

Treatment Expectations

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The following is a partial list describing treatments we commonly use. Please be aware that any particular treatment may not always be useful. The important thing is applying the right treatment, in the right place, at the right time.

Active Release Techniques (ART)

ART is a new and highly successful approach to diagnosis and treatment of muscles, tendons, ligaments, nerves, and fascia, collectively known as soft tissue. More than half of human bodyweight is soft tissue, so it's no surprise that it is often a source of pain and dysfunction. ART can be used to treat almost any soft tissue structure in the body.

ART is very effective for locating and eliminating scar tissue.

ART changes the basic understanding of soft tissue injuries, giving the doctor the insight necessary to identify and correct the root cause of a problem. For example, in cases of carpal tunnel syndrome, the doctor may check for injury along the entire length of the nerve, including the forearm, arm, and neck. This allows for identification and treatment of all involved areas, often resulting in a complete and quick resolution.

When a muscle, tendon, or ligament is torn, the healing process involves the creation of scar tissue. This is necessary to connect and bind the torn tissue. Unfortunately, the healing scar tissue often sticks to surrounding structures (think of it as glue) overworking healthy tissue, entrapping nerves, and limiting motion, strength, and speed. Scar tissue can also result from overuse. Overuse causes the tissues to increase in tension; this decreases the blood supply and releases free radicals. Free radicals attract the cells that produce scar tissue. This means that poor posture, athletic pursuits, and repeated use can all result in scar tissue.

ART treatment is hands-on, meaning that treatment is done exclusively with the doctor's hands. Therefore, there are no surgical complications or unwanted side-effects from medication.

Doctors trained to perform ART are able to identify areas of scar tissue by the way it feels. It usually feels like a tight area in the soft tissue with altered texture and decreased movement.

Conceptually ART is very simple. However, proper application requires a very high level of skill and experience. It works like this:

1. The doctor identifies the area of scar by feeling it.
2. The muscle, tendon, ligament, or nerve is shortened.
3. The doctor places a contact (fingers or thumb) on the scar, creating tension.
4. The patient moves the body part, lengthening the structure. This generates tension that breaks down the scar and restores normal movement, tension, texture, and function to the tissues, reducing pain and improving performance.

Joint Manipulation/ Mobilization

The goal of manipulation is to restore normal joint motion. There are several theories as to how joints become restricted. The theory that best describes joint restriction is meniscoid entrapment. Joints are lined with irregularly shaped slips of cartilage that can become trapped between the two joint surfaces. This entrapment prevents the joint from gliding properly. A joint that does not glide will cause several problems:

1. Restrict joint motion
2. Cause pain and inflammation
3. Produce muscle spasm or inhibition (weakness)
4. Force the body to compensate
5. Encourage joint and disc degeneration (arthritis)

Joint manipulation/mobilization involves applying a force across the joint to separate the joint surfaces. This can be done with a short quick thrust (joint manipulation) or with a slow oscillating movement (mobilization). Either way, gapping the joint releases the meniscoid, restoring normal position and motion.

Meniscoid entrapment occurs when joints are overloaded. Overload can be caused by poor posture, muscle imbalance, scar tissue, nerve entrapment, trauma, and faulty movement.

Strength Exercises

Strength exercises are used to restore normal muscle strength. When a muscle is weak, the first step is to identify *why* it is weak. Jumping right into performing strength exercises can be ineffective and inappropriate. After

other problems have been identified and corrected, strength exercises are used to restore muscle balance, joint stability, and strength. It is important that each muscle in the body is capable of doing the job it is intended to do.

Joints are generally surrounded by several muscles or groups of muscles. Muscles work together to move and stabilize the joint. Both of these functions, movement and stability, are critical for efficient and healthy motion. For example, lifting a suitcase with your right hand first requires the muscles of the left low back to contract. If your back muscles are weak, the joints, discs, and soft tissues will be overloaded. This can cause an acute injury or, if occurring repeatedly, lead to degeneration.

When strength exercises become necessary, they are prescribed using a specific protocol. First, individual muscle weakness is identified and strengthened with isolation exercises. Once balance is achieved, functional exercises are used to increase overall strength. When muscles are strong and well-balanced, joints are able to maintain their proper position. This minimizes chances of injury, particularly to cartilage and labrum structures.

Stability Exercises

In order for muscles to protect and support the skeletal structure, they must contract with the appropriate force and timing. Muscles must be strong and balanced in proportion to neighboring muscles, as described above. It is also necessary for the nervous system to tell the muscles to contract at the exact right time. Our brains have programs for certain motions, a lot like a software program for a computer. For example, practicing a golf swing hundreds of times is programming this part of the brain, the cerebellum. As long as these motion programs are correct, things will work just fine. However, pain, dysfunction, poor posture, prolonged posture, improper training, or ill-fitting equipment can cause our motion programs to be reprogrammed in a less efficient way. This changes the timing and order of muscle contraction.

As an example, say you are walking on the sidewalk and unexpectedly trip. Your brain must tell your muscles to contract very quickly. The small muscles that control the position of joints, particularly in the spine, should contract first. This puts the joints in a stable position. This is important because the large muscles that keep you from falling down will contract next. If you have a faulty motor program, the joints are not stabilized by the small muscles and contraction of the large muscles will load the joint in a bad position. It is critical to understand that the loads placed on an unstable joint will be orders of magnitude greater *and* in the wrong position. These high magnitude forces will damage joints, discs, cartilage, and soft tissue.

Faulty motion programs must be corrected with very specific stabilization exercises. These exercises retrain the brain, telling the muscles to contract at the right time and with the correct force.

For example, the muscles that stabilize the low back (multifidus and transverse abdominus) shrink and become significantly weakened only a few weeks after an episode of low back pain. This occurs even after a first episode of pain. Even worse, the muscle recovery is not automatic. Recovery of these muscles usually requires training. This is one reason when low back pain recurrence rates are over 50% in the same year.

Stretching

Surprisingly, stretching is a controversial activity. We use stretching in the treatment setting for only a couple of reasons. After a nerve entrapment is released, stretching can be used to keep the nerve gliding past the surrounding soft tissue, thereby helping to reduce chances of recurrence. Certain stretches can also be used to help regenerate degenerated tissue by pumping blood through the area.

Advice

The ultimate source of injury is from overloading your body enough to cause damage. We can fix the injury, but if the load isn't managed, the problem will return. Advice is used through the course of treatment to allow you to stay active while not compromising your recovery. After the problem is fixed, it may be necessary to institute changes in your training or work environment.

Stephen A. Black has over 25 years experience in the health and wellness industry, and has traveled the world promoting healthy lifestyles and providing expert insight and research in areas related to rehabilitation, fitness and sports specific training. Steve has also worked with many professional sports teams, including: NFL, NBA, NHL, WNBA and ABL/NBL affiliates.

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