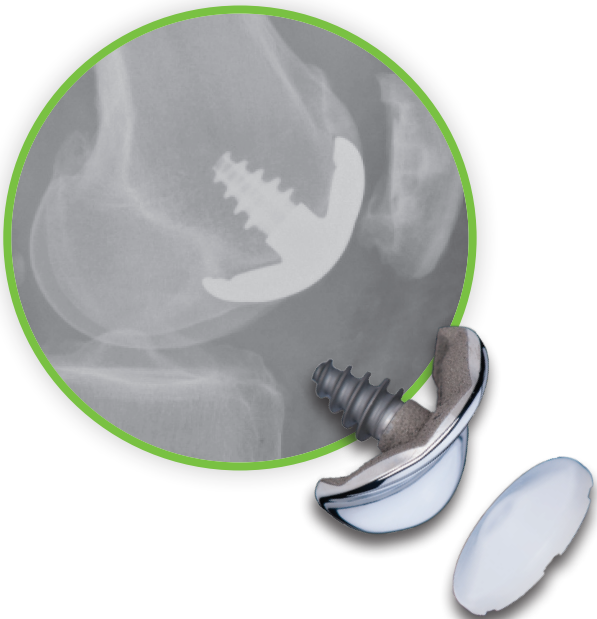
The PF Wave system is ideally suited to treat patients with localized or early arthritis, and has been a stable construct with almost no reported loosening over the last 12 years.

Total knee replacement

Traditional total knee replacement is major surgery designed to relieve the pain of widespread arthritis. It removes all cartilage in the knee, a significant amount of bone, ligaments, usually the ACL, PCL, and both menisci. Because this is an artificial joint, your motion will no longer be normal and activities will be severely limited, especially any type of pivot, squatting, or kneeling.



- While total joint replacements may be a reliable end stage procedure, published data shows that 1 in 5 patients continue to be dissatisfied with their outcomes.
- Total joint replacements were originally indicated for patients over 65 years old who had a sedentary lifestyle.
- In younger patients, total joint replacements have a lifespan of approximately 10-12 years.
- A knee replacement can take up to six months or longer of rehabilitation and the return to an active lifestyle may be permanently compromised.





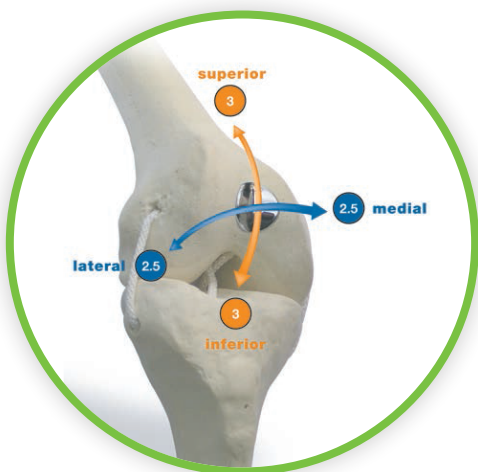
How is the PF Wave[®] different than other existing devices?

Unlike onlay patellofemoral replacements or a traditional total knee replacement, the PF Wave:

- Is custom matched and fit to the patient's joint size and shape
- Provides a stable implant via screw fixation
- Requires removing significantly less cartilage and bone compared to traditional joint replacements
- Is placed into the surface rather than on top, leaving the joint less surgically altered
- Preserves joint motion and natural anatomy of the knee so no bridges are burned
- May be performed on an outpatient basis

How long will the PF Wave implant last?

Your surgeon expects the devices to last as long as similar devices, but it will depend on your general health, activity level, and adherence to your doctor's orders following surgery.





What happens if my PF Wave fails?

If your PF Wave® ever fails, it may be replaced with a traditional total joint replacement.

Does the PF Wave “burn any bridges”?

There is minimal bone removed with the PF Wave because, unlike existing joint replacements, it does not require not surgically removing the entire bone surface on both sides of the joint. Removing the entire bone surface on both sides of the joint leaves less of the natural bone to work with if future surgery is required.

Will I feel the device?

No. The implant is surgically placed so that there are no protruding edges. The bone and the implant become a smooth surface that cannot be felt.



How long will I be out of work?

This will depend on your overall health, range of motion, and the type of work you do. Many patients have experienced a rapid return to daily activities. However, as with all medical treatments, individual results may vary.

What type of physical therapy will I need to do?

Your doctor and therapist will design a rehabilitation protocol to return strength to your muscles so you can resume your original lifestyle as quickly as possible. Patients are encouraged to walk and move around immediately to prevent the buildup of scar tissue, and rehab is usually measured in weeks rather than months.

The PF Wave leaves more bone intact, providing more options should future surgery be required.



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Questions to ask your doctor during your visit

- Will my joint feel normal and move naturally after I have the surgery?
- Will you remove my ACL?
- Is my cartilage damage localized?
- Is the alignment of my joint close to normal?
- Is my joint unstable?
- Do I have any joint space remaining?
- How long will I be hospitalized?
- Can the procedure be performed on an outpatient basis?
- Will the recovery take weeks or months?
- Can I go back to all my previous sports and activities?

Are you a candidate for the PF Wave?

- You are aged 35 to 75 years old
- You want to regain your active lifestyle
- You have had a marrow stimulation treatment or injections, but the pain has returned
- You cannot afford lengthy rehabilitation time or excessive time off work
- You want to fix your knee problem now versus waiting for your knee to undergo further damage
- Your surgeon has told you that you will need a knee replacement in the future



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"Leading up to surgery, I was so excited! I knew that Anika was the best option and I knew 110% that it was going to work and I was going to be okay."

*Actual Patient





A patient's story

"I was training for a half ironman when my knee just locked up."

After severely injuring her knee, Letia initially elected for an osteotomy with a lateral release and ACI (Autologous Chondrocyte Implantation). Not only did these surgeries fail but she was also burdened with severe complications from the procedure, including an infection from the hospital.

Very discouraged by the failed surgery and the many complications she endured, Letia decided to make an appointment with Dr. Brian McKeon at New England Baptist Hospital.

After exploring all of her options with Dr. McKeon, they elected to move forward with the Anika PF Wave® HemiCAP® procedure.

"Leading up to surgery, I was so excited! I knew that Anika was the best option and I knew 110% that it was going to work and I was going to be okay."

Just 6 months after surgery, Letia was back leading the active life she loves.

– Letia, PF Wave, 2014

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Notes:

**To find a doctor near you, call 1-508-520-3003 or
visit www.anika.com/find-a-doctor**

Due to its general applicability, do not rely on information in this brochure to assess any particular patient condition. Individual results may vary. Seek professional medical advice for specific personal care. Do not delay seeking professional medical advice or disregard professional medical advice because of something you have read in this brochure.

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