



THE UNIVERSITY OF TOLEDO
MEDICAL CENTER

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THE UNIVERSITY OF TOLEDO MEDICAL CENTER

ORTHOPAEDIC MONTHLY

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Happy Holidays UTMC, Keep Up the Good Work!

By Dr. Nabil Ebraheim, Editor

2007 was a year marked by change, but defined by coming together as an orthopaedic center. We bid adieu to our former clinic and said 'hello' to the new state-of-the-art Orthopaedic Center. We've established a new philosophy centered around the needs of our patients, starting with our pledge to see patients within 24 hours of calling the Center. In an emergency situation, however, we will see the patient immediately. It's been a great year and we have achieved a lot, but there is certainly more work to be done. An addition we'd like to establish at our Center is providing a Saturday clinic to better serve our patients. The plan for Saturday clinics is currently being developed.

The Orthopaedic Center's capabilities have allowed us to develop our services around the needs of our patients. We are working to provide patients world-class orthopaedic services when visiting our Center. The new space has allowed us to expand our services to include in-house digital imaging and laboratory services, pain management, osteoporosis management including a DEXA scan, and EMG and nerve studies.

I've been moved by the department's cohesiveness. Everyone from the valet parking attendants to the medical assistants to the doctors realize they are part of the same team. We work hard together and we celebrate together. I was moved that the registration team wanted to be part of the Secret Santa exchange this year. While they are not officially part of the department, they are an integral part of our Center's team. It's a great thing that everyone has bonded while working together. Another example that impressed me was seeing everyone enjoy a potluck lunch together after a tough day of work in the clinic.

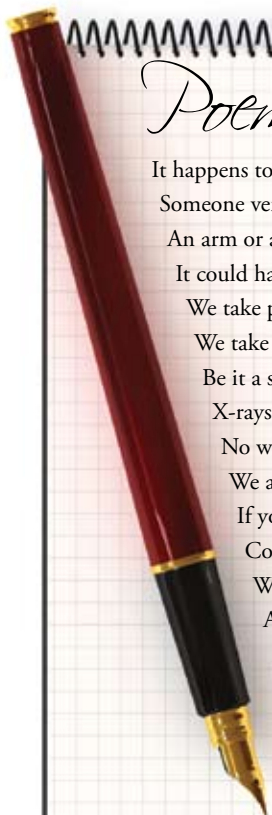
The current climate finds patients happy because of outstanding service. Aristotle once said: "We are what we

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Poem by David Grames

It happens to someone every day of the year
Someone very special and oh, so dear
An arm or a leg or a twisted knee
It could happen to you or perhaps to me
We take pride in our service and our ability
We take care of you with humility
Be it a splint a cast or a simple sling
X-rays to radiation and the healing they bring
No where else could you get better care
We are committed to healing you for a break or a tear
If your stomach is growling and your feeling beat
Come to our cafeteria for something to eat
With hot meals to sandwiches and hot apple pie
All kinds of goodies look you right in the eye
From your hunger to your bones we can make
you feel better
At The University of Toledo Orthopaedic Center

Robert Grames D. R.





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repeatedly do. Excellence, then, is not an act, but a habit." It's important to understand this so we do not become complacent. There are always ways to improve and do a better job. To achieve excellence, we must improve and expand our services to provide the best orthopaedic care day in and day out for our patients. We must enjoy what we are doing while we are delivering it and respond to all of our patients needs. In the end, there is nothing to worry about except the needs of our patients.

We currently have a unique position and visibility in the University and city. We are going to take active steps in the coming future toward improving international marketing for our Center. The goal is to bring people from all corners to Toledo for their orthopaedic needs. We have the will, the plan and the talent to deliver this for the city.

I want to thank all of the employees for their hard work this year. It's truly been an incredible year for our department and University. Moving to a new building can be chaotic, but the transition has been quite smooth. I appreciate all of your efforts and I hope that you had an excellent holiday season. 2008 is a new year for our department and I am looking forward to working with all of you to make our department and University better for our patients.

Dr. Nabil Ebraheim
Chairman and Professor
Department of Orthopaedic Surgery



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

For medical questions you would like to see addressed in this newsletter, please e-mail Dave at david.kubacki@utoledo.edu.

Hip Fractures Remain Great Problem for Older Patients

For over 300,000 Americans each year, the threat of hip fracture becomes a reality. For the older patient, the threat seems imminent since 85 percent of these fractures occur in patients older than 65 years of age.

A hip fracture refers to a break in the thigh bone just below the hip joint. The thigh bone (femur) and the socket (acetabulum) in the pelvis together create the hip joint.

The two most common types of hip fractures are femoral neck fractures and intertrochanteric fractures. When a patient suffers a femoral neck fracture, the ball (femoral head) is fractured and disconnected from the rest of the thigh bone. These injuries are especially problematic for patients because blood flow controlled by the femoral head is often decreased. Intertrochanteric fractures, on the other hand, refer to fractures that occur just below the femoral neck. Since these fractures do not typically affect blood flow, they are often more manageable. These fractures are usually surgically treated with plates and screws to stabilize the fracture.

For older patients, hip fractures are usually the result of falls which are exacerbated by weakened bone. Bone is living tissue that is comprised of mainly calcium and protein. When functioning normally, your body absorbs and replaces small amounts of calcium. If you are not receiving adequate amounts of calcium, however, more calcium is absorbed than replaced. This causes the bones to become less dense and more susceptible to injury. For women, this process is accelerated during menopause because women have less estrogen

which helps maintain bone strength. According to Dr. Richard Ackerman, an 80 year old woman has a 1-2 percent risk of hip fracture every year. Considering that most bone loss occurs in the spine and the upper femur, which is the site of hip fractures, it's understandable that there is a high fracture risk each year.



Especially troubling for older patients is the mortality rate for hip fracture patients. The mortality rate in the first year following a

broken hip are approximately 25 percent with the highest percentage in older populations. According to Dr. Ackerman, mortality rates following a hip fracture averages 3 to 8 percent. High mortality rates for hip fracture patients are often caused by pneumonia, congestive heart failure, infection and pulmonary embolism. In addition to the high mortality percentages, 15 to 25 percent of patients will need nursing home placement for at least one year following the injury. Also of concern is the patients ability to regain function and ambulation. Here, 50-65 percent of patients regain prior level of ambulation while 20 percent of patients will remain non-ambulatory. Furthermore, only 33 percent of patients regain their prior ability to perform activities of daily living. In a study conducted by Dr. Kenneth Koval, he found that mortality rates were worst for patients that suffered displaced femoral neck fractures.

Clearly, hip fractures remain problematic for older patients resulting in roughly \$6 billion in healthcare costs. It's vital for the older population to understand the importance of a healthy diet rich in calcium and protein to safeguard against these and other types of fractures.

Low Back Pain Common Problem for Patients, Despite Unknown Origins

At some point in our lives, there is a high probability that we will have to face low back pain. So high is the probability that it is the second highest cause of work absenteeism next to the common cold. Low back pain is a complicated problem to

deal with as 85 percent of all back pain has no definite cause or origin. While 90 percent of patients with a single episode return to work within 6 weeks, low back pain remains a important condition for patients and doctors to understand.

There are, of course, certain factors that make patients more susceptible to low back pain. These risk factors include a lack of fitness, heavy lifting, driving motor vehicles, prolonged sitting and handling vibrating tools. Heavy lifting can cause low back pain by putting

stress through the spine and increasing pressure on the discs. In addition, smoking contributes to low back pain because it causes disc degeneration. Finally, age can play a role in low back pain.

Typically, adults age 40 and older have low back pain because the body undergoes disc degeneration.

Patients should be aware of low back pain red flags as they may be signs for cancer or infection. Red flags for cancer include a history of cancer, unexplained weight loss, symptoms greater than one month, pain at rest and night, no response to previous therapy and being over the age of 50. For infection, red flags include fever, drug abuse, decreased body immunity, having previous surgery, urinary tract infection and diabetes mellitus.

Typical examinations focus on red flags first including fractures, tumors or infection. While not helpful in the first four weeks, MRI's are quite helpful in investigating low back pain; they are well-suited to rule out tumor and infection. An MRI of 98 percent in an asymptomatic population will show 50 percent bulging disc while 25 percent will show a herniated disc.

There are a variety of ways to treat low back pain. These include body mechanics, physical therapy and pain control and bed rest. If sciatica is not present, patients will benefit from working. Sciatica refers to compression or irritation of one of the five nerve roots that are branches of the sciatic nerve.

Unfortunately, not all treatments can be done without surgery. Luckily, only 5 to 10 percent of low back pain patients require surgery. Moreover, 90-95 percent of these patients have successful surgical treatments. Results are typically excellent following lumbar spinal surgery. There are several factors predictive of a good outcome. These include neurologic deficit, positive stretch test and an objective ST/MRI study. If these are all positive the recovery rate is 97 percent. If two are positive, the recovery rate is 82 percent and if one is positive, the recovery rate is 70 percent.

For the surgical candidate, cigarette smoking significantly reduces fusion rates. In these patients, the pseudoarthrosis rate is 40 percent in smokers, while it is only 8 percent in non-smokers.

Orthopaedic Residents Score 97 Percentile on Orthopaedic In-Training Exam!

Congratulations are in order for the Orthopaedic residents who recently scored in the 97th percentile on the American Academy of Orthopaedic Surgeons Orthopaedic In-Training Examination. In the last five to six years, the residents have scored above the 93rd percentile on the exam, with an average score of approximately 96. The residents scored above the mean in every category on the exam including oncology, pediatrics and sports medicine. Furthermore, our three graduating chief residents scored in the 98th percentile which means they are in the top two percent of all residents (3,495 residents) that took the exam. This is an incredible achievement for the Orthopaedic residents and the University. These scores indicate the hard work and commitment the department has to achieve excellence for the University.



Orthopaedic Center Strengthens Mission with Research Endeavors

Three PhD's Work Behind the Scenes to Further Department's Success

The opening of the Orthopaedic Center not only created opportunities clinically, but it also gave the department the opportunity to expand its research efforts. With the advent of our pledge to see patients within 24 hours of calling the Center, we set the standard for orthopaedic care in the area. Now, with three full-time PhD's on staff, we are continuing to set the standard for orthopaedic research.

More than a hospital, the University of Toledo Medical Center is an educational institution. In that breadth, the Orthopaedic department is not only training future orthopaedic surgeons, but we are also furthering research in the field of orthopaedics. The department has a master's program and is part of a PhD in biomedical engineering program. Medical students are usually involved in the process, with seven papers published with medical students in scholarly journals this year alone. Helping the research efforts are the department's three PhD's: Dr. Vijay Goel, Dr. Beata Lecka-Czernik and Dr. A. Champa Jayasuriya.

Dr. Vijay Goel is the co-director of the E-CORE (Engineering Center for Orthopaedic Research Excellence) program. This entity is currently engaged in the design, development and evaluation (510 K tests, cadaver based kinematics, and wear assessment) of fusion promoting

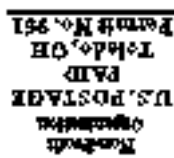
devices like the pedicle screw rod instrumentation, dynamic system and artificial discs. The Center is also supported to undertake research in the area of spinal adjustments.

Dr. Jayasuriya is conducting research in the area of bone tissue regeneration. According to Dr. Jayasuriya, the goal of her research is to develop new approaches for regeneration of natural bone tissues, with an emphasis on using injectable and biodegradable biomaterials. In addition, Dr. Jayasuriya intends to work on the controlled release of drug/growth factors delivery from biodegradable nanoparticles.

Dr. Beata Lecka-Czernik has shown for the first time that anti-diabetic drugs (TZD's) cause loss of bone and affect fracture healing in animals. She has also demonstrated that this process can be prevented by using slightly modified TZD drugs, which retain their beneficial anti-diabetic effects and are lacking adverse affects on bone. Currently, Dr. Lecka-Czernik's group is investigating which genes are responsible for weaker bones in diabetics. Her studies are devoted to the improvement of the bone strength in diabetic patients and the development of anti-diabetic therapies which are safe for bone. According to Professor and Chairman of Orthopaedics Dr. Nabil Ebraheim, the department's research team is a vital to the success of the Center.

"We have a great research team whose scholarly activity and contributions are noticeable," Dr. Ebraheim said. "The merger with the University of Toledo was a catalyst for that effort. We have a lot of opportunities in the future to do more research activities. We do expect to make significant contributions to the field of Orthopaedics."

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