TOP TEN THINGS TO DO FOR ARTHRITIS

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1. GET A PROPER DIAGNOSIS

Arthritis of the Knees

The term ***arthritis*** is derived from the Latin words “arthropathy” (joint) and “itis" (inflammation). Arthritis is the inflammation of a joint. There are two types of arthritis that affect the knee joints. ***Rheumatoid arthritis*** is the disease that is quite complex in its etiology with much to be learned at this point. It is a disease that can affect any age group, although predominately affects women. Its onset is insidious. It is often accompanied by weakness and fatigue and generally strikes multiple joints, particularly the proximal interphalangeal joints of the hands. Rheumatoid arthritis is primarily a disease of the lining of the joint, or synovium. Immune complexes are deposited within the synovial lining of the joint, triggering inflammatory responses. This inflammatory response produces cells releasing enzymes. These enzymes then form a pannus, which is a slow creeping covering that erodes the surface of the joints. In the knees, this is manifested by pain, swelling, warmth and redness. ***Osteoarthritis*** is the second type of arthritis which is much more common. This is considered a wear-and-tear type of arthritis which is much more common in men than in women. This often is also slow in onset, is worse with use and better with rest. Pain is manifested with lowering of barometric pressure at the time of storms. It is often accompanied by stiffness, and is primarily in the weightbearing joints.

The etiology of arthritis can be idiopathic or secondary. Idiopathic simply means that there are some definable factors that have caused this problem. There is often a history of trauma in early life, whether an acute trauma such as a car accident damaging the joint or a repetitive trauma either in the work place or with vigorous contact sports. Congenital abnormalities such as “bowed legs” or “knock-knees” can also cause problems. Other conditions such as gout and infections can precipitate later arthritis. The most common secondary cause of arthritis is obesity; with advancing weight, increasing stress is placed on the joint which can accelerate the wearing out. There could also be a mutation of a gene that can cause an early breakdown on the cartilage matrix resulting in precocious arthritis.

Many times arthritis is accompanied by tears of the meniscus. These tears can also cause pain. If your symptoms include mechanical symptoms such as catching, an MRI evaluation may be appropriate.

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What is the prognosis?

There is no cure for osteoarthritis or rheumatoid arthritis. However, for both conditions, there is much that can be done. Early diagnosis and treatment can lead to improvement of pain and stiffness, improve your ability to continue with your activities and help preserve your joint.

The treatment options covered in this manual may be useful in pats with osteoarthritis and rheumatoid arthritis. Please consult your physician before starting any treatment.

2. START AN EXERCISE PROGRAM

Moderate exercise is an integral part of treating arthritis. Exercise by itself will not wear out your joints. Activities such as walking, swimming, or gardening can assist in keeping your bones strong and your joints limber. This will relieve stiffness and improve your outlook. Although exercise may sometimes cause discomfort, proper exercise will help nourish the cartilage, strengthen the muscles and may prolong the life of your joints.

Physical Therapy Arthritis Consult

A good way to start your exercise program is a ***physical therapy arthritis consult***. The consult will consist of two 1-hour visits to a physical therapist. The goal of this program is to provide you with additional information on arthritis, to develop a realistic home exercise program, and to help you take better care of your arthritis. We have found that those who take an active role in caring for themselves feel better and are less limited to their daily activities.

Strengthening

Strengthening exercises are important for everyone, especially for a person with arthritis. Joint swelling and pain can make muscles weak, which is a problem with arthritis. Strong muscles help absorb shock, support joints and protect you from injuries. Weak muscles in the legs are linked with increased disability from osteoarthritis and giving way of the joint. Research has also shown that strengthening exercises in the hip, knee, and ankle leads to improved balance and independence. You will need a professionally supervised program to show you the proper ***What, Why and How's*** of strengthening!

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Stretching

Stretching and range of motion exercises helps maintain or restore normal joint motion. Flexibility is necessary for comfortable movement during exercise and daily activities. Joint motion also helps lubricate your joints and nourish your cartilage. Flexibility exercise should be done gently, if it hurts, you are pushing too far. Flexibility exercises should be done before any more vigorous type of exercise. Generally, stretching is tolerated on a daily basis and is an excellent form of relaxation. You will need a professionally supervised program to show you the proper ***What, Why and How's*** of stretching!

Endurance Exercises

Endurance exercises refer to exercises that last more than 30 minutes. They are done at a gentler pace and help strengthen your joints, but also your heart and lungs as well. One of the hallmarks of that you can carry on a conversation while you are exercising. If you cannot, you are exercising too quickly or strenuously. Examples of endurance exercises are below.

Endurance Exercise Types:

Aquatic Therapy is an excellent form of endurance exercise for those managing arthritis pain. The buoyancy protects your joints from impact injury. At waist high, 50% of your weight is supported; chest high, 75% of your weight is supported. The water also resists movement, which is helpful for strengthening. Hydrostatic pressure can also assist with reduction of swelling in joints and edema in the legs.

Aquatics are a recreational exercise program usually held in a warm water pool. There are several forms of water exercise. You can swim, participate in an exercise class, or just walk in the water. The warm water helps support your body and relax your joints. Ask your doctor for more information on aquatic classes near you.

Walking is an excellent form of endurance exercise for almost everyone, including those with arthritis. Check with your physician to obtain any exercise precautions or guidelines. Walking requires no special skills and is inexpensive. All you need is a good pair of walking shoes. While walking, you should be able to pass the talk test, meaning you should be able to carry on a conversation while exercising without feeling out of breath. If you are unable to talk, slow down to a more comfortable pace.

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The following suggested walking program could help you get started. When you can walk 10 continuous minutes (including warm up and cool down), follow this progression to gradually build your program.

WEEK	DURATION	TIMES/WEEK
1	10 MINUTES	3-5
2	15 MINUTES	3-5
3	20 MINUTES	3-5

Continue adding 5 minutes to each session until you reach 30-40 minutes in duration. Always warm up and cool down by walking slowly.

Biking either regular biking or stationary biking is an excellent endurance exercise. However, patients with problems with their patella (kneecap) may actually aggravate the condition with biking. Be careful not to increase resistance or ride hills too quickly. As with any endurance exercise, you should be able to carry on a conversation while you are engaged in the activity.

How much exercise is too much?

If you note increased joint swelling, decreased joint motion, unusual or persistent fatigue, or continuing pain, you may be exercising too much. You should expect some muscle soreness, especially if you are just beginning your program or have changed exercises. Joint pain should not last more than several hours after exercise.

For an in-depth guide on starting and maintaining a walking program, look for the Arthritis Foundation book ***"Walk with Ease"*** at the book stores.

How do I stay consistent with exercise?

- Seek help from a healthcare professional to help you set up an individual program.
- Make a plan! Write it down! Set goals!
- Find an exercise buddy.
- Look for an appropriate exercise class.

- Stay in the habit of doing some exercise each day at the same time. On days when you have more pain, make an effort even if you just do some gentle stretching.
- Vary your exercise routine; rotate your exercises.
- Evaluate your progress and enjoy your success.

3. ACTIVITY MODIFICATIONS

Body Mechanics

Proper body mechanics can lead to a more effective use of your body and less strain on your joints. The following activity modification guideline may prove helpful:

- Practice good posture by standing up straight.
- Avoid slouching.
- Avoid sitting in low chairs to reduce stress on your knees when sitting and rising.
- While traveling, get up and move around every hour or so to avoid stiff joints.
- Avoid impact-loading activities (e.g. running, jumping).
- Reduce climbing activities (e.g. stairs, hills, etc.).
- Avoid any activity that causes prolonged discomfort.

Helpful hints:

If sitting in a chair hurts your back, position your as follows. (Select a chair that has a firm seat and fairly straight back. Beware of deep, soft chairs or sofas, and change positions frequently.)

- Head balanced over shoulders.
- Shoulders relaxed, not elevated.
- Upper back straight, not rounded.
- Low back supported, feet flat on the floor.
- Knees even with hips.
- Buttocks flat on the seat.

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Weight Control

Being overweight puts your weightbearing joints under extra pressure and stress.

Because the joints are eccentric (not in the middle of your body), the force across the joint is three times greater than your body weight when you balance on one leg (e.g. walking). The good news is that for every 1 pound you lose, you take 3 pounds of the force off your hip or knee. The bad news is that for every 1 pound that you gain, you add 3 pounds of force to your hip or knee. Extra pressure on your joints can make your arthritic symptoms worse, leading to pain and stiffness.

A well-balanced diet coupled with a regular doctor prescribed low-impact exercise program can help reduce excess body weight, decreased pressure on the joints and increase joint strength. Many claims have been made concerning diet as a cause of osteoarthritis, but none have been proven as of yet. Too much food causes weight gain, which is very bad for your joints. Maintaining your ideal body weight will help keep your joints healthy. Ask your doctor to advise you on a weight-loss program to fit your needs.

4. HEAT/COLD

Heat or cold treatments may be used to decrease pain and increase flexibility.

Cold treatments decrease blood flow and help relieve severe joint pain and swelling. Heat treatments increase blood flow and help relax muscles.

Heat	**Cold**
Use prior to activities.	Use after exercise.
Increases local circulation.	Decreases local circulation.
Improves motion	Decreases swelling.
Decreases joint ache	Better for pain.
Helps you relax	Reduces inflammation

You should purchase a gel pack that can be kept cold in your freezer or heated in a microwave.

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5. NUTRITIONAL SUPPLEMENTS

Recently nutritional supplements have become popular with patients with arthritis. Glucosamine and chondroitin sulfate have been the most widely used. Veterinarians who treat animals with arthritis first used them.

Glucosamine is a natural building block found in cartilage. It may also be labeled as a hydrochloride or sulfate. Glucosamine is extracted from the shells of crabs and shrimp. Studies have shown it to be useful in strengthening, repairing and revitalizing cartilage, and in reducing pain, especially with arthritis of the hands. The usual dose is 1,500 mg per day. Reports of it rebuilding cartilage have been exaggerated. Side effects are few, with occasionally bloating or nausea. Patients with shellfish allergies may be at risk.

Chondroitin sulfate is commonly taken in conjunction with glucosamine. It is found in cartilage and acts somewhat like a sponge for the fluid found in cartilage. This makes the cartilage more elastic and spongy. Chondroitin may help prevent the breakdown of cartilage as well. The usual dose is 1,200 mg per day. There are no known serious side effects, although some have worried that because it is taken from Bovine trachea, that mad cow disease could be a risk. There are no known causes of this occurring.

Vitamin C and D – Some studies have indicated that patients low in vitamin C and D may have a higher incidence of arthritis. Arthritis patients should take vitamins regularly.

Calcium – Some people confuse osteoporosis with osteoarthritis. Osteoporosis is a thinning of the bone, not the joint. Calcium may accumulate in the bone spurs around arthritic joints in response to increased pressure on the joint. However, too much calcium is not the cause of arthritis. Therefore, it would not be wise to reduce your calcium intake as this may cause osteoporosis.

6. ORTHOTICS/BRACING/SELF-HELP DEVICES/SUPPORT

Simple every day tasks may be hard to accomplish when your joints hurt. The self-help devices listed below will help minimize pain, discomfort, stress and will assist you in accomplishing tasks more simply. Ask your physician or physical therapist about these self-help devices:

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Orthotics - Footwear
Lower extremities:

- Heel wedges or orthotics help align the leg, relieving pressure on the knee.
- Sorbothane shoe inserts may reduce some of the impact loading that your knee or hip experience.

Braces – Self-help
Knee:

- Bracing the knee reduces instability which may cause increased pain.
- Unloader braces are special braces for the knee that may reduce stress on the affected part of the knee.

Hands/Wrists

- Splints on any body part rests the part during painful episodes.
- Jar openers and button threaders for patients with arthritis of the hands.
- Large grips for pencils, garden tools or other hand-held objects.

Back/Hip/Knees

- Abdominal supports to reduce stress on the back.
- Long-handled reachers or grabbers allow you to pick up things without bending.
- Sock sliders to help you put on socks.

Support:

Canes –Single prong or multiple prong canes reduce stress across the joints, helping to distribute some force away from the involved leg, potentially reducing pain. It is important to use a cane properly. Canes should be used in the **OPPOSITE** hand to the affected joint.

Walkers or crutches – If you are unsteady with a cane or cannot grip it well, you can use either one crutch or two or a walker. This will provide support and balance.

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7. OVER-THE-COUNTER MEDICATIONS

Medications are important in the treatment of arthritis. Both pain-relievers and anti-inflammatory medication help relieve joint swelling and pain. This will lead to improvement in everyday function and quality of life.

We know that the pain from arthritis may vary greatly from day to day or weather system to weather system. You should start with medications with the least side effects and only take them when necessary. Many over-the-counter medications effective in patients with arthritis with few side effects.

The non-narcotic analgesic Tylenol® is generally safe and effective in relieving minor pain and discomfort. The *Academy of Rheumatology* has suggested this as the first line of treatment of arthritis. Tylenol, however, does not reduce the inflammation caused by arthritis. Patients with liver disease should avoid Tylenol. Ask your physician about dosing and safety.

Nonsteroidal anti-inflammatory drugs (NSAIDS) can be purchased over-the-counter with some common forms being Motrin®, Advil®, and Aleve®. NSAIDS are usually indicated for mild-to-moderate arthritis pain and may be effective where Tylenol is not. They are very effective in reducing inflammation caused by arthritis. however, they also can increase your chance for gastric (stomach) ulcers and do think your blood. Therefore patients with stomach problems, bleeding problems or that are on blood thinners may be harmed by these medications. Always check with your physician before starting them.

Patients with chronic pain may need to take medication daily. However, many may only take it when necessary to when they anticipate a strenuous activity that is likely to lead to pain.

Topical Creams

Many topical creams are on the market to reduce pain from arthritis. The *American College of Rheumatology* does recommend capsaicin as part of the treatment plan. Capsaicin is found in No redness peppers and is though to help with the release of the body's painkillers while also blocking a chemical, which transmits pain signals. Apply the cream to the painful areas. The usual dose is 0.025-0.075% capsaicin. Other creams may be found to be useful from one patient to another. Check with your physician.

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8. PRESCRIPTION MEDICATIONS

When over-the-counter medications are ineffective in reducing the pain, swelling, and stiffness from arthritis, then prescription medications can be helpful. There are 4 general classes of prescription medications: NSAIDs, Non narcotics, narcotics, and a special class of medications for patients with rheumatoid arthritis, lupus, and related diseases.

NSAIDS

NSAIDs are nonsteroidal anti-inflammatory medications. They have been shown to be very effective in reducing pain and are the most widely used medications for arthritis. NSAIDs reduce the synthesis of prostaglandins, which is the major cause of pain and swelling in arthritis patients. They do this by blocking the COX enzyme, which exists in two forms; COX 1 (good) and COX 2 (bad). The older NSAIDs blocked both of these enzymes. As a result of blocking the good enzyme, some patients developed bleeding ulcers, kidney problems, swelling and increased blood pressure. With the newer medications, these complications may be reduced.

Newer NSAIDS (Cox 2)

NSAIDs that selectively block only the COX 2 have been developed and tested. These have been shown to be safer and effective because they do not block COX 1 (good enzyme). They can be taken with blood thinners as well. Examples of these include Celebrex and Mobic. A new COX 2 Parecoxib is expected to be released soon. No medication is completely safe and problems have occurred with these newer medications as well. Please only take with your physician's approval.

Non-Narcotics

Some patients cannot tolerate NSAIDs and need a different class of medications. Several drugs, e.g. Ultram (tramadol) have been developed that are usually well tolerated and effective for pain relief. They work by reducing the brain's recognition of pain. Many combinations with Tylenol give these drugs a variety of names. No medication is completely safe and problems have occurred with these medications as well.

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Narcotics

Narcotic medications are usually reserved for severe pain of a short duration. These include medications such as Percocet, Lortab and Demerol. They work by reducing brain recognition of pain. They do have significant side effects such as drowsiness, nausea, constipation and addiction. As most arthritis pain is chronic (long-standing), they are generally not used in people with arthritis. Their effect diminishes with chronic use. Addiction can be a problem. Please only take with your physician's approval.

Rheumatoid, Lupus, Etc. Drugs

There are many excellent medications today for patients with rheumatoid arthritis and other inflammatory diseases. However, they require close monitoring as some can have serious side effects. These complex drugs include Methotrexate, Plaquenil, Remicade, Arava, Enbrel, prednisone and others. They are used mainly by rheumatologists, internists and family physicians. Your orthopaedic surgeon may refer to you one of these specialists for care if you might need one of these medications.

9. INJECTIONS

Cortisone injections directly into joints may be used to help relieve both swelling and pain. Cortisone is a naturally occurring hormone produced by the adrenal gland. It helps regulate inflammation and when injected into a joint, can relieve or reduce both swelling and pain. The effectiveness is variable. Some patients are not helped at all. Others are helped for months. The effect occurs usually within a day or so of the injection. Patients do not need to change activity following injections. Many patients elect to get them prior to big events when they will be more active.

They are usually few noticeable side effects from the injection. Some patients experience a flush often noted in their faces. Diabetics often note a blood sugar rise for a day or so. Occasionally, a patient may experience a "flare", which increases pain for a few days.

However, the long-term use of cortisone injections is controversial. Cortisone may play a role in weakening tendons or cartilage if used too often. Therefore, most physicians limit its use to a few times per year, depending upon then circumstances.

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Hyaluronate injections have been approved for arthritis of the knee. They may help relieve osteoarthritis pain and restore joint function. Hyaluronate is a naturally occurring substance in joint fluid that provides lubrication and cushioning to the joint. As osteoarthritis continues to develop, the joint fluid becomes thinner with less hyaluronate and thus loses its ability to properly lubricate and cushion the joint cartilage.

Several synthetic forms of hyaluronate have been developed to use in the knee joint. In order to be effective, anywhere from 3 to 5 injections must be done at a rate of one injection per week. The effectiveness is usually not noted for a month or so. Patients usually do not need to significantly reduce activity following the injections. However, approximately 1-2% of patients experience some swelling and pain following the injection.

Studies have shown that the more severe the arthritis, the less effective the injections. However, when effective, the relief may last for 6-12 months. Injections may be repeated in six months, synthetic hyaluronate is made from rooster combs; therefore, anyone who is allergic to feathers, chickens or egg products should not receive an injection.

10. SEE A SURGEON WHO SPECIALIZES IN ARTHRITIS

Surgeons who specialize in arthritis can provide you with all of your options and expertise to decide whether surgery is right for you.

Knee Surgery Options:

Arthroscopy is not helpful if you are suffering from severe arthritis. However, in some patients without arthritis, the meniscus within the knee joint can become damaged. This can lead to swelling and pain. You may interpret this as being arthritis when in reality it is not. In some cases your surgeon may recommend a procedure called arthroscopy. Arthroscopy uses tiny instruments inserted into the joint through incisions that are about 1/8 inch long. Damaged tissue can be removed or repaired within the joint, providing relieved from both pain and swelling, while possibly preventing further damage to the knee.

Total joint replacement – replacing the cartilage – For patients with significant arthritis, your surgeon may recommend joint replacement surgery. Surgeons do not actually replace the joint as is commonly thought. Your surgeon actually replaces the damaged cartilage found at the ends of the bones in your knee joint. Perhaps it should be called “cartilage replacement surgery”.

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Joint replacement implants to resurface the joint are typically made from metal alloy and polyethylene (plastic). The implants are designed to restore function and eliminate as much discomfort as possible while allowing the patient to return to a more active lifestyle.

Rehabilitation and walking begin the day after surgery, and the hospital stay is normally 3 to 5 days. Therapy will begin in the hospital and usually continues after discharged for approximately six to twelve weeks.

Joint replacement surgery of the knee has been extremely successful in helping patients with arthritis return to their normal activities and relieve their discomfort.

Unicondylar knee replacement – The knee is composed of three separate compartments. The term “uni” means one. Osteoarthritis sometimes develops in only one compartment of the knee, while the other two compartments remains relative healthy. Patients who have osteoarthritis in only one compartment may be a candidate for a unicompartmental knee.

The advantage of a unicompartmental knee is that it resurfaces only the damaged cartilage of the knee, preserving the undamaged cartilage. With this procedure you will have a smaller incision (2-4 inches), have a quicker recovery, and less bone removal. The disadvantages are that unicompartmental knee surgery cannot be expected to last as long a total joint replacement surgery. You and your surgeon will determine if a unicompartmental knee is appropriate for you.

Rebuilding cartilage – In some patients, a pothole occurs in the joint cartilage on the end of the bone. Various methods may be used to try to correct this problem. These methods are used primarily for young patients and not for patients with severe arthritis.

Microfracture arthroplasty – With an arthroscope, small holes are drilled into the exposed bone in an attempt to get the cartilage to grow. This has met with some success when the area is not large. The cartilage that grows will not be as strong as normal cartilage. Six weeks of crutches with minimal or no weight on your leg may be required.

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Direct cartilage transplantation – Cartilage is transplanted to an exposed area of bone. This may be from your own cartilage or a cadaver. Prolonged non weightbearing may be required while healing is occurring. This procedure is reserved for younger patients with small defects; not patients with significant arthritis.

Growing cartilage – Cartilage cells can be harvested during an arthroscopic procedure and then grown in a lab for later transplantation. These cells are then implanted into the defect. Prolonged non weightbearing may be required while healing is occurring. This procedure is reserved for younger patients with small defects; not for patients with significant arthritis.

Acupuncture – Recent studies have shown that the use of acupuncture can help control the pain of osteoarthritis.

Lidoderm Patches – Applied to the knee for 12 hours a day may reduce the pain.

Voltaren Gel – a topically applied medication can be helpful.