

Letter to the Editor

Isometric Quads- "Press Your Knee Down": Goods & Bads

Dear Editor,

With my expertise in musculoskeletal and sports injuries rehabilitation, I am of the opinion that we need to be thoughtful about the manner in which we prescribe one of the most common exercise.

Isometric quadriceps is one of the most frequently advised exercise by medical professionals for almost all types of knee pain pathologies. Quadriceps weakness is quite significant in the chronic knee pain.¹ Weak quadriceps does not allow active knee extension during functional activities. This aggravates the symptoms and gradually the individual gets functional restrictions. In such cases, an isometric quadriceps is the best choice to improve quadriceps strength to a certain extent.²

Unfortunately, due to repeated & overdoing isometric quadriceps exercise without doing full range of knee movement, the quadriceps muscle, especially rectus femoris goes into a functional shortening. The tight rectus femoris causes superior translation of patella. During functional movements, especially while bending knee more than 90 degrees, stair climbing & while sit to stand, the patella doesn't have a sufficient inferior tracking in the femoral groove; thus causing compressive forces in the femoral condylar groove. Compressive forces on the patella increases the pain during functional movements.³ So, with isometric exercise, are we relieving the patient's pain or aggravating it?

As per the biomechanics, muscular strength is crucial in carrying out functional activity of daily living but without sufficient movement at joint, functional activity is not possible. Mobility of the joint along with good muscular strength is the basic need to carry out the activity.

Most of the patients with chronic knee pain are advised to do 'press your knee down exercises' as much as possible, even before they visit a Physiotherapist. All the medical professionals who deal with chronic knee pain suggest isometric quadriceps to get strength and to resolve their pain. It is a good idea to advise these exercises but that by itself is not sufficient to rehabilitate the knee and achieve optimum physical & functional health. In addition to the isometric exercises, we also need more of dynamic and

close kinematic chain exercises with proper patient education, to improve the strength, mobility, stability and functional capacity.⁴

Thus, in order to rehabilitate patients with chronic knee pain, we should first evaluate the Clinical, Physical & Functional status of the patient and follow the below algorithm for exercise prescription.^{2,3}

Knee Pain Rehabilitation Program should content:

- Static and dynamic strength training
- Dynamic flexibility
- Mobility
- Proprioceptive training
- Eccentric control training of antigravity muscles
- Agility training
- Gait training
- Functional Rehabilitation

Regards

Arun Kumar Rawal

PT, MPT (Musculoskeletal & Sports)
Chief-Integrated Rehabilitation,
PEOPLE TREE Hospitals, Bangalore
drrawal@peopletreehospitals.com

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