

THE UNIVERSITY OF TOLEDO MEDICAL CENTER

APPROVED FOR THE AMA PRA CATEGORY 1 CREDIT, SEE INSERT FOR DETAILS

THE UNIVERSITY OF TOLEDO MEDICAL CENTER

ORTHOPAEDIC MONTHLY

VOLUME 2, ISSUE 10 DECEMBER 2008

Orthopaedic Department Awarded $300,000 Grant

Orthopaedic Center

This past year has been extremely special for the Department of Orthopaedic Surgery. With the opening of the Orthopaedic Center we have been blessed to offer care like no other facility in the area. We have everything patients need in one location; a rare distinction.

There have been a number of events that were cause for celebration within the Department, none larger than the recent acquisition of a $300,000, three-year grant awarded to the Department of Orthopaedic Surgery by the American Diabetes Association.

Dr. Beata Lecka-Czernik, professor of orthopaedic surgery, headed the effort for the proposal titled "Prevention of TZD-induced bone loss and improvement of TZD-affected bone fracture." The department has been working hard to bolster its research efforts as of late. Dr. Beata has been working on the effects of drugs on bone. Other research Ph.D's have also been working diligently on research. Dr. Champa Jayasuriya continues to work on bone tissue engineering, while Dr. Goel continues to be very involved in spine research.

The Department is now in the planning stages for establishing a Trauma and Orthopaedic Diseases Ph.D. program at the University that would supplement the Department's current master's program offering in orthopaedic sciences. The Department of Orthopaedic Surgery is working with the University's Department of Bioengineering to bring this Ph.D. program to fruition.

Doctors in the Center are fortunate to have the talent to fix patients and help them regain function. This is the Center's mission: to improve the human condition. It is a special talent Doctors in the Orthopaedic Center have been granted to help people. The focus is patients and a higher degree of personalized patient care.




Patient Regains Ability to Walk

After a motor vehicle accident on December 7, 2007, Susan Wittman knew her life was going to be different. She had an uphill climb to overcome her injuries, but she was ready. She was initially treated at another local hospital. However, her situation did not progress as well as she had expected as the fracture continued to be present. According to Wittman, she was brought to The University of Toledo Medical Center for definitive care.

"It seemed like no one could help me," Wittman said. "I was brought to UT's Orthopaedic Center and was told I would walk again."

UT's orthopaedic surgeons fixed Wittman's right peri-prosthetic femur fracture. After it was reduced and put back into position, it was a matter of keeping the wound clean to stave off ' infection. After these surgeries, she was on the road to recovery. According to Wittman, it was a battle but one worth the pay off.

"I praise the work done at UT's Orthopaedic Center," Wittman said. "I almost died in that car accident. I didn't think I would ever walk again and now I am walking from 50-75 feet without pain. Everyone did such a wonderful job for me here."

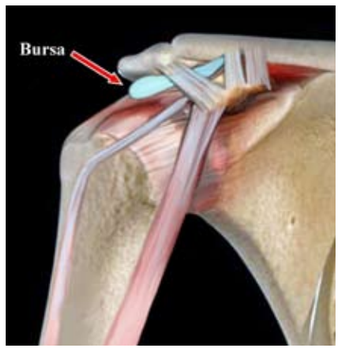
Susan Wittman

What is Bursitis?

Our bodies were constructed to withstand a certain level of pressure. However, with repetitive stress or excessive pressure, inflammation can occur. Bursitis refers to inflammation of the fluid-filled sacs (bursa) that function as a cushioning surface to reduce friction between tissues of the body. In all, there are more than 150 bursae in the body which help joints move with ease. Bursitis usually affects the joints in the shoulders, elbows, hips, and knees, although it can also occur in heels and at the base of big toes. Roughly 8.7 million people in the United States have bursitis.

There are several causes of bursitis, including overuse, stress or direct trauma to a joint such as repeated bumping or prolonged pressure. Bursitis can also be the result of arthritis, infection or gout.

Different parts of the body can develop bursitis in different ways. Bursitis of the shoulder is often the result of injuries to the rotator cuff which connects the upper arm to the shoulder blade. Here, causes include falling, repetitive overhead activities and lifting. Bursitis of the elbow is associated with actions which require repeated bending and extending of the elbow, such as throwing a ball or Frisbee®. Hip bursitis is usually associated with arthritis or a hip injury and results from falls or standing or sitting for prolonged periods. Knee bursitis is usually caused by repetitive pressure, such as kneeling, or a sharp blow. Knee bursitis is often the result of impact sustained during athletic activities. It is usually characterized by an egg-shaped bump on the front of the knee.



bursitis usually affects the joints in the shoulders, elbows, hips and knees

There is a risk that an inflamed bursa can become infected. This is often a major concern for patients with elbow bursitis because the inflamed bursa is close to the skin. For patients with hip or shoulder bursitis, the chance of infection is less of a concern because inflammation occurs much deeper in the body. Signs of infection include open wounds

Bursitis Continued

around the area of bursitis, fever, chills and redness or increasing warmth around the skin. If infection is suspected, fluid from the swollen bursa will be obtained using a needle and syringe. While an infected bursa may require surgery, it can often be treated with antibiotics.

Patients with bursitis will likely experience stiffness or an ache in the inflamed area. Pain is usually intensified with movement or pressure. Other symptoms include swelling and redness in the area of inflammation. Bursitis of the hip, however, may be more difficult to identify because the hip is not as close to the surface as other joints, thus there may be no visible swelling or skin redness.

Doctors are typically able to diagnose bursitis with a combination of physical examination and x-ray imaging. By feeling the painful joint and surrounding area, doctors are able to identify points of tenderness. While x-ray imaging is not tantamount in identifying bursitis, it can help exclude other possible causes of inflammation.

Bursitis is usually treated conservatively with rest, immobilization, ice application, or anti-inflammatory medications. Physical therapy and injections into the bursa are also commonly used to relieve inflammation. Occasionally, bursitis requires aspiration of the bursa fluid. This involves removing the fluid with a needle and syringe.

Of course, there are precautions that can be taken to lessen the chance of developing bursitis. First, proper stretching and strengthening of muscles will help prevent bursitis. Strengthening is an important factor in helping protect joints. Providing cushioning for joints is also an essential method for protecting joints from bursitis. Finally, taking breaks from repetitive tasks will lessen the chance of developing bursitis.

What is a Ruptured Tendon?

depiction of a Biceps Tendon"

In simplest terms, a tendon is a band of fibrous tissue that connects muscle to bone. Tendons enable people to perform physical activities such as running, jumping and other movements. In essence, tendons are similar to ligaments except ligaments join one bone to another. Without tendons, the body would be unable to move and function the way it does. Tendons, like the name indicates, are capable of withstanding tension like an elastic band. When a muscle contracts it pulls on a bone to cause movement. This ability to withstand tension forms the basis of movement.

Tendons are composed of gelatin-like cells called tenocytes, collagen proteins and water. Millions of collagen proteins are woven together to create a flexible, but tough, band called a tendon. The length of tendons varies from person to person. Despite their resiliency, tendons can be injured if they are overstrained. While tendons are able to withstand more than five times your body's weight, collagen fibers in the tendon can develop small tears or completely rupture. Tendon damage occurs usually in the ankles, knees, shoulders, wrists, biceps, calves, and heels.

Damaged tendons do not heal easily. There are often several steps that need to be taken to ensure proper healing. First, anti-inflammatory medications are utilized to reduce swelling. Second, rest for a long period of time may be necessary. If tendons completely tear, however, surgical intervention is needed to reconnect the tissue to the bone.

The four most common areas of the body which sustain ruptured tendons are the quadriceps, the Achilles, the rotator cuffs, and the biceps. The quadriceps are a group of muscles above the knee cap that are used to extend the leg at the knee. The Achilles tendon is the tendon that runs on the back portion of the foot above the heel and is essential for pushing off with the foot. The rotator cuff is a group of four shoulder muscles which helps raise, rotate and provide stability for the shoulder socket. Finally, biceps are the muscle of the arm which helps bring the hand toward the shoulder by bending at the elbow.

Tendon ruptures are typically caused by direct trauma, advanced age, and unusual loading. Unusual loading refers to situations – when the muscle contracts while being stretched in the opposite direction. Advanced age can affect a tendon's strength. Blood supply decreases as a person ages making the tendon weaker and more susceptible to injury.

Tendon ruptures can be diagnosed typically during physical examination, although imaging is done to confirm the diagnosis.

Continued on back



Ruptured Tendon Continued

Although typically first treated with rest, ice, compression and elevation, surgery may be needed to fix a tendon rupture. For instance, an Achilles tendon rupture has a high rate of reoccurrence when treated conservatively.

Of course, there are ways to prevent tendon injury.

- Properly stretch prior to engaging in physical activity
- Avoid activities which place excessive stress on tendons. Alternate high-impact activities with low-impact activities'
- Listen to your body. If you feel pain, it's best to stop your activity and get some rest.

Finally, it's important to maintain a healthy weight and participate in exercises that will help strengthen your tendons. Ultimately, this will help preserve healthy tendons and minimize the risk of developing an injury.

December 2008 Word Search

J	T	Y	T	D	U	J	C	O	L	L	A	G	E	N
Q	S	T	H	L	E	G	X	F	Y	D	R	C	E	A
Z	F	S	I	N	F	L	A	M	M	A	T	I	O	N
B	X	E	Z	B	U	R	S	I	T	I	S	T	Z	V
P	D	L	W	W	W	C	W	F	B	G	U	A	E	J
T	N	L	Y	Q	F	L	B	F	Y	P	N	R	B	X
N	O	I	T	C	E	F	N	I	U	T	O	N	Z	O
K	I	H	A	U	W	P	E	C	I	R	D	A	U	Q
M	S	C	J	B	Y	X	Z	B	G	I	P	R	T	A
R	N	A	W	P	F	G	I	D	V	U	P	R	B	S
J	E	Z	N	M	R	O	M	B	S	D	A	G	X	O
E	T	P	E	O	T	E	N	O	B	U	F	O	E	A
B	G	S	U	I	N	Q	X	D	M	Z	Q	Y	I	Z
O	P	H	C	V	X	T	T	A	L	M	K	W	V	J
D	P	S	F	N	O	D	N	E	T	U	P	L	A	V

TENDON
BURSITIS
INFECTION
ANTIBIOTICS
INFLAMMATION
TENSION
BONE
COLLAGEN
ACHILLES
QUADRICEP
TRAUMA

THE UNIVERSITY OF TOLEDO MEDICAL CENTER
ORTHOPAEDIC MONTHLY

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.

Department of Orthopaedic Surgery
3000 Arlington Ave
Toledo, Ohio 43614
For appointments, call 419.383.3761.

UTMC 205 1108 25C

THE UNIVERSITY OF TOLEDO MEDICAL CENTER
Department of Orthopaedic Surgery
The University of Toledo
3000 Arlington Ave
Toledo, Ohio 43614

Non-Profit
Organization
U.S. POSTAGE
PAID
Toledo, OH
Permit No. 161