

BACK PAIN -- PART II

What Can The Physical Therapist Do?

According to the National Center for Health Statistics, back pain is the most common reason people miss work and the most frequent complaint brought to medical attention. Often, back pain can be prevented by staying in good physical shape, using proper lifting techniques, body mechanics and proper posture. Acute and chronic back problems require the assistance of a Physical Therapist who, following a thorough back evaluation, can assist a client in relieving annoying and often debilitating back pain. The Physical Therapist teaches posture training, proper lifting techniques, strengthening and flexibility exercises.

MODALITIES

The Physical Therapist also has available a number of modalities to help clients relieve their back pain, and thus regain normal function.

Cold usually in the form of ice massage or cold packs, can be used to effectively decrease back pain and decrease inflammation associated with both acute and chronic disorders.

Heat is frequently used to relieve pain and enhance the body's own healing process. The benefits of heat include muscle relaxation, increased circulation, and improved nerve conduction. Heat can be **superficial**, as with **hot packs** and **whirlpools**. Both modalities promote muscle relaxation by increasing circulation; whirlpool provides the added benefits of massaging the injured area and allowing for the treatment of larger surface areas or irregular body parts.

Diathermy and **ultrasound** are **deep heat** modalities. These agents penetrate beyond the skin surfaces into the underlying muscles and tendons, and result in the alleviation of muscle

spasm and relaxation of deeper connective tissue. This helps to relieve pain and allows for greater freedom of movement in preparation for exercise and activity.

Transcutaneous electric nerve stimulation or **TENS**, is used by the therapist, often on chronic back pain patients, but also in acute conditions and on post-surgical clients. TENS is a battery operated unit which consists of electrodes that are positioned over specific skin surfaces. These correspond to painful areas, trigger points, or acupuncture points. Electrical impulses emitted by the unit decrease the perception of pain. This also results in the release of endorphins, the body's own natural supply of pain medication, from the brain into the bloodstream. TENS is a small portable unit that can be worn under clothing for several hours per day. Other types of **electrical stimulation** are used primarily in the relief of pain, increase muscle strength, decrease edema (swelling), and inhibit the development of hematomas (swelling formed by the effusion of blood). A Physical Therapist is well-prepared to evaluate an appropriate client and determine the proper application of these modalities.

Intermittent lumbar traction is another modality that may be indicated in the treatment of back problems. Here, a pulley system involving weights is applied to a client to stretch back muscles and ligaments, which when tight, can cause pain and related postural problems.

Massage enhances local circulation, thereby promoting muscle relaxation and resulting in removal of waste products of metabolism from muscles which can cause cramping. **Soft tissue mobilization** is a specialized form of massage used on varying depths of connective tissue to break up adhesions and soften scar tissue, and

to improve posture and movement patterns.

SPINAL MANIPULATION

Manipulation is commonly performed by medical practitioners on joints such as shoulders, elbows and knees. **Manipulation of the spine** in modern times, while equally common, has not been widely used by traditional American medicine due to an apparent lack of scientific research to support its effectiveness. In spite of this, vertebral manipulation has slowly been gaining acceptance as a viable treatment in many of the back disorders that plague our society.

Manipulation (also referred to as mobilization or manual therapy) can be defined as the application of specific force to a joint in order to gain more motion. The techniques do not necessarily involve quick, thrusting maneuvers resulting in dramatic popping noises, as is commonly believed. More often the forces are kept to a minimum in order to move the joint through its normal amount of motion, without causing injury.

To understand the use of manipulation, one must have a basic knowledge of anatomy. The spine is made up of bones called vertebrae stacked one on top of the other. Each vertebra is joined above and below by a disc and two joint surfaces. The disc is commonly known as a problem area, but the spinal joints are the structures directly treated with manipulation. A joint can either develop stiffness or it can become too loose.

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Usually, if one joint becomes too stiff, another joint will loosen to make up the difference. Hence, there is a change in the normal mechanics of the spine and a simple problem begins to compound itself. In simple terms, manipulation is used to restore normal movement to a stiff joint. (A joint that is too loose is treated in a different manner.)

The above explanation portrays the complexity of events that may lead to back pain. Spinal manipulation is, by no means, a cure-all. The evaluation and subsequent treatment of back pain is difficult and requires the services of a skilled, well-education professional. A Physical Therapist, who specializes in manual therapy, is able to perform a thorough biomedical evaluation and use spinal manipulation if it is indicated. A Physical Therapist may also detect and address related problems such as muscle stiffness, muscle weakness or imbalance, poor postural habits and body mechanics, and general deconditioning. Correcting these abnormalities will prevent problems from recurring. Physical Therapists are trained to develop individualized programs based on thorough evaluations.

Back pain is not always due to mechanical problems. For this reason, Physical Therapists work closely with physicians so that fractures, tumors and other medical problems can be ruled out as causes of pain.

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