

Knee Pain: what makes it worse, what makes it better?

Repetitive use injuries occur in response to repeated movements. If you are being evaluated by a health care professional, or if you are trying to self treat a repetitive use injury, a common process of analysis involves trying to provoke or elicit the symptoms in a systematic manner. Once a movement, which consistently elicits the symptom, can be identified, a better understanding of the source of the problem is achieved. Whether the symptom is pain, weakness or stiffness, the process of determining what movement or movements elicit the symptom is the same.

The process involves identifying which movement or movements and which directions of movement elicit the symptoms. Is the movement an active movement or passive movement, forceful or gentle, fast or slow? Does repeated movement in the same direction make the symptom better or worse? At times, very subtle abnormalities are not apparent with a clinical examination, but only manifest when the magnitude of the stress is sufficient to match real life situations, that is, road testing. Answers to these questions are important in diagnosing the problem and provide direction for treatment. Conversely, being able to identify movements or positions, which alleviate the symptoms, is just as important. Some clinicians call this a clarifying examination. Confidence is increased if what makes it worse and what makes it better are both answered. When an individual has an understanding of which movements cause the pain and which movements alleviate the pain, he or she can assume an active role in the intervention

If the pain is affected by change in position or movement, it means there is a position where the pain is worse and there are positions when the pain is better. The difference between the two situations may be subtle but it is important to pay attention to subtle differences or changes since this provides direction for treatment/intervention.

If the symptom is not affected by change in position or by a movement, it suggests that it may not be a problem of the musculoskeletal system but be related to some other system such as the metabolic, cardiovascular or gastro-intestinal system.

This process applies to any joint or region of the body, but I am going to use just the knee joint to provide examples of this process.

Examples:

Pain around the kneecap is often related to improper tracking of the kneecap on the groove at the end of the thighbone. When ascending or descending a step, the knee cap will often slip towards the outside of the leg while the thigh is rotating the opposite, inward direction. If this is the movement which causes the knee pain, then correcting the inward rotation of the thigh by consciously activating the gluteal muscles (butt muscles) and/or the muscles in the arch of the foot should prevent the thigh from inwardly rotating so the knee cap can track straight in the groove on the end of the thigh bone with no knee pain.

Knee pain is often related to walking or running with too long a stride and hyper extending the knee just before or just when the foot strikes the ground. If this hyperextension of the knee is what provokes the pain, the next step is to identify a movement, which alleviates it. Walking or running and consciously avoiding hyperextension or fully straightening the knee should alleviate the pain. Avoiding hyperextension of the knee can be described as walking with a soft, slightly bent knee.

Excessive pronation of the foot has often been implicated as the cause of knee pain. Standing with the feet at least shoulder width apart and rolling the foot inward in a movement of pronation may elicit knee pain. Of course, it may require a greater magnitude, such as running 5 miles, before excessive pronation and knee pain occur. If this is the movement which elicits the symptom, then walking or running and consciously supinating (rolling on the outside of the foot), strapping the arch of the foot to retard pronation or using an arch support should alleviate the pain confirming that excessive pronation is a movement contributing to the knee pain. The next question to ask is: "Why is excessive pronation occurring?"

Pain on the lateral aspect of the knee is usually illiotibial band syndrome. Runners with illiotibial band syndrome will often walk/run with an excessive amount of out toeing (duck position) with the foot pointed out to the side. If the out toeing or lateral deviation of the foot is contributing to the twisting of the knee and lateral knee pain, then consciously walking or running with a more intoed or inwardly rotated position should diminish the symptoms, assuming the individual has the ability to actively inwardly rotate the lower leg.

These are just a few examples of how the evaluation process of examining movement in a systematic manner can provide direction for treatment of

repetitive use injuries. While some repetitive use injuries can be managed with self-analysis and self-treatment, there are some that obviously require the experience and knowledge of a health care professional. Most health care professionals can identify movements, which provoke the symptoms. Some health care professionals routinely take it a step farther and can quickly identify movements, which decrease the symptoms, which, of course, is the desired goal.