Overuse Knee Injuries

Overuse knee injuries are characterized by pain felt around the front or sides of the knee joint. Typically, the knee slowly begins to hurt, but the pain is not related to a specific injury such as twisting or falling.

There are several types of overuse knee injuries:

- Anterior knee pain (also known as patellofemoral joint pain)
- Patellar tendonitis (jumper's knee)
- Iliotibial band syndrome (runner's knee)
- Quadriceps tendonitis
- Bursitis

WHERE'S YOUR PAIN?

Possible Causes and Exercises

Outside of Knee
Iliotibial Band Pain
Exercises:
1. Clam
2. Cross Over Stretch
3. Hamstring Stretch

Around Kneecap
Anterior Knee Pain
Exercises:
1. Mini Squat
2. Clam
3. Standing Quad Stretch
4. Cross Over Stretch

Above Kneecap
Quad Tendonitis
Exercises:
1. Standing Quad Stretch
2. Hamstring Stretch
3. Calf Stretch

Below Kneecap
Patellar Tendonitis
Exercises:
1. Standing Quad Stretch
2. Hamstring Stretch
3. Calf Stretch
4. Cross Over Stretch

On Top of Kneecap or Inside of Upper Shin
Bursitis
Exercises:
1. Standing Quad Stretch
2. Hamstring Stretch
3. Calf Stretch

WHAT TO DO

- Rest - from all activities that cause pain, especially running, jumping and going up and down stairs.
- Ice - two to three times per day. Place crushed ice in a plastic bag, over the knee for 20 minutes.
- Aspirin or Ibuprofen - (Important: Stop taking if it causes stomach upset or bloody stools.) To reduce inflammation (for patellar tendinitis, quad tendinitis, or IT Band Syndrome): follow the directions on the bottle of aspirin or ibuprofen. Contact your physician if you are currently taking other medications or if you have any questions.
- Strengthen - Muscle strength imbalances of the thigh or hip are possible causes of anterior knee pain and iliotibial band pain. Strengthening restores muscle balance.

Mini Squat
- Rest your back on a wall with your feet 18-24” in front of you.
- Slowly bend your knees to ≤ 90° (pain-free range only).
- Do not bend your knees forward past your feet.
- Hold for 2 counts, then slowly straighten your knees.
- To work the inner thigh, do the squat while squeezing a ball or pillow between your knees.
- When this feels easy, hold weights.

Clam (outer hip)
- Lie on your side with hips bent forward 45° with your feet together and your knees bent approximately 90°.
- Slowly rotate your top kneecap up towards the ceiling until your knees are approximately one hand-width apart.
- Hold for 3 counts, then slower lower your knee.
- Do not lean your hips back or lift up your top foot.

Hamstring Stretch (back thigh)
- Sit with one leg straight and the other bent to the side.
- Slowly lean forward with your chest until you feel a stretch along the back of your thigh. Keep your back straight while leaning forward.
- Do not reach forward with your hands.

Calf Stretch
- Place one foot with toes pointing forward behind the other foot.
- Keep the back heel down and back leg straight.
- Slowly bend your front knee until you feel the calf stretch in the back leg.

Stretch - Tight leg muscles are possible causes of overuse knee injuries. Stretching helps loosen tight muscles.
PREVENTION

Most overuse knee injuries can be prevented by using these guidelines:

1. **Work out before starting an activity**
   - To prevent injury, it is important to develop muscular strength, flexibility, and endurance with regards to your chosen sport. Begin conditioning exercises at least 4-6 weeks before starting a sport season or a strenuous exercise program. Conditioning may take longer, depending on individual factors.

2. **Start any new sport season or exercise regimen at a low intensity**
   - For sports, play no longer than one hour and slowly increase your playing time and intensity each week. For fitness activities such as running, biking, swimming and strength training, start off at a short duration and low intensity, and increase the duration and intensity by no more than 10% a week.

3. **Shoes**
   - Wear shoes with proper arch and outer supports. Replace shoes when signs of a worn down tread are present. It is recommended that shoes should be replaced every 6 months or 400-600 miles.

4. **Warm up** - Do a 3-part routine to prepare your heart, lungs and muscles for activity:
   - Jog 5-10 minutes to pump blood to your muscles, increase their temperature and loosen them up.
   - Stretch using static stretches (no bouncing). Progress to active or dynamic stretching (jumping jacks, butt kicks)
   - Perform sport-specific drills (dribbling, shooting, kicking or throwing).

5. **Cool down immediately after playing a sport or working out**
   - To help your body systems to return to resting levels, walk for 2-3 minutes.
   - To improve flexibility of tight muscles, stretch while your body temperature is still elevated from activity (2-3 repetitions for 30 seconds each).

6. **Kneepads**
   - Wear kneepads if appropriate for your sport or activity (volleyball, wrestling, etc.)

**This is not a comprehensive reconditioning program, but will help you in your recovery. If you are not progressing, and continue to have knee pains, contact your McKinley provider. You may choose to have the physical therapist or athletic trainer help you further.**

References

“Running Injuries,” General Practice Update; 2009; Vol. 2 (4); p20-27
“A Shoe’s Lifespan – Shorter Than You Might Think,” Advocate; 2009; Issue 1026; p34

If you are a registered University of Illinois student and you have questions or concerns, or need to make an appointment, please call: **Dial-A-Nurse at 333-2700**

If you are concerned about any difference in your treatment plan and the information in this handout, you are advised to contact your health care provider.

Visit the McKinley Health Center Web site at: **http://www.mckinley.illinois.edu**