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TREATMENT OF KNEE ARTHRITIS (Osteoarthritis)

This newsletter explains some of the most common treatments for arthritis in the knee — from exercise and other healthy habits to medication and surgical intervention.

Exercise

One of Mother Nature's most effective pain relievers, exercise burns calories and releases endorphins, a natural anti-depressant. The key is to determine how much activity benefits you without overloading your joints. Dispel the "no pain no gain" myth and opt for low-impact activities such as walking, biking, swimming or other water-based activities.

Physical Therapy

Sometimes, regular exercise isn't enough to manage arthritis pain. MSOC offers onsite physical therapy programs — including stretching and targeted exercise — combined with heat, ice and other therapies to relieve arthritis pain.

Weight Control

Excess weight puts your joints at risk. Due to the biomechanics of the knee, up to two times your body weight is transferred across your knee when walking (something called low-impact loading). During strenuous activity, your knee is subject to as much as ten times your body weight! Maintaining a healthy weight is one of the most effective means of controlling knee arthritis pain without other intervention. By losing 25 pounds you can reduce as much as 50 pounds of stress on your knee(s) and that can help to reduce the pain and inflammation caused by arthritis.

Footwear

Energy-absorbing shoes, or inserts, assist in aligning stress on — and reducing pain in — weight-bearing joints. Properly fitting, "foot-friendly" soft soled shoes or hard soled shoes with over-the-counter inserts, such as Powerstep® insoles, cushion the feet and minimize impact on the knee.

Many people put up needlessly with arthritis pain because they think it's something they just have to "live with." Today, that's simply not the case.

Knee Sleeve

A knee sleeve is a soft rubber tube that slides on, and fits snuggly over, your knee. It provides support and helps manage arthritis symptoms.

Orthotics and Braces

Knees often wear from the inside (medial compartment) out. A lateral heel wedge in the shoe may help relieve pain in some patients with medial compartment arthritis. And, as many as two-thirds of patients find arthritis pain relief by wearing medial unloader braces. On the down side, however, many patients report that these bulky braces are cumbersome and uncomfortable.

Canes, Crutches and Walkers

Another non-surgical approach to relieving arthritis pain is the use of walking aids such as canes, crutches and/or walkers. Each helps reduce stress across the knee, ease joint discomfort and assist with mobility.

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MEDICATION FOR ARTHRITIS PAIN

Glucosamine/ Chondroitin Sulfate

Glucosamine and chondroitin sulfate are naturally abundant on the surface of normal joint cartilage. They are absorbed into the bloodstream and carried to the joints, supplying some of the building blocks for cartilage growth. Studies have shown that up to half of all patients using these popular dietary supplements enjoy pain relief without side effects, although patients taking a placebo, or a sugar pill, report similar results. (Effects may be related to the release of endorphins.) Recommended dosage is 1500 mg per day for glucosamine; 1000 – 1200 mg per day for chondroitin sulfate.

Analgesic Creams

Over-the-counter analgesic creams, such as Aspercream, Biofreeze and Bengay®, stimulate nerve endings in the skin, sending "nerve traffic" to the brain that may disguise painful messages from the knee joint. Analgesic creams are safe but may cause skin irritation. Effectiveness varies.

Acetaminophen

The drug of first choice to help control arthritis pain, acetaminophen can be taken in multiple doses, up to 3 grams (3000 mg) per day, with minimal gastrointestinal side effects. While it helps manage pain, acetaminophen does not control inflammation and poses the risk of liver damage at higher doses.

NSAIDS

(Non-steroidal anti-inflammatory drugs)
Aspirin, ibuprofen (Advil®) and naproxen (Aleve®) are the three most popular over-the-counter NSAIDS. Their most common side effect is stomach irritation, which some brands try to reduce with an outer coating or antacid additive. Taken as needed, or on a regular schedule, can improve effectiveness but increase the risk of side effects. Always read dosage instructions before beginning any drug regimen.

Prescription NSAIDS

For more effective pain and inflammation relief than over-the-counter remedies provide, prescription NSAIDS also come with greater risk of side effects. Never take prescription NSAIDS without the supervision of your primary care physician.

Steriods (Cortisone)

Steriods have very powerful anti-inflammatory properties but, in pill form, provide only temporary relief from osteoarthritis flare-ups. Another alternative, cortisone — injected directly into the joints — may reduce pain and increase mobility. Repeated injections, however, can lead to deterioration of the joints (steroid arthropathy). For best results, physicians use their judgment, experience and most current research to determine how many injections should be given and over what length of time.

Hyaluronic Acid (Supartz, Euflexxa®, Synvisc®)

Normal joint fluid contains hyaluronic acid, but the joint fluid in arthritic knees is often abnormal. A series of hyaluronic acid injections to the knees has been shown to relieve pain in 50-60% of patients, possibly by inducing the body to produce a more normal joint fluid. Maximum benefit is seen between 8-12 weeks and may last for 8-12 months.

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OUR SPECIALTIES:

Orthopedic Surgery
Physical Therapy
Sports Fitness

SURGICAL OPTIONS

While surgery is typically our treatment of last resort, it may be the best option for long-term pain relief.

Arthroscopy

Many patients with mild-to-moderate arthritis get some relief from outpatient arthroscopic debridement. With this process, the orthopedic surgeon "cleans out" the knee joint by making small punctures around the knee, inserting a scope and shaving rough areas, removing bone spurs and other loose material, and smoothing the joint. Unfortunately, patients with severe arthritis and bone-on-bone wear are not good candidates for this procedure.

Osteotomy

If only one side of the knee is arthritic, osteotomy is another option that relieves stress on the affected area. With osteotomy, the surgeon reshapes the bone and realigns the lower limb, shifting and redistributing weight-bearing forces more equally on the knee. This procedure is a good option for younger patients (those under 55) who seek relief but choose to postpone total knee replacement.

Total Knee Replacement

Total knee replacement has been hailed as one of the premier medical miracles of the past 40 years. In fact, patients rate the procedure ahead of cardiac surgery in terms of improving quality of life. Overall, 80-90% of patients report "very good to excellent" results. About half of all patients still have some pain but consider it mild compared to what they experienced before surgery.

With total knee replacement, the orthopedic surgeon resurfaces the end-stage arthritic knee and corrects deformities caused by malalignment of the joint. Recovery typically includes an initial hospital stay of three-to-five days, one-to-two weeks in rehab and three-to-six months of outpatient physical therapy.

How long a total knee replacement will last varies by patient age, activity level and lifestyle but studies show that more than 90% of the most common types last for 20+ years, especially among older (60 and over) patients. In active patients 50 and under, roughly 50% of implants will need to undergo surgical revision (typically after 10 or more years) due to increased physical activity and higher demands on the joints. Southeast Michigan patients can undergo the revision process locally thanks to the Total Knee Revision program at St. Joseph Mercy Hospital – Ann Arbor, one of the top 100 providers of total knee replacement and revision in the country.

Who is a good candidate for Total Knee Replacement Surgery?

- Individuals with pain, especially during rest
- Age 60 and older, although younger patient may also benefit
- Those with end-stage arthritis
- Arthritis sufferers who have exhausted all more conservative treatments

What are the typical results?

- 80-90% report "very good to excellent" results
- Patients are able to resume low-impact activities within 3-6 months
- More than 90% of total knee replacements last for 20+ years
- Revision surgery is usually possible

RECENTLY PUBLISHED TOTAL KNEE STUDY

Intermittent Pneumatic Compression for Venous Thromboembolism Prophylaxis in Total Knee Arthroplasty

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abstract

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Venous thromboembolism (VTE) prophylaxis in total knee arthroplasty (TKA) is controversial. The purpose of this study was to evaluate the efficacy of bilateral intra- and postoperative intermittent pneumatic compression without major anticoagulation as prophylaxis for VTE in TKA.

This retrospective study involved 157 consecutive patients undergoing TKA performed by 1 surgeon who were treated with bilateral intra- and postoperative intermittent pneumatic compression stockings. All patients were followed for at least 6 weeks postoperatively. Postoperative color duplex ultrasound imaging with compression by certified vascular technologists was obtained for 120 patients 2 to 3 days postoperatively. During hospitalization, 2 (1.7%) patients had acute deep vein thrombosis (DVT) diagnosed, 2 (1.7%) had DVT of indeterminate age, and 4 (3.3%) had chronic DVT. During follow-up, 1 (0.8%) patient had an acute DVT diagnosed at 5 weeks postoperatively and 1 (0.8%) had a superficial phlebitis and subsequently had a nonfatal pulmonary embolism 23 days postoperatively. The predominant chemoprophylaxis used was aspirin alone in 107 (89.2%) patients. Epidural anesthesia was used in the majority (n=96; 80%) of patients.

The results of this study support the use of a multimodal approach to VTE prophylaxis in TKA, using bilateral intra- and postoperative intermittent pneumatic compression, epidural anesthesia, early mobilization, and postoperative aspirin without the use of major anticoagulation as an effective, safe VTE prophylactic protocol for patients undergoing elective TKA. The study suggests that the protocol is highly effective, has low morbidity, and is cost effective.

Dr Morris is from the Department of Surgery, St Joseph Mercy Health System, Ann Arbor, Michigan; and Dr Fincham is from Ohio University, St Vincent Mercy Medical Center, Toledo, Ohio.

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