Knee Pain: Is the Root Above the Knee?

Has your workout been sidelined because of knee pain? Have you tried conservative forms of treatment only to find your pain returning when you resume your workout or recreational activity (like running/basketball/volleyball)? Are there factors that make you more susceptible to knee pain than the person on the treadmill next to you? Knee pain can result from a variety of reasons and persistent pain or pain that is increasing in intensity should be evaluated by an orthopedic surgeon. However, in many cases, simply changing your workout routine to address many of the predictable weaknesses and tightness can significantly reduce your potential for knee pain.

Traditionally, when thinking of knee pain, we would think of weaknesses in the quadriceps and hamstrings, muscle imbalances between the two or tightness of the quads, hams or hip flexors. However, there has been an increasing body of research indicating that weaknesses of the core (the entire core and not just abs) and hip region (most notable the gluteus medius) may also be contributing factors that lead to knee pain. Weaknesses in these areas can result in abnormal movement patterns of the lower limbs which results in abnormal loading of the joints and soft tissue. Hence pain occurs with activities which have increased force demands (running, basketball, volleyball, etc.) and loading of the knee in weight bearing. With the increased research focus in this area, we are also finding that this is more common in females than males. As a matter of fact, patellofemoral (PF) pain remains the most common orthopedic injury among active women[7]. If there were 3 exercises that might reduce your potential for PF pain, would you add them to your routine? What if these exercises not only reduced your potential for PF pain but aided in improving performance and shaping of the hip/glut/abdominal region?

So, what exercises are we talking about?

1) **Plank:** This exercise is great for the entire core and the number one exercise for a muscle of your low back (multifidus) which assist in stabilization of the spine. Maintain a push-up position on the elbows with the feet close together and with maintaining a neutral spine position (do not allow your back to sag or butt in the air). Start with holding this position for 30 seconds and progress to 3 sets of 1 min holds. Once achieved, progress this with the same time progression with a bosu ball under your feet.

2) **Side-stepping with theraband:** This is a great exercise for the glut medius. Start with a band around your ankles, get in a semi-squat position (half squat) with a neutral spine position (no arching) and knees behind your toes. Take 15 steps to the left followed by 15 steps to the right. Make sure as you are stepping out to keep your toes pointing straight ahead. Progress with increased resistance of band to holding a medicine ball in

your hands.

3) **Retro Monster Walk:** This is another great exercise for the glut medius. Start with a band around your ankles, get in a semi-squat position (half squat) with a neutral spine position (no arching) and knees behind your toes. Take a step back and in a diagonal fashion (45 degree plane). Take 30 steps back. Make sure as you are stepping out to keep your toes pointing straight ahead. Progress with increased resistance of band to holding a medicine ball in your hands.

Including these exercises as a part of your leg workout 2x/wk will result in significant improvements in overall strength and endurance of your hips and core and thus possibly reduce your potential for knee pain.

Trent Nessler, PT, DPT, MPT *is managing director for Baptist Sports Medicine. He holds a bachelor's degree in exercise physiology, a master's degree in physical therapy and a doctorate with emphasis on biomechanics and motor learning. For more information, he can be contacted at trent.nessler@baptisthospital.com*

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