Dr. Shockley's Health Tips

RUNNER'S KNEE

Definition:
Inflammation of the infrapatellar tendon (portion of tendon below the knee). This condition is also known as infrapatellar tendonitis, patellofemoral pain syndrome & jumper's knee.

Symptoms:
Discomfort around the knee, mainly below the knee but is also poorly localized. May experience increased pain during &/or after strenuous activity (going up & down hills, especially down). May also have an increase of pain after prolonged periods of sitting with knees flexed. This pain is relieved by straightening the leg. May also have pain when standing up from a seated position. Swelling is typically rare for this condition.

Causes:
Overpronation (feet rotate too far inward on impact), which can cause the kneecap to twist sideways. Knee instability, genu valgum (knock-kneed), tight gastrocs & soleus muscles, or leg length asymmetry. Muscular imbalances: tight hip flexors, knee extensors, hamstrings, ITB & gastrocs; weak paraspinals (muscles that run right along the spine), abdominals, quadriceps & tibialis anterior. Training faults: running on a cambered surface (creates a leg length asymmetry), improper/worn out shoes, cycling with improperly adjusted toe clips, increased mileage too rapidly (10% rule = don't increase mileage more than 10% per week), hill training – especially downhill & stair climbing, repetitive jumping, excessive sprinting or stop & go, hard surfaces, & weight lifting – squats or repetitive deep knee bends.

Self-Treatment:
Rest: 1-2 weeks; avoid offending activity – hills, cambered surface, jumping, heavy lifting, squats, stop & go (line drills) & inappropriate shoes; pool exercises with Aquajogger is a good way to continue aerobic low impact exercises; running in the shallow end of the pool is another alternative; note that the treadmill is also lower impact than running outdoors; return to walking program first and then proceed to running. Ice 15-20 minutes or until the skin is numb 3 times per day & after activities/training. You can also wear an elastic knee brace with a cutout to help with support for the knee. Self-massage with arnica, biofreeze or another anti-inflammatory lotion on all the sore spots around the knee. Once pain-free, start strengthening the quadriceps muscles. Exercises include: 1) Place pillow under knee, tighten quadriceps, push knee down into pillow and lift foot up 20 times & then do on other leg. 2) Repeat exercise as above with foot turned out in order to strengthen the inside of the quadriceps muscle. Repeat exercise 20 times for each leg. 3) Squats. Perform with back against physioball placed against a wall. Bend knees slowly to between 45 – 60 degrees. Ensure that knee travels over line between big & second toes. Hold for a count of 5 seconds. Relax slowly. Do one set of 20

reps. 4) Step-downs. Stand on step or box. Tighten quadriceps and lower opposite leg slowly to the ground. Ensure that knee travels over line and between big and second toes. Then raise the leg up onto the step, relax. Repeat 20 times for each leg. Increase the number of repetitions in increments of 5 every two days, all the way up to 60 reps. Full recovery is usually between 4-6 weeks.

Medical Treatment:

If your injury doesn't respond within 2 weeks, go see a sports certified chiropractor (CCSP or DACBSP), MAT (Muscle Activation Techniques) therapist or physiotherapist. Then upon his/her recommendation, see a physiotherapist or orthopedic surgeon. These doctors have access to several modalities to aid the healing process & further evaluate the severity of the condition. Cortisone injections are ineffective.

Alternative Exercises:

Swimming, pool running, cycling (in low gear) "spinning". Avoid or do very little weight-bearing exercises.

Preventative Exercises:

Proper warm up, microprogress your way into your activity (i.e. if you're going to be running, start first with walking, then jogging, then running). Light stretching after running of the quadriceps, hamstring, ITB & gluteals muscles. Have your shoes fitted (someone who will do a gait analysis, put you on a treadmill, etc. Gradual progression of your training program & incorporate rest time into your training program as well. Avoid excessive hill training & speed work.

References:

Vizniak, N. & Carnes, M. Quick Reference Clinical Chiropractic Conditions Manual. Canada: DC Publishing International; 2004: 137-188.

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