



CONCEPTS OF THERAPEUTIC EXERCISE- A REVIEW

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ABSTRACT

Every individual on the earth wants to be independent as possible concerned to their body functions regardless of age. Generally, patients or the clients are referred for physical therapy and exercises because of their physical impairments associated with injury, disease or disorders that interfere with their ability to perform routine activities that are necessary to them. An individually designed therapeutic exercise program is almost always a fundamental component of physical therapy services provided. This stands to reason because the ultimate goal of a therapeutic exercise program is the achievement of an optimal level of symptom-free movement during basic to complex physical activities.

KEYWORDS: Exercises, therapeutics, techniques, physical therapy, functions.

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INTRODUCTION

Therapeutic exercise is the systematic and planned performance of bodily movements, postures or physical activities intended to provide a patient or client with the means to remediate or prevent impairments, improve, restore or enhance physical function, prevent or reduce health-related risk factors and optimize overall health status, fitness or sense of well-being. Therapeutic exercise programs designed by physical therapists are individualized to the unique needs of each patient.¹ Therapeutic exercise also called as exercise therapy is a means of accelerating the patient's recovery from injuries and diseases which have altered his normal way of living.²

THE AIMS OF EXERCISE THERAPY

Are to promote the activity whenever and wherever it is possible to minimize the effects of inactivity, to correct the inefficiency of specific muscles or muscle groups and to regain normal range of joint movement without delay to achieve efficient functional movement and to encourage the patient to use the ability he has regained in the performance of normal functional activities and so accelerate his rehabilitation.²

To The goal of any therapeutic exercise is to restore a symptom free movement and function. Efforts should also be made to restore strength, endurance, flexibility, relaxation, and mobility and coordination skill to the pre-injury skills.³

BASIC PRINCIPLES

Any therapeutic exercise should aim to achieve the following basic principles:

Determine at the beginning itself the purpose of the exercises, whether the general condition of the patient needs to be improved or whether the joint function or muscle strengthening. Determine the amount of stress the exercise places on the patient. Ensure that the type of stress imposed by the exercises should be relevant to that function that is to be increased. The intensity and duration of stress imposed on the joint or muscles should increase gradually to achieve the increase in tolerance, endurance and strength. Last but not the least, the exercise regimen should not leave the patient exhausted and tired.³

TECHNIQUES OF EXERCISE THERAPY

Active movement

Voluntary-assisted, free, assisted-resisted and resisted.

Involuntary- reflex

Passive movement

*Relaxed passive movements including accessory movements
Passive manual mobilization techniques²*

TYPES

Therapeutic exercise procedures embody a wide variety of activities, actions and techniques. The techniques selected for an individualized therapeutic exercise program are based on the therapist's determination of the underlined cause or causes of a patient's functional limitations or disability. The types of therapeutic exercise interventions include

- Aerobic conditioning and re-conditioning,
- Muscle performance exercises including strength, power and endurance training,
- Stretching techniques including muscle lengthening, precedures and joint mobilization techniques,
- Neuromuscular control, inhibition, facilitation techniques and posture awareness training,
- Postural control, body mechanics and stabilization exercises.
- Balance exercises and agility training
- Relaxation exercises
- Breathing exercises and ventilator muscle training
- Task specific functional training

MANAGEMENT OF PHYSICAL IMPAIRMENTS WITH THERAPEUTIC EXERCISES

Impairments are the consequences of pathological conditions that is, they are the signs and symptoms that reflect abnormality at the body system, organ or tissue level. Impairments can be categorized as arising from anatomic, physiologic or psychological alterations, losses or abnormalities of structure or function of body system. Physical therapists typically provide care and services to patients with impairments that affect the following systems as musculoskeletal neuromuscular, cardiovascular/pulmonary and integumentary. Therapeutic exercises are designed to correct or reduce physical impairments such as decreased range of motions or strength, poor balance or limited cardio-pulmonary endurance, the focus of treatment must still be on restoration of function and prevention of dysfunction.

Some of the common physical impairments managed with the therapeutic exercises include

Musculo-skeletal

Pain

Muscle weakness/ reduced tork production

Decreased muscular endurance

Limited range of motion due to restriction of the joint capsule, restriction of peri-articular connective tissue and decreased muscle length

Joint hyper mobility

Faulty posture

Muscle imbalances

Neuro-muscular

Pain

Impaired balance postural stability or control

Incoordination, faulty timing

Delayed motor development

Abnormal tone (hypotonia, hypertonia, dystonia)

Ineffective/inefficient functional movement strategies

Cardiovascular/Pulmonary

Decreased aerobic capacity (Cardio-Pulmonary endurance)

Impaired circulation (Lymphatic venous and arterial)

Pain with sustained physical activity (intermittent claudication)

Integumentary

Skin hypomobility (eg. immobile/adherent scarring)

Therapeutic exercise, the most frequently implemented physical therapy intervention has merit at all the three levels of prevention. For example, the use of resistance exercises and aerobic conditioning exercises in weight bearing postures is often advocated for the primary and secondary prevention of age related osteoporosis, whereas therapists who work with patients with chronic musculoskeletal or neuromuscular diseases or disorders routinely are involved with tertiary prevention of disability.

STRATEGIES FOR EFFECTIVE EXERCISE INSTRUCTION

A patient related instruction is as essential element of the intervention phase of the management. As a patient educator, a therapist spends a substantial amount of time teaching patients or their families how to perform exercises correctly and safely. Effective strategies to help patients learn an exercise program under therapist supervision and then carry it out on an independent basis over a necessary period of time contribute to successful outcomes for the patient.

PREPARATION FOR EXERCISE INSTRUCTION

When preparing to teach a patient a series of exercise, a therapist should have a plan that will facilitate learning prior to and during exercise interventions. A positive relationship between therapist and patient is fundamental aspect for creating a motivating environment that fosters learning. A collaborative relationship should be established when the goals for the plan of care are negotiated. This, of course occurs before exercise instructions begins. Effective exercise instruction is also based on knowing a patient's learning style, that is if he or she prefers to learn by watching, reading about or doing an activity.

Identifying a patient's attitude toward exercise helps a therapist to determine how receptive a patient is likely to be about learning and adhering to an exercise program.

One method to promote motivation is to design the exercise program so that the least complicated or stressful exercises are taught first, thus ensuring early success. Always ending an exercise session with a successful effort also helps maintain a patient's level of motivation.

PRACTICAL SUGGESTIONS FOR EFFECTIVE EXERCISE INSTRUCTION

- Select a non-distracting environment for exercise instruction.
- Demonstrate proper performance of an exercise (safe/unsafe or correct/incorrect movements)
- If appropriate or feasible, initially guide the patient through the desired movement.
- Use clear and concise verbal and written directions
- Complement written instructions for a home exercise program with illustrations (sketches) of the exercise.
- Have the patient demonstrate an exercise to you as you supervise and provide the feedback.
- Provide specific, action-related feedback rather than general, non-descriptive feedback.
- Teach an entire exercise program in small increments to allow time for a patient to practice and learn components of the program over several visits.⁴

CONCLUSION

Some form of therapeutic exercise is indicated in almost every physical therapy case. Physical therapists use therapeutic exercise as one component of patient care to improve functional ability and general well-being in those who are experiencing limitations or disability due to a disease, disorder, trauma, or surgery. The therapeutic goal of electrotherapeutic modalities is to complement the therapeutic exercise in improving strength, power, endurance, aerobic capacity, ROM and physical performance that is impaired due to injury or disease. Physiotherapy treatments therefore will be almost incomplete without the therapeutic exercises. Day today complaints of the patients like low back ache, neckpain, knee pain, shoulder pain etc affecting approximately 80% of the population are commonly dealt with these modalities. These exercises play an important role in the treatment of musculo-skeletal, neuro-muscular, cardiovascular, pulmonary etc. disorders and helps the patients to overcome their disability and improve their functional ability thereby maintaining their quality of life.

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