

Role of Global Postural Re-Education in Non Specific Low Back Pain



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Abstract

Past injuries and repetitive activities lead to accumulated muscle tension and strain, forcing us to create compensations to avoid pain. Static muscles are responsible to keep these compensations, and as a result, they stiffen up, get shortened, and become defectively recruited by poor coordination. If their proper function and flexibility are not restored, they progress to further muscular tension, causing aches, joint compression and misalignment, soft tissue stiffness, nerve entrapment, and altered posture awareness.

Introduction

Global Postural Re-Education (GPR) is a therapeutic method - which is exclusively manual for the correction and treatment of pathologies in the musculoskeletal system. GPR was created in 1980 by the French physiotherapist Philippe Emmanuel Souchart. RPG is a treatment approach that aims to evaluate and manually treat the human body as a whole. The goal is to track back from the symptoms to the cause by following the muscular chains, and correcting it little by little. Each time and individual tried to decrease the curvature of a spinal segment, the curve moved to another segment. Thus, it was necessary to consider the body as a whole and approach it as such. In this theory, all deformations are caused by a shortening of the posterior muscles as an inevitable consequence of daily movements. Conventional physical therapy often uses static stretching, which consists of stretching a single muscle or muscles group until a tolerable point and sustained it for approximately 30 seconds. The GPR method is based on the global stretching of anti-gravitational muscles and the stretching of muscles that are organized on muscle kinetic chains for approximately 15 to 20 minutes. GPR can correct postural problems because these problems are usually associated with muscle imbalances: a losing muscle working with a gaining muscle. The gaining muscle is toned and stiff. The losing muscle is fibrous and has lost its contractility. When they are on either side of a joint, the muscular imbalance results in unbalancing the joint and articular derangement on the muscle. Maintaining a poor posture in a recurrent or prolonged way encourage muscle shortening (gaining muscles). If the muscles aren't subsequently stretched, the shortening persists, and postural problems gradually appear. Pain can develop over time. Posture improves mobility and the pain caused by an overly stiff musculature is reduced or eliminated.

Non-Specific Low Back Pain

Approximately 70-85% of individuals will experience low back pain (LBP) during their lifetime, and over 80% of them will report recurrent episodes. It is estimated that 80-90% of subjects will recover within 6 weeks, regardless of the type of treatment; however, 5-15% will develop chronic LBP. Nonspecific low back pain is characterized by the absence of structural change; that is no disc space reduction, nerve root compression, bone or joint injuries, marked scoliosis or lordosis that may lead to back pain. Chronic pain is defined as 'pain that persists beyond the normal time of healing. Anderson defines it as the persistence of pain for 3 months or longer.

Role of Gpr on Non-Specific Low Back Pain

The GPR involves a series of active gentle movements and postures aimed at realigning joints, stretching shortened muscles and enhancing the contraction of antagonist muscles, thus avoiding postural asymmetry. It involves active involvement of the patient. The GPR method includes eight therapeutic postures, lying, sitting or standing, to be held for 15/20 minutes each. Postures are chosen on the basis of some parameters, such as amount of pain, load capacity and age of the patient, and muscle chains to be stretched. The postures used are considered the most effective in lengthening the posterior chain, which is usually shortened in patients with LBP.

Posture 1: Lying posture with legs extension progression: anterior muscle chain stretching

Progression, Lying posture with hip joints flexion progression: posterior muscle chain stretching.

Posture 2: Standing posture with trunk flexion progression: posterior muscle chain loading stretching. Both the lying posture with extension of the legs and the lying posture with flexion of the legs were performed in all patients, whereas the standing posture with flexion of the trunk was performed if allowed by the patient's cooperation, fatigue and pain.

Benefits of GPR:

- Decreased or elimination of pain; Improved overall function.
- Improved flexibility and overall mobility.
- Improved postural awareness and muscular control.
- Long term injury prevention

Discussion

The GPR intervention is effective in treating persistent LBP with low disability levels, when compared to other interventions. Many

studies show that the GPR intervention has significant improvement in functional disability and pain intensity. The global reeducation is more effective in reducing pain and disability in subjects with LBP than segmental techniques, and to the fact that GPR might be more effective when compared to analytical stabilization or mobilization techniques. GPR can be considered an important approach in the management of patients with persistent LBP

Conclusion

Different study shows a significant improvement on disability and intensity of pain employing a GPR program, as compared to other conventional physical therapy regimen, in patients with persistent LBP.

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