Anterior Knee Pain

As an Athlete, Am I at Risk?

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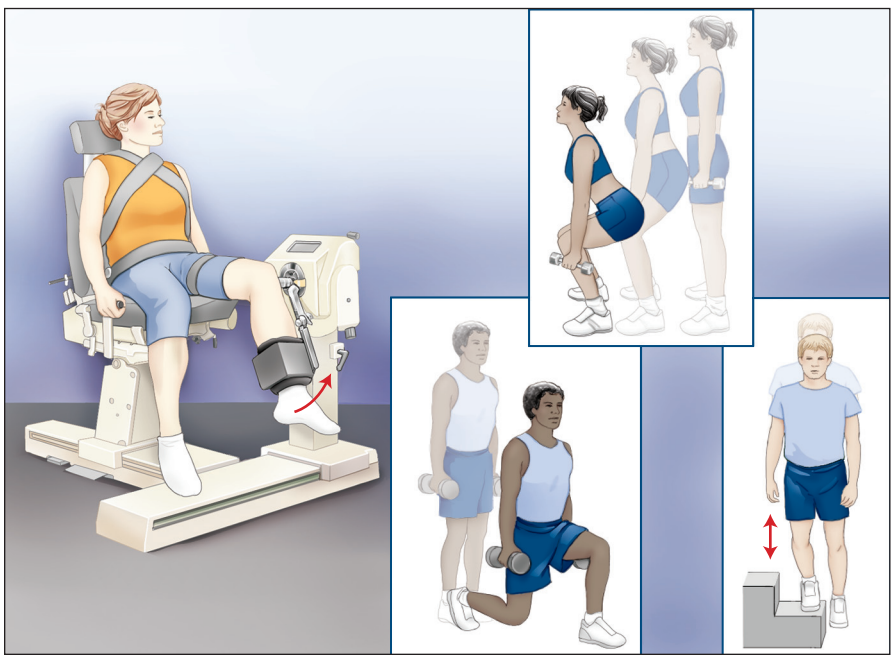
Anterior knee pain often causes athletes to seek medical care. Healthcare providers usually call persistent pain at the front of your knee or under your kneecap patellofemoral pain syndrome. This pain is typically unrelated to a specific injury, but instead occurs over time with an increase in physical activity. The pain may be a nagging ache or an occasional sharp pain that may cause you to limp or to limit your activities. This pain is also typically most pronounced when performing such activities as going up and down stairs, squatting, and running, or after sitting for a prolonged period of time. The first step toward preventing this type of knee pain is being able to accurately identify potential risk factors that may lead to the problem. A study published in the February 2012 issue of *JOSPT* provides new insight on specific factors that may place you at risk for anterior knee pain.



KNEE EXERCISES. Knee strength is typically tested using a specific machine, such as the one shown here. Some of the common exercises to strengthen your quadriceps muscles are pictured above. They include the forward lunge, the squat, and the step-up.

NEW INSIGHTS

In this study, the researchers evaluated published articles using a process called a systematic review. Their initial search of the literature found 3845 possible articles of interest. These articles discussed a total of 135 possible risk factors. Based on their criteria for the review, the researchers ultimately selected 7 high-quality articles. These 7 articles analyzed 13 potential risk factors and included 243 patients who had this type of knee pain. The research team found that weakness of the quadriceps muscle, which is on the front of your thigh and helps you to straighten your knee, was predictive of developing knee pain. They also confirmed that females are at higher risk for anterior knee pain.

PRACTICAL ADVICE

Being able to predict which athletes are at risk for knee pain is helpful in developing prevention exercise programs that lessen the chance of injury and pain. This study suggests that having a weak quadriceps muscle is a risk factor for patellofemoral knee pain, and that if you are a woman, you are more likely to have this type of pain. Therefore, especially for women, regularly performing an exercise program that focuses on strengthening your quadriceps muscle may be an effective way to keep your knees pain-free. Because exercises to strengthen your quadriceps muscles are easy to do and don't require a lot of equipment, they can be done at convenient times and with little or no cost. As with any exercise program, you may also need to consider the physical activities you already perform and your response to this exercise approach. In addition, some people may need to address other areas of weakness or tightness throughout the lower extremities to ensure their best outcome. Your physical therapist can help customize an exercise program for you. For more information on the treatment of anterior knee pain, contact your physical therapist specializing in musculoskeletal disorders.

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This *JOSPT* Perspectives for Patients is based on an article by Lankhorst NE et al, titled "Risk Factors for Patellofemoral Pain Syndrome: A Systematic Review" (*J Orthop Sports Phys Ther 2012;42(2):81-94. doi:10.2519/jospt.2012.3803*)
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