

Medial Knee Pain Relief and Meniscus Regeneration

AN EMPIRICAL APPROACH

During my 40-year career, I gradually developed a protocol of treatment for medial meniscus problems that was highly successful in pain relief. Some cases actually resulted in increased thickness of the compromised medial meniscus.

Mrs. R., at 50-plus years of age, had been using a walker for many months. She was forced to use it for every upright movement or suffer extreme medial knee pain unrelieved by OTC or prescription meds. After eliminating other causes of knee pain, I focused on the medial meniscus, where palpation elicited extreme tenderness at the medial knee, a palpable nodule on the distal medial femur, flexion limited by 50 percent due to pronounced pain, and audible crepitus upon flexion. Weight-bearing X-rays done in my office revealed bone-on-bone contact between the medial femoral condyle and the medial tibial, with reactive bone obvious in the medial femoral condyle. Exostosis was seen extending 5 mm off the medial femoral condyle.

Treatment protocol was initiated. During the next six months, she first abandoned the walker for crutches, then a single crutch and then a cane. She finally was walking entirely unaided, doing all her household chores and shopping pain free. At six months, comparison weight-bearing X-rays were done using the same exposure factors and positioning as at baseline. Now, a space of 1 mm could be seen between the medial femur and tibia, and there was no suggestion of reactive bone in the femur. The exostosis was smaller, about 3 mm. Palpation did not elicit tenderness at the medial knee, crepitus upon flexion was now minimal, no nodule was palpable, and range of motion was now about 75 percent. At this point, Mrs. R. decided to forego further treatment. During the next three years, I occasionally observed her around town. She was always walking unaided, with no suggestion of discomfort even when all of her body weight was on the affected leg.

Articular cartilage is avascular but nourished from surrounding tissues; therefore, any reduction of pressure on it might enhance its absorption of nutrients.^{1,2} I used a multifaceted approach in dealing with meniscal problems: shoes, traction, manipulation, nutrition and lifestyle changes.

Shoes: After explaining the problem took years to develop and would take months to resolve, I ask the patient to bring in the three pairs of shoes they most often wear. If there is significant wear on the lateral heel, I prescribe lateral heel lifts with the thicker side placed laterally. This equalizes weight-bearing across the knee, reducing pressure on the medial meniscus. If the lateral part of the shoe heel is badly worn, I recommend discarding the shoes or having them repaired. If there is slight wear, mostly to the rear of the heel, it can be considered normal. This patient might benefit from a thinner heel lift. If the patient is a jogger on crowned roads, toward traffic, the left medial meniscus might be compromised without significant wear showing on the lateral aspect of the shoe heel. This will be a repetitive-impact condition due to the medial heel striking the crowned road first. This patient still might benefit from a lateral heel lift.

In *genu varum*, i.e., bow legs, the opposite medial meniscus might be compromised, even if it's asymptomatic. In these cases, a lateral heel lift might reduce the likelihood of future

symptomatology in the unaffected knee. Interesting note: It is suspected that some cases of *genu varum* (or valgum) might be initiated by adults standing a baby on its' feet before the child itself does so voluntarily. If the patient takes NSAIDs regularly, I encourage them to reduce the dosage and frequency as they experience lessening discomfort, as the NSAIDs likely compromise cartilage health by impairing production from chondrocytes.³

Traction: The patient is then supplied with an ankle weight. The reasoning for this is that with each lift of the leg when walking, the weight will tend to move the femur and the tibia apart in mild traction, thus creating reduced pressure and increased absorption of nourishment from the surrounding tissues.^{1,2} For a small-boned patient (5 feet, 100 pounds), a 1-pound weight might be sufficient. For the large-boned (6 feet, 250 pounds) and muscular patient, a 3-pound weight will work. For the obese, especially if they are quite inactive, perhaps use a 4-pound weight. Patients also are cautioned to never cross their legs, not even the ankles, as these positions cause the medial femoral condyle and the medial tibial to move toward each other, increasing pressure on the meniscus.

Manipulation: For illustration, we'll assume it's the right medial meniscus in pain and showing reduced thickness. With the patient lying face down on the treatment table, I sit on a stool on the affected side, facing the right knee. The patient's ankles have been elevated and supported by a raised leg rest or appropriate cushioning, resulting in a 15-degree to 20-degree flexion at the knee. I then reach my right hand across the patient's posterior knee to palpate the medial meniscus. My left hand is then placed palm-up under the patient's ankle and my right knee is placed against the patient's lateral knee. If the pressure of my knee upon the patient's knee is painful, a small padding can be placed between them. I then draw the patient's ankle toward myself a distance of 2 to 4 inches, as tolerated by the patient, using my knee as a fulcrum. The femur and tibia will be felt to move apart, theoretically creating a suction at the medial meniscus and encouraging cartilaginous nutrients to move into the meniscal area. Then, very gradually, I allow the ankle to return to the starting position.

If the movement is well-tolerated, it can be repeated several times during this first visit. If not well-tolerated, only use it one time. The patient is instructed to return in two days and treatment is repeated, increasing gradually as tolerated until 100 to 120 repetitions are well-tolerated. Once this frequency is reached (and about once a second per movement), the time between visits is gradually increased. In the case of Mrs. R., she was being treated once weekly (or less) by the fifth month, as are most patients. Some of the less-involved knees are only manipulated monthly from the beginning.

Nutrition: Glucosamine sulfate inhibits the breakdown of cartilage, stimulates cells to make new cartilage, and hydrates cartilage between joints.^{4,5} Use vitamin B complex for its' known neurological benefits, vitamin D and calcium for bone repair, and vitamin C for repair of compromised soft tissues, all in amounts appropriate for the patient.

Once I developed this protocol, I treated an estimated 50 patients, with only two patients declining to continue after the first few visits. I usually introduce only one aspect of the treatment protocol at a time, after I judge the patient is responding satisfactorily to the present phase. However, I start them on nutrition concurrently with the first phase.

References

1. Lockhart, Hamilton and Fyfe. *Anatomy of the Human Body*. Lippincott Publishers.
2. Solomon, Schmidt and Adragna. *Human Anatomy & Physiology*. Saunders College

Publishing.

3. NSAIDs reduce joint pain but likely compromise joint health by impairing production from chondrocytes. *Eur J Rheumatol Inflammation*, 1993;13:7-16.
4. Maher J. "[Osteoarthritis: A New Paradigm for the Arthrocline](#)." *Dynamic Chiropractic*, Sept. 1, 2001.
5. Solomon, *op cit*.

JULY 2008