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Accessories for PT Practice

Practice Makes Perfect

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Accessories designed to help patients maintain good form are key to practicing healthy movement

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One of the main goals in rehabilitation is to recover normal, healthy movement patterns. This ensures a full recovery and reduces risk of reinjury from poor mechanics. Conditioning programs often have the same goal, hoping to achieve strength, flexibility, and muscle balance. Having efficient movement patterns limits the risk of injuries, such as tendinitis, impingement, and arthritis, caused by persistent poor mechanics.

Clients who complete the first 4 weeks to 6 weeks in physical therapy have generally achieved a healthy movement pattern with supervision. To be sure that this new pattern will be the preferred one, it must be practiced. The goal is to train the body to adopt the efficient pattern and use it automatically.

In the early stages of recovery, it is important to not just provide resistance or increased range of motion, but also to have a tool to guide and direct proper movement that will be precise and repeated only in the desired pattern.

Accessories in both the physical therapy clinic and in the client's home are key to achieving this goal.

PILATES RING—SIT-TO-STAND

One common poor-movement pattern seen in all age groups is medial collapse at the knee during a squat or sit-to-stand. In this movement dysfunction the femur internally rotates and adducts as the hip extends, producing a reflex external rotation at the tibia with pronation at the ankle and foot. This poor-movement pattern due to weakness or habit can lead to excessive wear and tear at the knee.

The best tool for encouraging a proper movement pattern at the knee is the Pilates ring. The client wears the ring above the knees as he or she moves from sit to stand or performs a squat. In order to keep the ring from falling to the floor, the client must externally rotate and abduct the femur, engaging the gluteals. Practicing this movement with the ring will not only teach the movement pattern but will assure proper strengthening of the gluteals. Providing a Pilates ring for home use helps assure the patient will perform the practice correctly. Repetitions should be low and build as strength increases to assure a slow challenge.

RESISTANCE BAND AND PEDI-POLE—SHOULDER SCAPULAR

RHYTHM

A common poor-movement pattern at the shoulder is scapular elevation. This occurs in many patients after shoulder surgery or during recovery from a frozen shoulder. This lack of normal scapulohumeral rhythm can cause continued impingement of the rotator cuff and wear and tear to the glenohumeral joint. The poor movement can become a habit after moving with pain for long periods of time. It may also be caused by weakness of the scapulohumeral muscles.

One exercise used to retrain effective scapulohumeral movement during forward flexion and abduction is a Pilates exercise performed on the pedi-pole. To perform this exercise, the patient stands in good alignment with the rib cage and pelvis in the frontal plane and holds handles attached to springs in each hand. Maintaining a downward force on the springs with a neutral wrist and elbow will position the shoulder girdle and create a contraction of the scapulohumeral muscles. Once the patient learns what needs to be engaged to achieve effective resting alignment, movement of the shoulder is added.

To keep the shoulder aligned, the patient must maintain stability at the scapula, performing forward flexion and abduction of the shoulder within a range where the shoulder girdle will keep from elevating. A mirror can be used for feedback. Over time, this range of motion increases, building a new healthy movement pattern that carries over into activities of daily living.

Since this exercise is most effective if it is practiced frequently, patients should be given resistance bands or tubing to perform the exercise at home. It is important to keep the resistance low enough that the shoulder girdle stays down and movements are performed without pain. A mirror should also be used at home to ensure movement only in a range where the shoulder girdle does not elevate. Repetitions are determined by the ability to maintain a neutral shoulder girdle. The exercise is valuable only if the shoulder remains in position.

CORE ALIGN AND DISC—WALKING MECHANICS

Every physical therapist has patients with gait problems, and two of the most afflicted phases of gait are single-leg stance and push-off. Single-leg stance is generally affected by gluteus medius weakness, and push-off is affected by gluteus maximus weakness. The results of these weaknesses will affect patients in different ways. A weak or inactive gluteus maximus can lead to Achilles tendinitis, and a weak or inactive gluteus medius can lead to ankle sprains. Thus, this exercise might be used for more than just hip or gait conditions.

The base exercise, called "The Hoof," is performed on the Core Align. The patient stands on two moving platforms resisted by tubing and holds onto a bar. One leg remains stationary, while the other extends at the hip and flexes at the knee to move its platform posteriorly. The femurs must be aligned, with the sole of the foot facing to the back. The pedal is then returned to the starting position, and the whole movement is repeated on the other side. Alternating from one side to the next replicates gait and reinforces a healthy movement pattern.

To practice at home, the client can use gliding discs and hold onto a table or counter. However, each side will have to be performed individually so the reciprocal training is lost. Patients generally tolerate high repetitions of this exercise without pain or discomfort.

FOAM ROLLER—UPPER CORE STABILITY AND CERVICAL POSTURE

For patients with forward head posture, or hyperkyphosis, building balance in the upper back, cervical, and chest muscles is critical. An effective exercise to create this balance can be performed with a foam roller. To use, the client faces the wall with the roller against the wall parallel to the floor. Be sure the client stands far enough back from the wall so the roller is held with the shoulder muscles, not by leaning the body weight onto the roller. It is useful to cue the weight to the heels and to engage the gluteal and lower abdominal muscles. The arms should be positioned

overhead in a large "V" with the shoulder blades down, shoulders in external rotation, and the palms facing each other. The patient must then ulnar deviate the wrist and hold the roller only with the side of the fifth digit. This motion should be repeated until it can be maintained, and then shoulder elevation and depression should be attempted. It is important in both motions that the elbow remains neutral and does not bend or straighten during the movements. Repetitions of this exercise are low, about five to eight times.

FOAM ROLLER—TRANSVERSE PLANE PELVIC STABILITY IN FRONTAL PLANE

This exercise is successful in creating balance in patients with sacroiliac dysfunction as it will lengthen the latissimus dorsi and balance its contraction with the abdominal muscles and the quadratus lumborum. It is a more advanced exercise, so it should be added as pain is decreasing and function is increasing. The client lies supine with knees bent and heels in line with the ischium, holding the foam roller above the head in a horizontal position. With the pelvis and rib cage in neutral, the client reaches overhead and grasps the foam roller on the ends, palms facing in and pushing into the ends of the roller with a gentle force. Then, with one end of the roller remaining on the floor, the patient rotates the torso to the opposite side. The head and shoulders will lift slightly off of the floor, but there is very little spine flexion. Encourage spine rotation, and do not allow elbow flexion of either arm. Alternate from side to side using an exhale to assist with the rotation. Repetitions are determined by the patient's ability to maintain a neutral pelvis and keep elbows extended.

PILATES RING—SHOULDER FORWARD FLEXION

For clients with short pectoralis minor or bicep tendinitis, performing this exercise can assist in lengthening the muscles and decreasing shoulder-impingement symptoms. To perform the exercise, the client stands in neutral posture holding the Pilates ring in front of the body just below shoulder height. It is important to keep reaching upward with the top back of the head and avoid the forward-head posture. The fingers should be outstretched so that the ring is held with a gentle contraction in horizontal adduction.

Holding the arms at this level, the patient then flexes the elbows to 90° and maintains this while performing shoulder flexion. The ring will lift up and over the head. In order to get the proper stretch, the rib cage must stay in the neutral position and the elbows must point forward. After achieving as much range of motion as possible in good alignment, the client returns to the starting position by performing first a shoulder extension, then an elbow extension. It is important to move only one joint at a time to create balance of length and strength. Repetitions are decided by the patient's ability to hold a neutral position in the spine.

The use of accessories in both the physical therapy clinic and in the client's home is key to training rehabilitating bodies to adopt healthy movement patterns. In order for patients to heal completely, the risk of reinjury from poor mechanics must be reduced. This can be achieved by recommending tools, including the Pilates ring, pedi-pole, Core Align, and foam roller, which guide and direct proper movement that will repeatedly enforce the correct pattern of movement and lead the client down the path to full recovery.

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