

## How The Body Works...

### *The Arms Do It All*

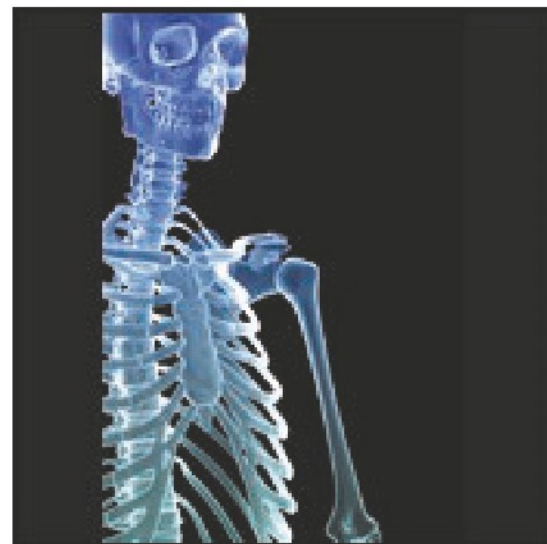
The upper quarter of the body refers to the arms, shoulders, neck and upper spine. There are very few jobs that do not require this region of the body to work. Injuries to the muscles joints, ligaments and nerves are referred to as 'Musculoskeletal Injuries'. According to the National Institute of Safety and Health (NIOSH) the upper quarter accounts for 36% of the musculoskeletal injuries.

You may have heard of some of the common diagnosis given to problems in the upper quarter. They include:

- **Frozen shoulder**
- **Rotator cuff tendinitis** •

#### **Bursitis**

- **Tennis elbow**
- **Carpal tunnel syndrome**



Naming the structure that is abnormal on X-Ray or hurts when palpated or stressed is the traditional medical approach to these conditions, yet there is increasing research suggesting that this is not an effective way to manage and treat these conditions. The ability of the Physical Therapist to look at the whole body biomechanics and assess the influence movement patterns, joint mobility, muscle strength and other considerations have on treatment effectiveness and outcomes. **You get better faster, with less pain and fewer complications!**

## *Truths/Myths About Exercise*

### **“It has to hurt to be good for you.”**

Exercise can be performed for a number of reasons.

- To increase blood supply in an area
- To promote healing
- To increase strength of the muscle to perform work
- To provide stability to the spine, shoulder and pelvic girdles
- To reduce pain and swelling
- To increase range of movement
- To reinforce correct movements patterns.

So you can see that exercise is not just about being buff and strong. One of the main purposes of muscle is to prevent movement. By exercising muscles that stabilize the spine, shoulder blade and shoulder, fine movements of the hand can be performed, or fast actions of the arm, such as throwing can be more effective and performed with less risk of injury.

The correct way to exercise is to start out with the purest movement pattern for the whole body no matter how slow or small the weight. You can only progress a correct movement. Once you are performing it well, add weight, speed, and/or reps.

**PERFORM CORRECTLY FIRST**

## True Stories...

### *Tennis Elbow- Not*

**Jennifer** had been bowling and a few days later she noticed pain in the right elbow when she used the wrist, in particular when she was keyboarding and lifting her coffee mug. The pain radiated to the wrist and at times up to the right shoulder. She was also aware of the hand being weak and felt she could drop things on occasion.

She saw her doctor who found her to have local tenderness over the lateral epicondyle (outside bone of the elbow) and pain with resisted lifting of her wrist. Her X-Rays were normal. She was diagnosed as having Lateral Epicondylitis (Tennis Elbow) and was sent to physical therapy for treatment. Jennifer was evaluated by the PT and it was determined that although she did have the classic symptoms of the medical diagnosis of Lateral Epicondylitis, she also had a few other factors which may have contributed to the problem.

The role of the PT is to first determine if the problem the patient presents with is appropriate for physical therapy treatment. It was determined that Jennifer's condition was musculoskeletal, but not as simple as the doctors script suggested. During the PT evaluation it was obvious that she had some neurological involvement shown by the hand and wrist weakness. The examination included not just the elbow but any region that may contribute to pain in the elbow. For example the neck, shoulder and the nerve roots coming out to the neck which mix to become peripheral nerves. It was found that the elbow pain could be reproduced by placing these nerves at the base of the neck on stretch and the first rib was elevated possible causing the problem. To cut a long story short, the rib was treated and she was given a home exercise program to address the rib. She was discharged pain free with out having her elbow treated in any way. The elbow was the MANIFESTATION of her problem, the nerve in the neck was the DRIVER.

## How The Body Works...

### *The Arms Do It All* From Pg. 1

The HCE physical therapist (PT) has additional training in the concepts of integration where the body is dynamic and each component affects another. The body can not be broken down to parts and each of these treated separately. Many conditions are the result of problem elsewhere. The pain manifests in the structure that becomes unable to adapt to the problem. Often treating that structure will not get rid of the condition and it is up the HCE PT to assess for "**DRIVERS**" that may contribute directly or indirectly to the current presentation. HCE PT's work with the worker, the employer and other medial professionals to make sure the work environment is safe and conducive to good health, body mechanics and productively.

**Summary:** The HCE PT is skilled at looking at the body as a whole and has the ability to look for **DRIVERS** that may affect the presentation. It is this skill set that sets us apart from other health care professional and makes us more effective in helping workers and reduces injury costs.

## Healthy/Unhealthy Habits

Imagine your job is a finisher in a factory where you take parts off a press and stack them and then the stack is placed in a bin to be shipped.

Although your main job is in front of you at waist level, you have to reach a lever after each stack which is by your right ear about 12 inches away.

Doing this 20 times an hour for 8 hours is hard work and over time you develop what is

medically called rotator cuff tendinitis. The medical treatment is often anti-inflammatory medication and or injection of a steroid into the shoulder to reduce the inflammation and pain.

To give you an example about how all things are interconnected, do the following exercise:

Stand sideways to a wall with the right shoulder and your hands one on top of each other horizontally out in front of you. Let your shoulders sag and come towards each other in front of

you. Now with the shoulders kept in this position, rotate the right arm up to touch a point on the wall level with your right ear. Keep your hand in the same position on the wall as you straighten up to be as tall as you can. Notice the increased ease of keeping the hand in this position. Do we keep treating the shoulder with medication and injection or do we change the position and movement of your shoulder to make the reach easier along with design changes of the work station.