



Physical Therapy Update

The clinical staff at Frederick Sport and Spine Clinic regularly reviews articles, discusses the content and implements the information into our patient treatments. As a service to the local medical community, we are offering a summary of these articles to Physicians and Medical Practitioners. It is our intention to provide only the most pertinent information in these ½ page summaries. Further information is available at the clinic. Please take a moment to peruse the information below and contact us if you have questions about the subject matter. Enjoy!

Agility and Perturbation Training for a Physically Active Individual with Knee Osteoarthritis

By GK Fitzgerald, JD Childs, TM Ridge, JR Irrgang
Physical Therapy, April 2002; pages 372-382

Everyday knee osteoarthritis (OA) affects a large amount of older people significantly reducing their functional mobility. The most common physical impairments associated with knee OA are pain, decreased knee range of motion and quadriceps muscle strength in addition to episodes of knee instability. Whether the individual is attempting to negotiate stairs or weed their flower garden, knee OA impairments can cause an individual to become frustrated with their inability to perform their basic activities of daily living.

Traditional physical therapy for people with knee OA has focused primarily on increasing strength, mobility and aerobic capacity. The authors of this case study demonstrated that implementation of agility and perturbation training program in conjunction with traditional therapy activities would aid in improving knee stability and decreasing pain. The agility training techniques included activities that emphasized quick starting and stopping movements, twisting movements, and quick changes in direction. The balance activities included perturbations of the individual's balance on tilt or roller boards. The goal with these activities was to help patients with knee OA to develop motor skills necessary to protect their knees from potentially harmful stress while increasing their physical performance capability.

The author's case study described a 73-year-old woman with the diagnosis of bilateral knee OA. Her chief complaints were knee pain and episodes of partial knee "giving way" during walking, stair climbing, and participation in tennis and golf. The patient participated in 12 sessions biweekly. The physical therapy program consisted of aquatic therapy in a heated pool with progression to a land based program which included stretching, biofeedback for neuromuscular reeducation, strength training of leg musculature, agility and perturbation training techniques and instruction in a home exercise program. Upon completing the physical therapy program, the patient was able to walk on level surfaces, negotiate stairs and return to playing golf and tennis without episodes of instability and decreased pain.

The woman of this case study represents a large percentage of today's population restricted from participating in activities they enjoy due to their knee pain and instability. Adding modified agility and perturbation training programs to the traditional rehabilitation approach for treating individuals with knee OA may assist them in returning to higher levels of activity in shorter time periods optimally helping them enjoy life to the fullest.

Reviewer: Virginia Standford, MSPT