

JOINT HEALTH

FOR OSTEOARTHRITIS



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Prepare



Recover



Revitalize



GUIDE OVERVIEW

Understanding how your joints work and what they need to function properly is essential to your joint health, especially if you suffer from joint diseases like osteoarthritis. You may be dealing with joint pain but not know why. You may already know you have osteoarthritis. You may have already tried different methods to reduce your pain and discomfort. No matter where you are, there are things you can do to improve your joint health.

When you talk to your physician about your joint condition, their overall goal is to

- Increase your mobility,
- Reduce your pain, and
- Strengthen your joints.

How you obtain these goals may come from different avenues. The best option for you may be chiropractic care. Your specific case may require surgery. And no matter what joint problems you have, nutrition and exercise will always be a necessary option. At every stage of joint management, you and your physician should design a plan that helps you maintain your lifestyle with the least amount of risk, intervention, and cost possible.

Joint pain is one of the leading causes of lifestyle disability and limitations. Just like your physician, this guide is designed to help increase your mobility, reduce your pain, and strengthen your joints. All of these aspects can help significantly enhance your overall joint health which will improve your life and reduce limitations.

Joint Pain:

Caused more than
one in 10
Americans to miss
work in the past year

Is the reason why
440 million
days of work are
missed annually

Sent **one-third**
of Americans to the
doctor in the past
year

Causes **more
than half**
of all chronic conditions
in people over age 50

Causes **29% of
all workplace
injuries** and
illnesses that required time
away from work in 2010

Demand for hip
replacements will increase by
174% by 2030

Demand for knee
replacements will increase by
674% by 2030

Is the leading medical
cause of disability claims –
**27.5% of new
claims in 2010**
and increasing

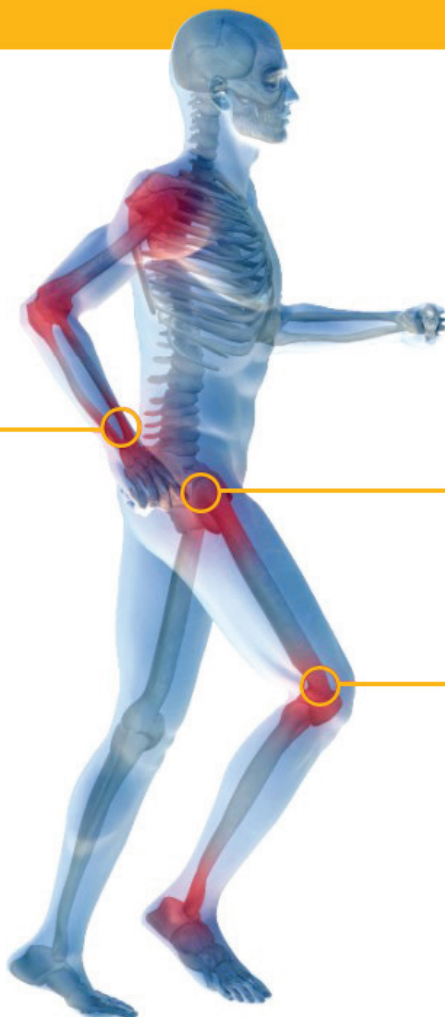







Photo Credit: anationinmotion.org

HOW DO JOINTS WORK?

Simply put, a joint is where two or more bones come together. Your joints bear your weight and enable you to move. The most common type of joint are synovial joints. Synovial joints are made up of four types of joints: hinge, ball and socket, gliding, and saddle. Each provides a different range of motion and move in different ways.

As mentioned previously, to understand joint pain and other issues, you need to understand some key components of your joints.

Cartilage	This tissue covers the surface on the bone where it meets the joint. It helps reduce friction between the bone and joint.	
Ligaments	Ligaments are like elastic bands and help support the joint and keep it in place.	
Tendons	A type of connective tissue, tendons connect to the muscle and control joint movement.	
Bursa	These are sacs full of fluid that live between bone and muscle and help cushion your joints.	
Synovial fluid	This fluid helps lubricate the joints.	

All of these parts work together to keep your joints healthy and functioning properly. If your joints are not properly supported, cushioned, or lubricated, problems arise.



NUTRITION

Different nutrients have different effects on the body. Probiotics help support a healthy gut. Proteins help support an active metabolism. Vitamin C helps support a proactive immune system. In the same way, your joints need certain nutrients to remain healthy and function properly. As mentioned before, your joints can start to deteriorate for multiple reasons, from genetics to overuse. However, your joints can also break down due to inadequate nutrition.

Weight management is part of inadequate nutrition. Excessive weight places stress and strain on your joints. If this applies to you, talk to your doctor about your options. Your physician can help address the weight management portion of your treatment.

Supporting your joint with quality nutrition goes beyond eating bright berries and leafy greens. It goes beyond simply taking glucosamine and chondroitin supplements. Though glucosamine and chondroitin are essential, your joints need many nutrients to fight against the negative effects of poor joint health.



ESSENTIAL NUTRIENTS

Here are some of the nutrients that are essential to maintaining, even improving, your joint health.

Glucosamine:

Why is glucosamine essential to your joint health? Glucosamine is a building block of healthy cartilage. This nutrient plays a big role in delaying the progression of osteoarthritis. Glucosamine is considered a symptom-modifying nutrient, meaning not only does it help delay the seriousness of the disease but delays related symptoms as well. These symptoms may include joint pain and limited joint function. As such, if you want to improve your joint health, glucosamine is a necessity.

Chondroitin:

Chondroitin is similar to glucosamine as it is also an important part of cartilage. This nutrient, much like glucosamine, can also help reduce joint pain. Chondroitin can also help reduce swelling and joint effusion. What is joint effusion? Your joints are surrounded by what is known as synovial fluid. This fluid helps keep your joints lubricated. When the levels of synovial fluid are higher than average, it causes inflammation and even infection.

Antioxidants:

Free radicals are unstable, reactive molecules and can cause damage to neighboring cells. This damage plays a key role in the progression of joint disease. Without antioxidants, free radicals can severely damage your cartilage. However, with antioxidants like vitamin A, C, E and selenium, you can help prevent or reduce the cartilage damage.

Hyaluronic Acid:

In short, hyaluronic acid helps maintain the lubrication and mechanics of your joints. Without it, your joints will not function properly. It has also been shown to ease joint pain associated with osteoarthritis.

MSM:

MSM, or methylsulfonylmethane, is considered one of the least toxic supplements available. For those suffering from osteoarthritis, MSM has been shown to reduce pain and inflammation.

Sam-E:

The biggest benefit of this nutrient is its ability to help reduce pain and inflammation. In fact, Sam-E has been shown to be as effective in reducing pain and inflammation as anti-inflammatory prescription drugs.

Bromelain:

Bromelain is actually derived from pineapple. This nutrient possesses anti-inflammatory properties. As such, bromelain can help reduce pain and swelling, especially in those with osteoarthritis.

Quercetin:

This nutrient is a natural antioxidant and anti-inflammatory which means it helps quench the damaging effects of free radicals. Through its anti-inflammatory properties, quercetin helps relieve pain and swelling.

JOINT AND AMINO SPOTLIGHT

If you have any experience with joint supplements, you know that the main two supplements used to address joint problems are glucosamine and chondroitin. Since they are critical components of healthy cartilage, they are included in almost every joint supplement available. Unfortunately, this is where most supplements stop—they only contain these two ingredients. Other supplements might throw in a few more ingredients, at most, like MSM or hyaluronic acid.

Think about it this way. If you had to live on a special diet, maybe for an allergy or other health reasons, the diet would only work if you had the right ingredients. You would have to eat the right foods in the right amounts to get the desired results. Glucosamine and chondroitin are essential components of joint health—but they aren't the only components. Without other core nutrients, like bromelain, quercetin, vitamin C, and Sam-E, your symptoms may worsen. If you have a disease like OA, it will continue to progress.

As made evident above, your joints need a lot of different nutrients to not only function properly but to combat symptoms such as pain, swelling, stiffness, and limited mobility. To do so, your joints need more than two ingredients. That is why Forté Joint contains 21 ingredients, each specifically chosen for their reparative properties. Forté Joint offers complete joint nourishment. And not only does it help repair damaged cartilage, this formula improve functionality and mobility while reducing pain and discomfort. Again, you cannot do that with just a couple of ingredients. Forté Joint was designed for conditions like OA—to repair damage, reduce pain, and better your life.

However, Forté Joint is only half of the equation. Your joints also need amino acids. Amino acids are an essential part of recovery, whether recovering from an injury, surgery or day-to-day strain. Amino acids are the building blocks of protein and protein is essential for all forms of recovery.

How do amino acids relate to joint health? As mentioned, amino acids are a vital for recovering, no matter what you are recovering from. For example, L-Arginine is an amino acid that not only supports the immune system but can play a role in your joint health. In fact, L-Arginine can help improve inflammatory processes which are often damaged with the onset of OA. This amino acid also helps improve circulation. This attribute is especially important when taking a joint supplement as improved circulation helps transfer nutrients to the affected joints.

Forté Amino Acid's blend of amino acids supports tissue and muscle repair and overall support for the recovery process. When taken with Forté Joint, Forté Amino Acid can not only help slow the progression of joint problems but limit damaging effects and symptoms. Both formulas were designed and have been employed by medical professionals such as orthopedic surgeons, foot and ankle specialists, chiropractors, physical therapists, and athletic trainers, all for the purpose of easing joint conditions.



QUICK TIPS

- Eat lots of fruits and vegetables, especially bright berries and leafy greens. They can help reduce inflammation and joint pain.
- Vitamin C is a powerful antioxidant that can help reduce the damage done by free radicals. Eat a lot of citrus, pineapple, cantaloupe, and kiwi.
- If weight management is necessary, try these three things:
 - Don't eat out. Stick to homemade meals.
 - Eat smaller portions.
 - Opt for foods that don't have high caloric value.
- Eat seafood! Seafood, like cod and shrimp, provides vitamin D which can help slow the breakdown of cartilage. And try some salmon as it provides omega-3 fatty acids which help reduce inflammation.





A man with a shaved head, wearing sunglasses, a black watch, and blue shorts, is running on a paved path. He is wearing orange and black running shoes. The background is a blurred outdoor setting with a blue sky and some greenery.

EXERCISES

Exercise is a key part of managing joint problems. It is considered the most effective non-drug treatment for arthritis. Regular exercise, under the direction of your physician, can help you:

- Manage your weight
- Strengthen your muscles (which will help support the affected joints)
- Improve your range of motion and flexibility
- Reduce stress (which can cause unnecessary tension in your joints)

With specific exercises tailored to the needs of your joints, you have the opportunity to improve your pain, stiffness, and inflammation.



BENEFITS OF EXERCISE

An exercise and conditioning program will help you enjoy a more active and healthy lifestyle. Following an injury or surgery, a conditioning program consisting of flexibility and strengthening exercises will help you return to the daily activities/sports that you enjoy. This program provides a broad range of exercises. If any exercises cause pain, consult your physician for advice. Talk to your doctor or physical therapist about which exercises are best for you based on your needs or rehabilitation goals.

Strength: Keeping the muscles that support your back and hips strong can help relieve pain, prevent injury, and provide stability to your back and hips.

Flexibility: Flexible muscles are important in improving joint range of motion. Stretching before and after strengthening exercises not only reduces muscle soreness but also helps to prevent injury.

Getting Started

Warm up: Do 5-10 minutes of low impact aerobic activity prior to stretching and strengthening. Aerobic activities can include walking, riding a stationary bike or using an elliptical machine.

Stretch, Strengthen, And Then Stretch Again: Following the warm-up begin stretching. Next, begin strengthening exercises. After completing the strengthening exercises, end by doing the stretching again.

Let pain be your monitor. If you feel pain while performing any exercises, discontinue that exercise and seek advice from your doctor or physical therapist.





OSTEOARTHRITIS OVERVIEW

Osteoarthritis (OA) is the fourth most common cause of hospitalization among U.S. adults and the leading indication for joint replacement surgery.

OA is commonly found in individuals over 60 due to age-related wear and tear. However, you can develop OA at any stage if your joints undergo injury or repeated stress and are not treated carefully. Your joints need constant nourishment and care to avoid joint diseases such as osteoarthritis. If you have this disease or are at risk for this disease, there are many options that can help.



WHAT IS OSTEOARTHRITIS?

In 2013, one in five American adults reported having clinically diagnosed arthritis. And by 2030, 25% of the adult population is expected to develop arthritis. Also known as degenerative joint disease, osteoarthritis is the most common form of arthritis. Osteoarthritis (OA) is caused when your cartilage breaks down and deteriorates. This breakdown causes your bones to rub together which can cause pain, discomfort, and limited mobility.

OA is accompanied by a myriad of symptoms, including:

- Limited movement
- Stiffness
- Swelling around the joint
- A clicking or cracking sound
- Pain that arises after activity or at the end of the day
- Impaired or loss of balance

If you have one or more of the symptoms, OA may be the root cause.

If OA is the cause of joint discomfort, then what is the cause of OA? Unfortunately, there is not just one underlying cause. OA can be kickstarted by multiple factors.

1. Genetics: If you have had a grandparent, aunt or uncle, or parent--or a combination of the three--that suffers from OA, you may be more at risk.
2. Weight: weight is a huge factor in not just developing OA but the severity of the disease. Excess weight puts extra pressure on your joints, specifically your knees and hips. This pressure and strain causes your cartilage to break down quicker than without excess weight.
3. Overuse or injury: this cause is particularly prevalent for athletes and those with labor-intensive jobs. If you participate in athletic activity or your job requires heavy lifting or repetitive movements, you may be more at risk.

The first step in diagnosing osteoarthritis is to visit your doctor. From there, your physician can perform diagnostic tests such as an x-ray or MRI. Once you know you have OA, there are a few different treatment options. These may include:

- Stretching and exercise
- Weight management
- Surgery
- Pain medications
- Alternative therapies like massage, stem cell injections, or nutritional supplements.

Any treatment path you undergo should always be under the direction of your physician, whether it be from diet changes to surgery.

STAGE OF KNEE OSTEOARTHRITIS

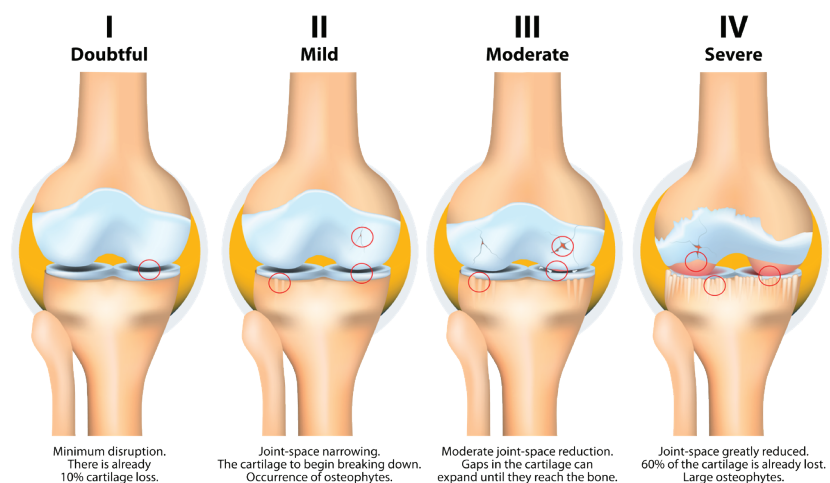


Figure 1 to the right is an example of the progression of osteoarthritis, specifically in the knee (one of the most common forms of osteoarthritis). Figure 1 demonstrates the breakdown of cartilage that occurs with the onset of osteoarthritis.

Figure 1

WHAT CAN HAPPEN IF YOU DON'T TAKE CARE OF YOUR JOINTS?
YOU CAN DEVELOP JOINT DISEASES LIKE OSTEOARTHRITIS.



ALTERNATIVE THERAPIES

To slow the progression of osteoarthritis and reduce the associated complications, you may need to try a combination of treatment options. If you are in the beginning stages of OA, exercise and nutrition will help offer relief and improvement. If you are in the later stages of OA, you may need chiropractic care, physical therapy, or surgery in addition to exercise and nutrition. No matter what stage you are, there are things you can do to help you live with osteoarthritis.



CHIROPRACTICS

HOW CHIROPRACTICS CAN HELP

Forté Joint Guide: Chiropractic Care

A chiropractor is defined as a practitioner of the system of complementary medicine based on the diagnosis and manipulative treatment of misalignments of the joints. Chiropractic is a division of healthcare that generally focuses on disorders that affect your nervous and musculoskeletal system. Chiropractic care addresses alignment, mobility, and compression issues. Chiropractors commonly address symptoms like

back pain,
headaches,
neck pain, and
joint pain.

Chiropractic care is a highly safe method of treating OA, especially if you experience back or neck pain. Chiropractic help is a more long-term solution when compared to NSAIDs and pain medication. It can help slow the progression of disease while also improving symptoms such as pain and stiffness.

Manipulation

If you suffer from osteoarthritic pain in your neck or lower back, manipulation is often an effective solution. Manipulation, also known as a chiropractic adjustment, manipulation is a common method for chiropractors to treat back pain and neck pain and involves the chiropractor applying thrusts or distraction maneuvers of varying speed and forces the spinal and/or extremity joints that are causing dysfunction and related pain. This procedure is often accompanied by a pop or click. This helps resolve the joint dysfunction, thereby reducing pain.

Manipulation techniques can be broken down into two types. There are manipulation techniques that are referred to as HVLA (high velocity, low amplitude) thrusts. These movements are more quick and intense and usually are accompanied by a click or a pop. Then, there are manipulation techniques that are more gentle and involve slow movements that remobilize the joints.

Mobilization

The purpose of this technique is to restore your joint function. This therapy involves a series of gentle stretches that you chiropractor performs at various locations near the affected or painful area. This technique is especially effective on arthritic joints. This therapy is usually preferred for the elderly because their bones are typically more brittle.

Many people appreciate chiropractic treatment because it is a drug-free option for managing osteoarthritis. Additionally, chiropractics can go hand-in-hand with treatments such as massage therapy and acupuncture when it comes to managing pain.

**1 IN 4 PEOPLE MAY DEVELOP PAINFUL HIP
ARTHRITIS IN HIS/HER LIFETIME.**

PHYSICAL THERAPY

OSTEOARTHRITIS AND HOW PHYSICAL THERAPY CAN HELP

By definition, osteoarthritis (OA) is “inflammation of a bony joint” which can affect our largest joints all the way down to the smallest of joints. Osteoarthritis is the most common cause of joint disease and is shown to affect millions of Americans. Osteoarthritis can be caused by many things, and no one seems to be immune to its effects. Currently, we are living longer, and as we age our joints tend to be stressed from daily life, gravity, nutrition, and overuse. As you get older, your joints tend to move closer together thus resulting in premature wear and tear. This wear-and-tear is evident with poor posture, loss of height, and large loss of movement.

There are many forms of intervention to help with symptoms and combat the progression of OA. Oft times patients are given topical creams, laser treatments, or electrical stimulation to help with reduction of pain. These treatments have their limitations. Medications to help with inflammation/pain are often given but have limited permanent effects and can cause many unwanted side effects. There are surgical procedures that can be administered to help address the symptoms of OA. Injections may also be administered to assist with anti-inflammatory issues and also provide protection and/or lubrication to the joints. Nutritional adaptations and supplementation prove to be effective with joint health and weight reduction/control which can provide a myriad of benefits.

And then there are the physical arts. Physical arts include fitness, strength, mobility, cardiovascular training, balance, etc. Physical therapy can provide a platform to initiate and modify the physical arts.

Physical therapists see many injuries and surgeries as a result of OA. As OA occurs in the body, it can result in painful joints, loss of motion, decreased strength, and development of bone spurs (bony formations) leading to deformed joints. Physical therapy has been shown to be helpful with all these side effects.

Painful joints often are caused by an excessive buildup of inflammation within a joint space. Movement and low-impact activity can bring nutrition, blood flow, and oxygen into the joints to help push old inflammation out to help condition the joint and help make the joint move more efficiently with less pain. Much like a small oil change for the joints. For example, utilizing low impact equipment such as ellipticals, stationary bikes, and pool therapy for a safe prescribed amount of time can help give nourishment to cartilage, bones, tendons, and ligaments. Utilizing a physical therapist can help find the appropriate parameters for safe exercise. Gradually building up to 20-30 minutes per day of cardiovascular exercise is highly recommended for overall health benefits as well as targeting specific arthritic joints.

When joints become too painful we tend not to use them through their full range of motion and to their fullest potential. Pain tends to alter our movements and can cause other issues. A physical therapist can help you find less painful movement patterns as you work towards full joint mobilization. When a joint is used to its fullest potential the joint is able to stay healthy. Appropriate stress is good for the body and can help the body regenerate good tissue and also remove inflammation. For example, a car windshield wiper has its limitations. The windshield stays clean where the wiper-blades are functioning and where the blades are nonfunctioning, we tend to see scum buildup on the sides of our windshields. Our joints tend to do the same thing. With more range of motion, our joints tend to be less painful and more pliable. Physical therapists are skilled with manual therapy to do hands-on therapy and to assess the joint mobility. All joints have a roll and a glide to them. Understanding the mechanics of the joint and assessing the movement of each joint allows the PT to utilize their manual therapy skills to aid with joint mobility treatments. A Physical therapist's manual therapy skill set can provide a tremendous benefit to the arthritic joint.

Loss of strength tends to follow pain and inflammation. Anytime the body senses pain, it tends to become weaker and certain muscles can become inhibited or turned off. Strength training is the best anti-aging weapon we have. Simple functional movements such as squatting, reaching overhead, and simply touching the toes are great ways to test your own control of movement and strength. Training large and small muscle groups provide hormonal changes that provide beneficial changes not only to the muscle but the entire body. With a prescribed strength training routine, your body should be stressed the right amount. Our bodies need stress to feel the need to grow and expand thus resulting in increased strength, balance, and control. Physical therapy provides a safe introduction or modification to strength training.

Where's the proof? Clinical evidence provided by Deyle et al. shows that the combination of therapeutic exercise and manual therapy from a clinical physical therapist has a greater reduction of OA symptoms in the knee than just regular home exercises and/or just clinical exercises¹. Manual therapy is thought to provide increased mobility prior to the exercises given, thus resulting in less painful movements. The benefit of the combination of therapeutic exercise plus the manual therapy provided higher functional scores in the tested population. There is much clinical evidence that supports the utilization of physical therapy as a conservative treatment that is cost effective and can provide long-term benefits against OA.

As osteoarthritis matures in the body, it results in changes to the joint. Once these changes take place, surgical intervention often takes place. The goal as a Physical therapist is to be the anti-surgeon (no offense to the great surgeons I work with). Trying to help someone either prevent, prepare, or rehab from surgery/injury attributed to OA is a vital role of any physical therapist. It can be a painful experience so prevention is the ultimate cure. After a surgical procedure, it is a delicate road back to full recovery of range of motion, strength, and better quality of life.

Osteoarthritis is a gigantic problem in the United States. There are many ways we can prevent and help fight this disease. A good medical team and physical therapist is a great place to start. Hopefully, if you are reading this, you are not currently affected by OA. But, if you starting to experience a few aches and pains, it might be a good idea to consult a PT and/or MD to find your limitations and see how you are functioning before permanent changes take place.

Good luck & Stay healthy!

Seth Kelson, DPT, Physical Therapist

1. Physical Therapy Treatment Effectiveness for Osteoarthritis of the Knee: A Randomized Comparison of Supervised Clinical Exercise and Manual Therapy Procedures Versus a Home Exercise Program. Therapy, Volume 85, Issue 12, 1 December 2005, Pages 1301–1317

SURGERY

Arthroscopy

Arthroscopy is a type of surgical procedure that surgeons use to visualize, diagnose, and treat problems related to a joint. The word arthroscopy comes from two Greek words, “arthro” (joint) and “skopein” (to look). The term literally means “to look within the joint”.

The purposes of arthroscopic surgery are:

- I. To reach a diagnosis
 - A. This procedure allows surgeons to visually inspect the joint while you are under anesthetic. Diagnostic arthroscopies are usually reserved as a last resort because they are more invasive. However, they can be very helpful in making an accurate diagnosis.
- II. To treat a joint problem
 - A. Apart from diagnosis, arthroscopic surgery can be used as a method of treatment. The surgery can treat the following conditions:
 - Knees: to fix damaged or torn cartilage, arthritis, and inflamed joint linings
 - Shoulder: rotator cuff tears
 - Elbows / Ankles / Hips: removing loose bone or cartilage after an injury
 - Wrist: carpal tunnel syndrome

Replacement Surgery

Replacement surgery comes into play when other avenues of healing having been exhausted. Below, we focus on knee replacement but can be applied to other replacement surgeries.

Partial Knee Replacement

What is the difference between a partial and total replacement surgery?

In regards to the knee, the knee is made up of three compartments. When OA only affects a specific compartment, only a partial knee replacement is required—removing only the affected compartment. Not only does a total knee replacement replace all the compartments, it also removes the ligaments whereas they are preserved in a partial knee.



Total Knee Replacement

More than half a million knee replacement operations occur in the United States each year. The vast majority of these operations are used to help treat osteoarthritis.

Knee replacements typically become an option when other medical or alternative treatments are deemed ineffective. If you're suffering from continually reduced mobility despite medical interventions, it may be time to consider a knee replacement. Before making that decision, speak to your doctor or surgeon to see if you're a suitable candidate. They will do a number of things such as:

- take your medical history,
- Viscosupplementation
- perform a physical examination, and
- X-ray your knee.

before determining to see if it's the right course of action for you. If you do decide to get a total knee replacement, nutrition and exercise will still play a crucial role in the health of your knees.

Here are some questions to ask yourself when considering a total knee replacement:

1. Are you suffering from bone-on-bone arthritis?

- a. Doctors recommend that patients who have only thinning of the cartilage without bone touching bone should not undergo knee replacement surgery except in rare circumstances.

2. How old are you?

- a. Most people who have a knee replacement are over 60. It's important to keep in mind that the earlier you have a knee replacement, the greater the chance that you'll need further surgery since replacements last for approximately 15-20 years.

3. Have you exhausted every other treatment method?

- a. Traditionally, patients with knee arthritis are treated using a stepwise approach. This means doctors will start by suggesting some lifestyle changes (diet, exercise, stopping smoking) and recommend simple painkillers to keep the pain at bay.

4. Can you still carry out your day-to-day activities?

- a. For most people, this is usually the biggest factor in deciding to undergo a knee replacement.



PHARMACEUTICAL MANAGEMENT

Pharmaceutical options are employed to reduce pain and swelling. The most common pharmaceuticals used to manage OA are NSAIDs (Non-steroidal anti-inflammatory drugs). Common NSAIDs that are prescribed for OA include:

- Naproxen
- Celebrex
- Ibuprofen
- Diclofenac

Naproxen

Naproxen, the active ingredient in medications like Aleve, reduces the hormones that cause pain and inflammation in those with arthritis. Naproxen is an anti-inflammatory which is why it is often prescribed to treat joint swelling and discomfort in many different forms of arthritis, such as osteoarthritis or rheumatoid arthritis.

Celebrex

Celebrex, or celecoxib, helps improve joint pain and stiffness in order to improve overall joint function. As an additional benefit, Celebrex has been shown to cause fewer stomach problems than other anti-inflammatories.

Ibuprofen

You have probably taken Ibuprofen for headaches and common aches and pains. Similar to other NSAIDs, Ibuprofen inhibits pain and inflammation by reducing the hormones that cause inflammation. If taking over-the-counter Ibuprofen does not seem to help your pain, your doctor can prescribe a higher dose.

Diclofenac

Often used to treat mild to moderate pain in those with arthritis, Diclofenac is prescribed for a myriad of conditions, such as acute migraines, gout, pain related to gall and kidney stones, and multiple forms of arthritis.

NSAIDs can be very effective. However, they do come with their side effects. These side effects may include:

- Stomach ulcers
- Stomach pain and discomfort
- Heartburn
- Headaches
- Dizziness
- Rash
- Reduced appetite

Though NSAIDs are effective, if you have concerns about the side effects, speak with your physician. A great option for obtaining the benefits of NSAIDs but avoiding the side effects are taking natural anti-inflammatories, such as fish oils, methylsulfonylmethane, quercetin, bromelain, and vitamin C. These can have the same benefits as NSAIDs but without the side effects.

INJECTION THERAPY

If you are not yet to the point of needing surgery but your OA is not improving, injection therapy may help reduce your symptoms. Common types of injections include:

- Corticosteroids
- Viscosupplementation
- PRP (Platelet Rich Plasma)
- Stem Cells

If you are not yet to the point of needing surgery but your OA is not improving, injection therapy may help reduce your

Corticosteroids

Corticosteroid, or cortisone, injections are injected right into the knee joint and offer relief from pain and inflammation. These injections target the specific area of inflammation. There are multiple factors that can affect how well these injections will work for you, including:

- The progression of the disease
- Your overall health
- The shape or structure of your knee
- The type of pain you experience (acute vs. chronic).

Corticosteroid, or cortisone, injections are injected right into the knee joint and offer relief from pain and inflammation. These

The factors above can also determine how long the effects will last.

Viscosupplementation

Also known as hyaluronic acid injections, viscosupplementation can help ease osteoarthritis symptoms by injecting a hyaluronic acid fluid into the affected joint. Hyaluronic acid is an essential component of healthy joints and helps lubricate your joints so they can move with ease. Unfortunately, OA can reduce the amount of hyaluronic acid in your joints.

Injecting hyaluronic acid is meant to mainly increase mobility and ease movement but some patients report a decrease in pain as well.

PRP (Platelet Rich Plasma)

PRP is used to help promote cell regeneration. Specifically, in the case of OA, PRP injections are used in the hopes of regenerating damaged tissue. These injections can also offer relief from osteoarthritis-related symptoms and improve overall movement.

In general, the overall purpose of PRP injections is to stop further cartilage loss since the loss of cartilage is what causes unwanted symptoms like arthritic pain.

Stem Cells

Stem cells are like the repair crew of tissue.

Osteoarthritis is characterized by a breakdown of cartilage. Cartilage is what cushions your bones and as cartilage breaks down, the surface becomes rough and causes your bones to rub together. Stem cells injections target these areas of breakdown to help create new cells.

In addition, stem cells therapy can also help reduce the pain and inflammation caused by OA.



TESTIMONIALS

Your goal is to experience long-lasting relief and results. Reducing the impact of joint problems and OA takes a few moving parts, and nutrition is often a crucial but missing piece. We want to change that.

If you are looking for an option that provides consistent relief, read the following testimonials about the reparative, life-changing abilities of Forté Joint and Amino Acid.





"I started having joint pain, especially in my knee. I was told about Forté Joint. I have used it for the last three months and have noticed a remarkable improvement and am able to walk easier." - *Jane T.*

"For years I have suffered with osteoarthritis in my joints and have been taking high-quality natural nutritional supplements. But when the pain persisted in my knees, I sought medical advice. My doctor prescribed Forté Joint and Amino Acid. I did the research comparing ingredients and cost and chose to put Forté Elements to the test. In less than 2 months, my pain disappeared. I am also experiencing additional health benefits that make Forte Elements my choice for life!" - *Carol C.*

"I have had daily hip aches and pains for years. Every night I went to sleep with a heating blanket wrapped around my hips. Some nights I could barely move, they ached so badly. After taking Forté Joint for about 4 days, I noticed my pain was completely gone. I forgot to take it once for about two days and the aches came back. It is such a relief to have that pain gone and to sleep so much better without the pain." - *Jessica H.*

"I started the Joint supplement and within a month was doing things I hadn't been able to do in a year like golfing, hiking, packing, weight lifting, and more. In a nutshell, my mobility and flexibility have increased and improved, and my pain has decreased. Three months before starting the product, I was looking at having surgery but now I am back to my everyday, active life which is such a relief." - *Tony Abbott, ESPN Radio Host*

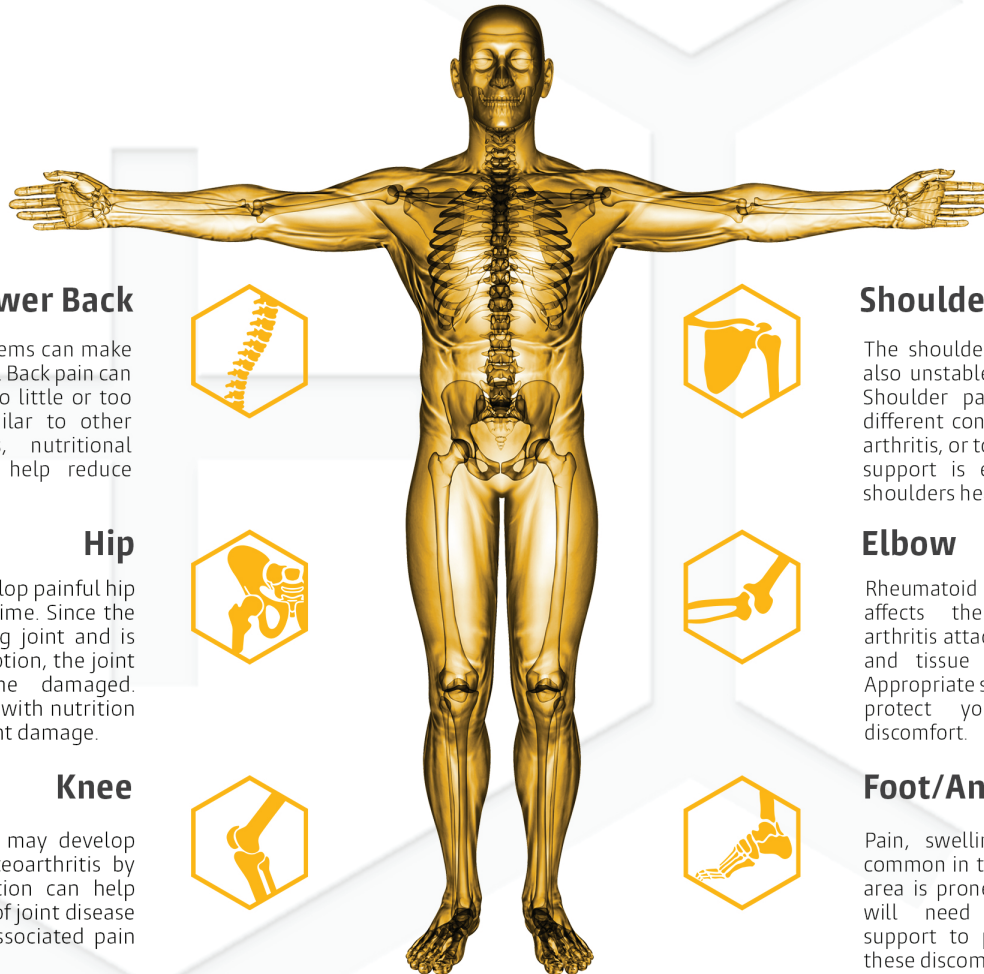
"My name is Kyle and I'm a 59 year old male. Several months ago I was playing baseball with my grandsons and I jammed my knee. After a few months of pain I got a cortisone shot hoping it would take away the pain. It's been a couple of months since my shot and I've still been in pain. A friend of mine told me to look into Forte Element product. He suggested I purchase the joint and Amino acid product. I will admit at first I was skeptical. I researched it online and decided to try it as I was desperate for the pain in my knee to go away. I've taken this product for 2 months and I have had great results. This product is one of the best investments I've made and I will continue to use this product." - *Kyle H.*

PREPARE. RECOVER. REVITALIZE.

Joint Health Diagram

Forté Elements

As people age or become injured, they may experience pain, discomfort, and wear and tear on their joints. Forté Joint is specifically designed to support joint health and offers relief from joint-related diseases and injuries by combining elements that help reduce inflammation, pain, and limited mobility. Whether suffering from osteoarthritis or an athletic injury, **Forté Joint** gives you everything your joints need to function and stay healthy.



Lower Back

Lower back joint problems can make it hard to sit or lie down. Back pain can either be caused by too little or too much movement. Similar to other joint problem areas, nutritional supplementation can help reduce pain and stiffness.



Hip

1 in 4 people may develop painful hip arthritis in his/her lifetime. Since the hip is a weight-bearing joint and is subject to repeated motion, the joint cartilage can become damaged. Supporting your joints with nutrition can help slow or prevent damage.



Knee

Nearly 1 in 2 people may develop symptomatic knee osteoarthritis by age 85. Proper nutrition can help delay the progression of joint disease while also reducing associated pain and discomfort.



Shoulder

The shoulder joint is flexible but is also unstable and prone to damage. Shoulder pain is caused by many different conditions, including injury, arthritis, or torn cartilage. Nutritional support is essential to keep your shoulders healthy and pain-free.



Elbow

Rheumatoid arthritis commonly affects the elbows. Rheumatoid arthritis attacks your healthy cartilage and tissue which causes swelling. Appropriate supplementation can help protect your tissue and ease discomfort.



Foot/Ankle

Pain, swelling, and deformity are common in the feet/ankles since this area is prone to trauma. Your joints will need adequate nutritional support to prevent, delay, or ease these discomforts.



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PHYSICIANS

Dr. Kurt Juergens

Dr. Juergens is a renowned chiropractor and Certified Chiropractic Sports Physician in Houston, Texas. He has been in private practice since 1989. After graduating Summa Cum Laude from Texas Chiropractic College, Dr. Juergens was selected to be a member of the United States Olympic Track and Field Trials Sports Medicine team. Dr. Juergens treats athletes in all fields, including high school, college, and professional athletes. He is an Eagle Scout, has run 7 marathons, and has a wife and five children.



Dr. Kirt Kimball

Dr. Kimball is a board certified orthopedic surgeon and is also certified in Orthopedic Sports Medicine by the American Board of Orthopedic Surgeons. He received his medical degree at UCLA and continued on to his residency at the University of Southern California. Dr. Kimball is currently the Team Orthopedic Surgeon for Brigham Young University. Previously, he was the Team Orthopedic Surgeon for University of California, Santa Barbara and the Consulting Orthopedic Surgeon for the US Ski Team. He currently practices in Provo, UT.

Seth Kelson

Seth Kelson is a physical therapist for American Fork Physical Therapy. He also serves on the PTA program advisory board of Provo College. He earned a Bachelor's in Exercise Science from Brigham Young University and his doctorate in physical therapy from the University of Utah. He is also fluent in Spanish. Dr. Kelson's clinics work in collaboration with local gyms in order to address and care for the entire spectrum of injuries and clinical situations.





Prepare



Recover



Revitalize

A fusion of science and practical medical experience unlike
anything that has come before.



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