

Sports Overuse Injuries

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Overview



Overuse injuries or “repetitive strain injuries” result from repetitive activity or trauma that fosters excessive friction or irritation at a particular location in the human body. Two locations that are at higher risk for these types of injury are both joints; they are the shoulder and the knee. Each of these joints contains structures that facilitate smooth, energy efficient movement and strength. Two such structures are tendons and bursa. A tendon is a fibrous structure that connects muscle to bone. A bursa is a small, gel-like sac positioned in or around a joint to lubricate and cushion areas of friction between a bone and the tendons that attach to it. If the shoulder or knee joints are placed under excessive loads and strained, irritation and breakdown of these structures may occur. As a result, an injury may develop. If the strain is recurrent, the joint structures are not allowed to heal properly and re-injury may occur. Risk factors for repetitive strain injuries of the knee and/ or shoulder include inadequate physical conditioning (or muscular weakness or imbalance), sudden change in the level of activity, as well as errors in exercise or stretching technique(s). If any of these factors are not modified,

repetitious strain is applied to the body, resulting in overuse injuries. Commonly diagnosed overuse injuries include patellar tendonitis and shoulder bursitis.

Signs and Symptoms

Symptoms of overuse injuries are similar for both shoulder and knee injuries. The joint may become warm to the touch. Swelling, redness, and localized tenderness may occur in or around the joint as a result of irritation over and over at the same location. These are signs of inflammation, the body’s normal response to injury. White blood cells and other cellular structures of the immune system travel to the location and begin the healing process. Pain may occur with (or without) movement of the joint as well. This may occur because of muscle spasm or tightness, joint capsule stiffness, or bony impingement. Each of these signs may also result in decreased joint range of motion and muscle flexibility.

Examination

A thorough evaluation and examination should be completed by a physician prior to beginning any activity, especially Physical Therapy. It is necessary to determine the most likely cause of the injury, identify problem areas that need to be treated, and lessen the risk of the injury occurring again. Both the physician and physical therapist should complete comprehensive examinations of the joint in question and screen both extremities (i.e. hips, knees,

and ankles of each leg) as well. If there are abnormalities in other locations of the body, the overuse injury may have resulted from compensatory movements. In other words, weakness or instability of the ankle joint and surrounding muscles may foster compensation in walking, climbing stairs, etc. This can cause excessive strain or instability on the knee or hip joints, resulting in injury if the joint(s) are overused through activities of daily living such as work, school, or athletics.

Treatment

Treatment options depend upon the results of the evaluation procedure but are similar regardless of whether the injury is to the shoulder or the knee joint. Immobilization or a period of decreased use of the joint to facilitate rest and decreased strain may be recommended. Lack of movement greater than 48 hours however may be detrimental to recovery. This is particularly true for the shoulder, which can develop adhesive capsulitis or “frozen shoulder.” If the injury is acute (within 24 – 72 hours from the onset of injury), it is appropriate to apply ice and, in some instances, compression for swelling. Ice is typically applied if the injury is hot, swollen, bruised and/or painful). If the injury is chronic however, heat can also be used.

A physical therapist will perform gentle range of motion should be performed to facilitate the mobility of the structure within the joint. Gradually,

resistance exercises and stretching activities may be added to the training regimen to facilitate strength and flexibility of the muscles and structures of the joint. It is important to remember that the old adage “no pain, no gain” is not necessarily true. Activities should be modified and performed as tolerated, then gradually progressed toward full activity to lessen the risk of irritating the tendon, muscle, or other structures again.

Things to Remember

It is important to educate oneself about the injury in question and to determine the most likely cause of the strain in the first place. Addressing the *symptoms* associated with a repetitive strain injury will not necessarily facilitate wellness, but correcting or managing the *cause* of the injury can. By avoiding or limiting your exposure to activities that may instigate symptoms of overuse injuries, it may be possible to return to full function and live without limitation to daily life. Some activities that should be avoided to limit risk of knee or shoulder injuries are lifting or carrying excessive weight and bending or performing deep knee squats. It is also important to continue to maintain good, upright posture, strength, range of motion and flexibility through a maintenance exercise program. A physical therapist will teach you a home exercise program to continue when therapy has ceased, to decrease the risk and ultimately prevent the return of such injuries.

If you have further questions contact Physical Therapy at Briarcliff & Jefferson Valley, PC at (914) 762 – 2222 or 245 – 8807