The Five Ws of Hand and Upper Extremity Injuries

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Our hands are remarkable. Of the human body’s 206 bones, more than a quarter of them—58—are found in our hands. Perhaps more significant is the number of joints in our hands. When two bones articulate (meet each other) they form a joint. There are approximately 50 joints on the right hand and 50 on the left hand. And, as a general rule, each joint permits movement along at least one axis. Some joints—such as the small bones of the wrist—have very little movement, while others permit movement in more than one direction.

We use these wonderfully complex hands for many tasks—from light, delicate tasks to lifting, pushing, and pulling very heavy objects. Second only to our facial expressions, our hands support our ability to communicate with others. We use our hands for sign language or to play musical instruments.

But the very range and flexibility of our hands’ capabilities are a source of injury: the variations in movement coupled by the many stressors we place on our hands can lead to injuries and disorders that need attention and care.

Technological advances in surgical methods have resulted in microsurgery and minimally invasive procedures to facilitate early recovery. While these breakthroughs in technology continue to support the recovery process, we are still exposed to the risks of surgical intervention.

Happily, many health care providers and patients are recognizing that alternatives to surgery can result in substantial benefits if the problems are addressed in the early stages. Patients with many diagnoses (see box) can be managed conservatively without the need for expensive surgical procedures that may still involve risk of secondary complications.

For those with such hand injuries the following five Ws—what, why, when, and where—provide a guide for understanding the benefits of occupational therapy—both as an effective alternative to hand surgery, and a key component in recovering from surgery.

WHO IS A CANDIDATE FOR THERAPY RATHER THAN SURGERY?

The decision to employ therapy or seek surgery is generally determined by clinical evaluations by your therapist and your physician.

Our body has natural healing powers for the repair and recovery of injured tissues such as the skin, muscles, ligaments, and tendons. Occupational therapies support this healing process in many cases when surgery is not necessary.

When we suffer a traumatic injury that results in damage to bones, blood vessels, nerves or severe trauma to tendons, the only way to address the problem is through surgical intervention. However, surgery can fix only the physical damage from the trauma. You will need to begin therapy soon after surgery to help gain lost movement, increase strength, improve sensation, and facilitate fine motor coordination in the hand.

WHAT TREATMENTS ARE USED TO MANAGE HAND DISORDERS?

Treatment for hand and upper extremity injuries may involve use of Physical Agent Modalities (PAM) such as hot packs and cold packs, therapeutic ultrasound equipment to deliver localized deep heat or to break up scar tissue, iontophoresis to deliver pain medications, and custom splints and braces to help support or assist movement of the joints.

WHY OCCUPATIONAL THERAPY?

Occupational therapy is a non-invasive, safe approach to healing. In most cases, therapy will facilitate early recovery of injured tissue and help you develop proper body posture, alignment, and function. Most work-related injuries that occur from being at a desk all day long and working on computers can be treated before the problem results in permanent damage.

And therapy is not just for certain age groups or professions. We treat hand injuries in children, young adults, and adults. Musicians, athletes, and professional sports players are one area of specialty. We understand movement and how the body recovers. We also understand how important it is for a musician to be able to play that melody or for a gymnast to be able to perform a complex maneuver. We focus on improving handwriting in children and for joint protection for active gardeners who may have some arthritis in their joints.