

THE UNIVERSITY OF TOLEDO  
**MEDICAL CENTER**

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THE UNIVERSITY OF TOLEDO MEDICAL CENTER

# ORTHOPAEDIC MONTHLY

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## The Orthopaedic Center Celebrates it's Six Month Anniversary



It's hard to believe the innovations we have made in patient care in six months since opening the new UT Orthopaedic Center. We knew when we moved into the new Center that we wanted to set the standard for orthopaedic care in the region. Numerous steps have been taken to ensure our patients have easy access to world-class orthopaedic care. In addition, we wanted to ensure our patients were receiving every service in one convenient location.

First, a unique pledge to our patients was made: guaranteed appointments for patients with an orthopaedic surgeon within 24 hours of calling the Center. If there is an emergency, however, patients will be seen immediately. All 10 of UT Medical Center's orthopaedic surgeons are dedicated to this mission. If patients are in pain, we don't want them to have to wait. We want them

to get care so they can be out enjoying their lives.

Shortly after the establishment of 24 hour appointments, the Orthopaedic Center was contacted by the host of WLQR's ESPN Radio show The Ticket's Mike Miller to do a live remote from the Orthopaedic Center. He felt the community would benefit from listening to surgeons every Friday to discuss orthopaedic conditions and how weekend warriors can safeguard themselves from possible injuries.

Shortly after, access to appointments was taken one step further. For patients who may not be able to come during the week for an appointment, Saturday clinic hours were established. On Feb. 3, the Orthopaedic Center opened its doors for Saturday hours from 8 a.m. to 12 noon. During this time, we are equipped to see all simple and complex orthopaedic injuries



# The Orthopaedic Center Celebrates

and conditions from neck-to-toe and every bone and joint in between.

One month following the establishment of Saturday clinics, we partnered with the Toledo Veterans Affairs (VA) Outpatient Clinic to help their patients who have orthopaedic injuries. Because of the high demand of patients who need hip, knee and shoulder treatment, veterans were being placed on a waiting list for one to two years before they were able to receive treatment. To help alleviate this local and national problem, the VAs asked

to partner with the Orthopaedic Center.

In April, the Orthopaedic Center made another push to enhance patient convenience by installing a magnetic resonance imaging machine. Magnetic Resonance Imaging, also known as MRI, is used to visualize the structure and functions of the body. Its unique imaging provides detailed pictures of the body in virtually any plane.

We are excited to see what additions we can make in the next six months to make the experience even better for patients.

## What is Carpal Tunnel Syndrome?



*Rendering of the carpal tunnel anatomy*

If you are experiencing frequent burning, tingling or itching numbness in the palm of your hand and fingers, you may be one of the 8 million Americans suffering from carpal tunnel syndrome. With more than 260,000 carpal tunnel release operations performed annually, carpal tunnel syndrome remains a grave concern for the aging population.

To understand carpal tunnel syndrome, it is helpful to know a bit about its anatomy. The median nerve is the most essential component of carpal tunnel syndrome anatomy. Beginning as part of the brachial plexus, the median nerve travels down the inside of the forearm into the wrist and hand and ends at the thumb, index and middle finger. This important nerve is responsible for controlling sensation to the palm side of the thumb and fingers, as well as impulses to some small muscles in the hand that allow the fingers and thumb to move.

The wrist is the second major part of carpal tunnel anatomy. The several small carpal bones form the carpal tunnel, which houses the median nerve, tendons and blood vessels.

So what is carpal tunnel syndrome? The condition occurs from pressure placed on the median nerve at the wrist. In other words, carpal tunnel syndrome arises when space in the carpal

tunnel becomes limited, causing an atypical pressure on the median nerve and surrounding tendons. This atypical pressure causes the nerve to become irritated.

As mentioned earlier, typical symptoms of carpal tunnel syndrome include burning, tingling or itching numbness in the palm of the hand and fingers. In addition, people suffering from carpal tunnel syndrome may find it difficult to grasp small objects or form a fist due to decreased grip strength. Because many people sleep with flexed wrists, symptoms are often first noticed at night.

There are several causes of carpal tunnel syndrome. First, carpal tunnel syndrome may be due to a congenital disposition. Some individuals have a smaller-than-normal carpal tunnel. This is likely the reason that women are three times more likely than men to develop carpal tunnel syndrome. In addition, carpal tunnel syndrome has also been linked to sprain and fractures; hypothyroidism; mechanical problems in the wrist joint; rheumatoid arthritis; and over activity of the pituitary gland.

Some evidence suggests that repetitive motion causes carpal tunnel syndrome. According to a study done by the National Institute for Occupational Safety and Health, job tasks involving highly repetitive manual acts or necessitating wrist bending or other stressful wrist postures were connected with incidents of carpal tunnel syndrome. Moreover, the National Center for Health Statistics approximated 260,000 carpal tunnel release operations performed each year, with 47 percent of the cases considered to be work related.

To diagnose carpal tunnel syndrome, doctors use a variety of tests including the Tinel Test and Phalen Test. Using the Tinel Test, the doctor will tap on or press the median nerve in the patient's wrist. If the test is positive, a patient will report a shock or tingling in the fingers. During a Phalen Test, patients hold their forearms upright by pointing their fingers down and pressing the backs of their hands together. If numbness or tingling arises, the test is considered positive. Doctors may also

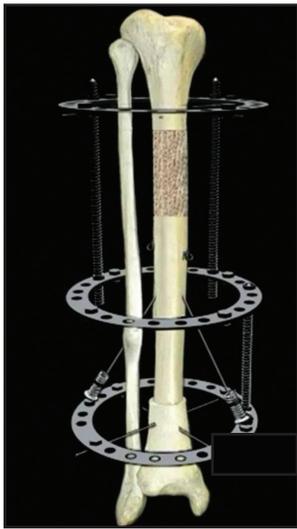
## Carpal Tunnel Syndrome?

use nerve conduction studies. By measuring the nerve's response to electric shock, doctors are able to determine if the nerve is responding normally. Electromyography may also be used to diagnose carpal tunnel syndrome. Here, a needle is inserted into the muscle which transmits electrical activity on a screen.

Treatments for carpal tunnel syndrome can be conservative

or surgical. Conservative treatments include medication; exercise including stretching and strengthening; physiotherapy; and immobilization. If conservative treatment fails and pain persists, doctors will perform a carpal tunnel release. This surgery involves severing the band of tissue around the wrist to reduce pressure on the median nerve.

## How Does the Process of Limb Lengthening Work?



*Rendering of the ilizarov device to facilitate limb lengthening*

The human body has an incredible ability to repair itself and adapt to certain elements. One of the most remarkable examples of adaptation and reparation occurs during limb lengthening procedures.

Developed in 1951 by Gavriil Ilizarov, limb lengthening was discovered after treating WWII veterans who had leg fractures that had not healed. Ilizarov developed an external fixation frame for legs that he believed would help stimulate bone healing. He noticed, however, that when his patients turned the rod and separated the bone pieces, new bone had formed in the gap between the bone ends. This led Ilizarov to understand that limb lengthening was possible.

The idea is fairly simple. The process begins with a procedure called an osteotomy which involves cutting the bone that needs lengthening without injuring the internal blood

supply of the bone. This bone is then stabilized with wires or pins. Once fixation is applied, the process of distraction – the process of moving the bony fragments away from each other – begins. The total amount of distraction should be 1mm per day, usually in increments of .25mm. While the bone is pulled apart gradually, new bone tissue forms and fills the gap between the bony components. Once the limb is lengthened, the bone needs a chance to heal. During the healing phase, patients will require crutches.

The procedure itself is minimally invasive and usually requires only a one- to two-night hospital stay. This newly formed bone is normal and will become as strong as existing bone. With a success rate of roughly 95 percent, limb lengthening has been found to be a relatively safe procedure.

Both children and adults are possible candidates for limb lengthening. Pediatric conditions that may cause a need for limb lengthening include congenital short femur and hemiatrophy. In addition, children may have limb-length discrepancy if they have suffered growth plate fractures or bone infections. For adults, limb-length discrepancy is often developed in childhood but discovered after episodes of back pain or hip arthritis.

Limb lengthening may also be helpful following traumatic injuries. Large deformities may also be corrected during the process of lengthening of the limb.

## Orthopaedic Center Helps 95 Year Old Patient Back to Good Health

Talking to Alice Neeper, you'd never know she was 95. Her words are clear, her thoughts are sharp, and she can captivate an entire room when she tells her stories. In only a short amount of time, Alice had already become of a favorite of the Orthopaedic Center staff.

Alice was a picture of calm, a complete role model for children who were in the Orthopaedic Center. When asked how she was feeling she quickly answered, "I am better now that I am here."

Alice had been feeling pain in her left leg but refused to stop walking. "I'm not going to give up that ability," she said. It was around midnight and Alice was heading to the bathroom. She went to face the sink and before she knew it, she was on the ground.

"I wasn't moving; I was standing still," Neeper said. "Then my leg just gave out. I am just thankful I had my walker so I didn't hit my head."

When Alice reached the Orthopaedic Center it became apparent



# 95 Year Old Patient



*Alice Neeper*

that she had suffered a left distal femoral shaft fracture. The fracture occurred above her supracondylar femur, but did not involve the joint.

It wasn't before long before Alice bounced back. She was in Ortho Center to have her staples removed and hardly even noticed. "I didn't feel a thing," she said reassuring the medical student who was helping her.

## Orthopaedic Center Achievements During First 6 Months

- Partnering with the VA to treat veterans
- Adding pain management, rehabilitation, EMG and nerve studies, family medicine, sports medicine, and primary care physician services in the Center
- Opening the DEXA scan
- Holding weekly WLQR ESPN radio show live remotes
- Installing an MRI

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Editors: Dr. Nabil Ebraheim, department chairman and professor of orthopaedics, and Dave Kubacki, assistant to the chairman.

Neither Dr. Ebraheim nor Dave Kubacki have any relationships with industry to disclose.

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