In this article, the American Academy of Orthopedic Surgeons (AAOS) presents a Clinical Practice Guideline for the nonoperative
treatment of knee osteoarthritis. Guidelines like this help all health care professionals treating patients with knee arthritis use
noninvasive approaches. Patient education, self-management techniques, Physical Therapy, and exercise are just a few ways
this problem can be approached conservatively.

The 22 guidelines offered are based on an extensive review of published studies on this topic. A panel of 16 orthopedic
Surgeons, Physical Therapists, athletic trainers, sports specialists, and research analysts conducted the review of publications. Besides the
recommendations, they also mention areas where research is lacking and ways future studies can be directed. The goal is to help health care
guider patients in finding ways to treat knee arthritis short of having the joint replaced.

The authors make it clear that these guidelines are recommendations only. Each patient must be evaluated on his or her
past history, current symptoms, past treatment and treatment results, and any important individual patient factors. The
final guidelines as a whole, there are eight major groups or categories including: changes in lifestyle, rehabilitation, mechanical
interventions, alternative therapies, pain relievers, joint injections, joint debridement (cleansing), and surgery (other than knee
replacement).

The panel carefully reviewed the evidence for each guideline and graded the quality of that evidence as Level I (good),
(fair), and Levels IV and V (poor). Once the 22 recommendations were developed, they were reviewed and commented on by various
committees, patients and the public, as well as the AAOS Board of Directors. Here's a brief summary of the major findings:

- Walk, don't run. Manage your pain by staying active. Focus on low-impact aerobic fitness exercises (e.g., walking, biking, water
aerobics).
- Do joint range-of-motion and flexibility exercises every day to limit stiffness and prevent joint loss of motion.
- Strengthen your leg muscles, especially the quadriceps muscle along the front of the knee.
- Find a support group, even if it's someone who calls you on the phone each week to see how you are doing and to encourage you
to stick with your self-care program.
- Lose weight if your body mass index (BMI) is more than 25. Maintain that weight loss through proper nutrition and regular
exercise.
- Taping your knee may be a low cost way to reduce pain and improve function.
- If you have medial compartmental arthritis (affecting just the side of the knee joint closest to the other knee), don't use shoes
that have a built-in lateral heel wedge or lateral insoles. In this case, lateral means along the outside edge of the foot.
- These shoe adaptations shift the weight on to the medial aspect of the joint and make the problem worse.

Scientific evidence is lacking to make any specific recommendations about bracing to offset medial compartmental arthritis or
use of acupuncture for the painful symptoms of osteoarthritis. Either there wasn't enough supportive evidence or the results of various
studies were inconsistent and/or conflicting.

And despite all the media hype around taking glucosamine and/or chondroitin, these guidelines do NOT support the use of these
supplements. There simply isn't enough evidence to show any clinical benefit of these supplements for individuals with knee
arthritis. Some studies showed that taking a placebo (fake pill) was just as effective as taking the supplement. Other studies showed
that a glucosamine supplement was superior to taking a placebo. But stepping back and taking a look at the big picture from what
available, the evidence doesn't support the use of these products.
The best way to manage knee pain from osteoarthritis is with Tylenol or a nonsteroidal antiinflammatory drug such as ibuprofen. The risk of toxicity is low with these medications and they work better than a placebo. Antiinflammatories seem to be more effective but they have greater side effects such as gastrointestinal problems. If these medications are not sufficient to control pain, injection into the joint might be of some short-term help. Steroid injections are not advised for long-term use.

Some patients have found pain relief with hyaluronic acid injections into the joint. This slippery substance is designed to help restore movement of the joint. But, once again, the results of various studies have been inconclusive and unsupportive. Using a saline solution to clean the joint out is also not supported by the available evidence. This treatment technique (called needle lavage) doesn't provide any more pain relief than a placebo or no treatment at all.

Several minor surgical procedures were also reviewed: arthroscopic removal of a torn meniscus (cartilage) and osteotomy of fragments, loose, or torn cartilage is considered an option. Tibial tubercle osteotomy refers to the removal of a bump of bone on the front of the knee, just below the kneecap. The pull of the quadriceps muscle over this bump may contribute to knee pain. The tibial tubercle osteotomy has not been proven conclusively. At this point, the recommendation for this surgery is based on expert opinion, not conclusive evidence.

A second type of osteotomy is the removal of a pie-shaped wedge of bone from the tibia (lower leg bone) and insertion on the other side of the joint. This procedure is called a realignment osteotomy. As its name suggests, it helps realign the joint by shifting the weight off one side of the joint and redistributing it more evenly to avoid further uneven joint wear and tear. It has been used with good short-term results in patients with painful unicompartmental osteoarthritis of the knee from problems with alignment. It is considered another possible treatment option.

The final recommendation has to do with the use of a free-floating interpositional device placed within the knee to aid in unicompartmental arthritis. These devices hold the joint surfaces apart and act like a shock absorber. Australian surgeons have stopped using these devices as there is enough evidence to show a higher rate of revision (second) surgeries from complications.

These guidelines as they are published today will be reviewed and revised again on a regular basis. The panel suggests that efforts should be directed toward developing high-quality studies that focus on patient-oriented outcomes (i.e., what the patient wants in the way of results). If researchers would all use the same standard outcome measures, it would be easier to compare the results of one study to another. Validated tools such as the Western Ontario and McMaster Osteoarthritis Index (WOMAC) and the Medical Outcomes Study 12-Item Short Form were suggested.