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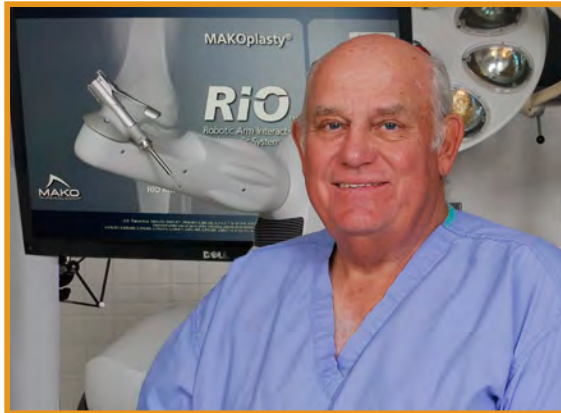
Bone & Joint Journal

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COMPUTERS IN THE OPERATING ROOM

BY LAWRENCE DORR, M. D.

Despite nearly 100% fixation with non-cemented implants for Total Hip Replacement, the number of complications with the operation has not decreased, but simply shifted. There may be fewer infections, perhaps because less cement is used, but the number



Lawrence Dorr, M.D.

of mechanical complications has increased. Dislocation, accelerated wear, iliopsoas pain, intraoperative fractures, leg length and offset errors are all a result of flawed biomechanical reconstruction. Multiple reports of high percentage of errors in cup and stem placement are prevalent.

THR is a mechanical operation, not a biological one. A different incision will not improve results. Anterior incisions may decrease dislocations, but have three times the fractures of posterior incisions and have no effect on correct component positions. Gait analysis studies have shown no difference in muscle function between anterior or posterior incisions so the claim of no muscle cut with anterior incisions gives false hope to surgeons and patients for improving results. Large heads do not overcome bad component position (the accelerated wear complications of metal-on-metal and ceramic-on-ceramic squeaking prove that). These two "quick fixes" have just changed the complications, not solved poor implant positioning.

Medicine has always been a profession that changes slowly. Doctors are inherently independent because they deal with patients who have variables that require innovative and creative solutions. With experience, doctors come to fearlessly trust their intuition and instinct. But these qualities cannot overcome errors associated with a mechanical operation using mechanical parts. Any chance for 100% reproducibility of expected results mandates the use of available technology.

Continued on page 2

The Dorr Arthritis Institute Medical Associates Good Samaritan Hospital

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Computers in the Operating Room
Page 1, 2
The Age of Robots
Page 2,
ANTIBIOTIC PROPHYLAXIS
FOR PATIENTS WITH
JOINT REPLACEMENT
Meet The Staff
Page 3
Letters To The Editor
Page 5, 6,7
Seminar Dates
Page 8

Please join us for a very special evening, Saturday October 23, 2010. Chef Leon Galatoire will prepare dinner with a distinctive Louisiana taste for our annual fund raising event, to benefit The Dorr Institute for Arthritis Research and Education and Operation Walk. The event will be held at the California Club in downtown Los Angeles. For more information and tickets contact Jeri Ward at 213-977-2511.

THE AGE OF ROBOTS

BY PAUL GILBERT M. D.



Dr. Paul Gilbert with the Mako Surgical Robot.

There is a current television commercial that points out the lack of computer sophistication in the world of medicine. It specifically targets patient records and their storage and accessibility. In the old days, we simply referred to this as information, but today we call it data or content.

In orthopedic surgeries and joint replacements, we have always relied on tools to help us repair and replace. Over time, basic hammers and chisels have given way to much more elaborate instruments. These have progressed to include computers that display real-time, pinpoint data about how we are fine-tuning our hip and knee replacements. The synthesis of man and machine to improve our process is nothing new; it's just evolved.

As we have written here in the past, the next developmental step is the robotic partial-knee replacement. The longevity and function of an implant is dependent on correct positioning and biomechanical construct. With computer exactitude and robotic guidance, the chance of error is substantially reduced. Studies have conclusively shown the measurable improvement in surgical precision with the use of this tool. It helps surgeons operate at their best.

At the Arthritis Institute, we have been employing the MAKO robot in partial-knee replacements for over two years and it is clear to us that it works. It allows for minimally invasive techniques and meticulous bone resurfacing, which lessens the risk of complications and failure.

We now have extensive experience with partial replacements in the medial (inside) compartment of the knee and have expanded that to the lateral (outside) as well with great success.

The MAKO system also enables us to replace the area between the kneecap and the femur. Very soon the first MAKOplasty hip replacement will be performed!

What I personally like about this technology, besides its accuracy, is the ability to painstakingly plan the surgery ahead of time. A CT scan is taken of the hip, knee and ankle and then the computer creates a 3-D reconstruction of the patient's knee in relation to the axis of the entire leg. Next, we utilize 3-D templates to coordinate the position, orientation and size of the implants. We can map out the overall alignment correction and biomechanical construct. Our preoperative methodology lets us critically think and work through any potential obstacles.

This exciting marriage of surgeon and machine undoubtedly results in well-planned and executed surgeries that produce better outcomes. Of paramount significance is a noted quicker recovery time for patients. Also, current studies point to excellent longevity.

While the conversion to electronic medical records is still in its infancy, computer robotic-assisted surgery is here. It is fascinating and rewarding.

COMPUTERS IN THE OPERATING ROOM

Continued from page 1

Computers have improved mechanical solutions for every industry, even soft tissue surgery (DaVinci robot). Sophisticated computer navigation, and navigation with robotic guidance solves THR implant positioning. The inclination and anteversion of the cup – and most importantly by far the center of rotation of the cup can be controlled. Robotic guidance gives the surgeon support by not permitting errors that occur with free-hand reaming (too shallow, too deep, elliptical shape). With center of rotation controlled, and especially with the level of the femoral bony neck cut controlled, the leg length and offset are correct in 100% of hips. So a machine in the OR can insure correct combined anteversion of the femoral stem and cup, correct cup inclination (35-45° and never above 45°) and correct length and offset. How much money is that worth? How much time is it worth to master the system?

Since the chance for a lifetime hip replacement, or at least 30 years, is dependent on nearly perfect biomechanical reconstruction (as Wroblewski proved with review of 30 year Charnley results) it is only fair to the patients that we use every technology available to accomplish that goal. It is time for joint replacement surgeons to enhance their native abilities, their intuition, and instinct, with available technology to ensure that all their patients have a chance to receive an optimal result.

ANTIBIOTIC PROPHYLAXIS FOR PATIENTS WITH JOINT REPLACEMENT

BY JERI WARD, R.N.

Patients undergoing joint replacement surgery are required to take prophylactic antibiotic medications prior to dental work for a period of time after surgery. The question is what is this time period? Over the years orthopedists, dentists, and infection control doctors have studied the effect of bacteremia on patients with knee and hip replacements.

Bacteremia from a variety of sources can cause hematogenous seeding of the bacteria onto joint implants both in the early postoperative period and for many years following implant procedures. When I first started working with joint replacement patients in 1983 the consensus was that the patient should take the antibiotic prophylactic medications whenever they had dental procedures for the rest of their life.

Studies have been done over the years and there was a shift in the opinion of the doctors that changed our protocol to requiring patients to only take the antibiotics for the first two years after surgery. Recently there have been additional studies and publications from the American Academy of Orthopedic Surgery (AAOS) that now indicate that since some doctors have seen "late infections," the consensus is to continue with taking antibiotics prior to dental treatment for the rest of your life.

The Dorr Arthritis Institute surgeon's recommendation is anyone with a joint replacement in their body should take antibiotics prior to any dental work or procedures through the GI tract for life. (Don't forget the other end of the GI tract, so when having procedures such as colonoscopy, hemorrhoidectomy, etc., antibiotic prophylaxis should also be used). Other circumstances that require antibiotic coverage are: urinary tract infections or bacterial bronchitis.

If you have any questions about when or if you need antibiotics to protect your joint replacement please contact the office at 213-977-2280 or 213-977-2511.

Meet The Staff



Congratulations to our operating room nurse, Yvonne, on her wedding vow renewal to Byron Gamble, June 19, 2010. This time it was the wedding the bride always dreamed of!

Dr. William Long gave the bride away. Yvonne has worked with Dr. Long in the operating room for over 15 years. We wish them many happy years together (both husband and boss!!)



My name is Maria Sanabria and I am one of the Medical Assistants at the Arthritis Institute. I'm returning back from maternity leave after 3 1/2 months. This is my son Jacob H. Sanabria born on 06/10/2010 at Good Samaritan Hospital. He is now 2 months old and he is a bright and mellow baby. Jacob said his first word on the 3rd day after birth mama. He is my bundle of joy. My life has totally changed and God has blessed me with so many good things, a wonderful husband and an adorable son.

Letters to the Editor



Dear Dr. Dorr and crew, I'm awaiting confirmation of my new IGFA fly rod world record (194.5 pound Tarpon caught on 12# tippet). After having been tortured on the Great Barrier Reef last October and an additional tournament in New Zealand in March 2010 we had results in Homosassa, Florida this May. My parts are feeling much better and if I had listened and not pushed for GBR and NZ, would have adjusted much sooner! Many thanks for a great procedure and pain free life. Best Wishes
Tom Evans

ANGELS AKA: OPERATION WALK BY JENNIFER FRASCA

We boarded in the dark, a red eye flight taking us from Los Angeles to Guatemala City. An easy flight, a little restless sleep, and a beautiful sunrise peeking through the clouds at 30,000 feet. As we descend into Guatemala several volcanoes are visible and they'll be our landmarks for the next week since they surround the city of Antigua.

After a brief delay getting through Customs, we're whisked by a competent driver up the circuitous highway an hour to the beautiful city of Antigua – our hospital home for the next week.

A quick breakfast and we convene at the

hospital Hermano Pedro, for a facility tour by the director, Father Giuseppe Conran. A public, social hospital and medical facility, it is "home" for many – infants through elderly, many with severe conditions who need special care and had been abandoned and, a place of hope for the thousands from throughout the country who travel many hours to receive care for a myriad of conditions. Funded by donations, Fr. Guiseppe says "God will care for them." With a lot of help from faithful, caring employees, volunteers, and servants of the church, they are cared for.

Medical teams of various specialties, primarily from the U.S., travel to provide their expertise and restore a quality of life to these grateful people. Operation Walk L.A. team has made several trips. This last time, August 2009, they were joined by a medical team from Pittsburgh, PA who were training to establish their own mission team. Here is one of the stories:



Jennifer and Rosa

My name is Rosa. I am 74 years old. I live in a small village about 6 hours from here. My right knee is so painful and I cannot walk on it. The hardest thing for me is that I cannot kneel in church. Thank you so much for my new knee. I will be walking again, and without pain. I will walk to church and pray for you every day. This is a miracle in my life. You are all angels sent by God and God will repay you.

There were 50 stories like this. One week and 63 new hips and knees later, the Operation Walk team headed home. Another successful trip and the life changing impact on the many grateful and gracious people of Guatemala will be felt throughout the country as they return to be productive members of their communities.

By Jennifer Frasca, a grateful new knee recipient on this side of the border, patient of Dr. Larry Dorr and the Arthritis Institute, and enthusiastic supporter of Operation Walk.

Dear Jeri

On Friday February 19, 2010 at 4pm, four of us accomplished a long sought after goal. We reached the summit of Mount Kilimanjaro. Our group comprised Don Murray and his son, Ryan, Rog Murray (Don's brother) and Rog's wife, Haesoon Yoon.

For those not familiar with Mount Kilimanjaro (The Roof of Africa), it is 19,340 feet in elevation, located in Africa in Tanzania 3 degrees south of the equator. In actual size, it is the "WORLD'S HIGHEST FREE-STANDING MOUNTAIN". To reach the summit you pass through five climate zones. It is like climbing from the equator to the arctic. The temperatures ranged from 90 (rainforest) to 14 degrees Fahrenheit on the summit (arctic).

Rog and Don are both patients of Dr. Long, who replaced all four of their knees. They had worn them out by training for and running many marathons over a number of years. Between them Don and Rog ran more than 100 marathons. Ryan is also a marathon runner and Haesoon is training to run her first marathon. Fitness has always been a part of our daily lives. Our training for the climb included: hiking, biking, gym workouts (treadmill, stair master weights, etc.)

We started our climb up the mountain at an elevation of approximately 6500 feet on February 12. The mountain is not considered an arduous technical climb, but ended up being more difficult than we had anticipated. The trail was often steep and covered with large rocks and boulders that were difficult to climb over. Haesoon would continuously remind us to "drink water" and to go "pole pole" (Swahili for "slowly slowly").

At the end of each day's climb, camp was set up and dinner prepared by our porters. After a hearty dinner, with plenty of delicious hot food and drinks, we discussed with our guides the next day's adventure. Then it was time to return to our tent and get a good nights sleep. Every day our temperature, pulse, lungs, and oxygen intake were checked and measured in order to verify that we were fit to continue the climb.

With each passing day the climb became more difficult. The "Barranco Wall" was a challenge that required good balance using 3-point suspension with lots of stretching for hand holds. The guides, porters, Haesoon and Ryan helped Don and Rog arrive safely at the top of "the Wall". As we climbed higher we encountered more rain and, for the last two days to the summit, we were in snow. On summit day we experienced a blizzard. At Stella Point 18,815 ft. in the midst of howling wind and snow, for safety reasons, Don and Rog considered aborting their summit attempt. For Haesoon and Ryan this was not even a remote thought. They motivated us to keep pushing to the summit. Haesoon, "The Boss", commanded us "twende twende" (Swahili for let's go).

After eight days of climbing we reached the summit. It was an amazing experience for the four of us to celebrate with our guides and porters on "The Roof of Africa." Haesoon had Don and Rog pose for the cameras with a sign she made that read, "Thanks Dr. Long". After taking many photos and celebrating for about 45 minutes, we started our decent into the crater where we spent a star-studded night sleeping at 18,750 ft. next to Kilimanjaro's glaciers covered in fresh snow.

We spent the next two days on a steep descent. The rain on the first day made our descent more difficult since we were traversing from side to side following a rocky streambed. The day seemed endless. When the streambed ended on day two the trail remained difficult. Our knees were now being tested by a stair-terraced trail that continued for many miles. Before reaching our Land Rover we walked for many more miles slipping and sliding on mud that caked on our boots. We were all happy to finally arrive at the trailhead, get some cool refreshment and reach the hotel to have our first shower in ten days.



Standing on the roof of Africa the summit of Mt Kilimanjaro

On Easter Sunday April 15, 2010 the four of us arrived at Mount Everest Base Camp 17,590 ft.

Don and Rog give their heartfelt thanks to Haesoon and Ryan for all of their help on the mountain and Dr. Long and all of the team at the Dorr Arthritis Institute. With your help, hard work, and persistence and without imposing self-limitations we will continue to reach great heights

THE LOVE OF MOTOR SPORTS

BY RICH PASCUZZO

I like motorsports. As a spectator, viewing them is fun, but as a participant, feeling their effects is better yet. The effect of adrenalin is better felt, than observed.

I wasn't great at driving a race kart but I could hold my own in the mid-pack. At race-end, my smile was just as big as those on the podium. I rationalized my performance by remembering that I was well into my fifth decade and most of my competitors were in their second, third and fourth. Karting involves speeds as high as 95 mph on an open track such as the Streets of Willow at Willow Springs in Rosamond, CA. Some of the rush of the sport stems from being able to pull 2-3 Gs in a corner. As you corner, this level of g-force will slam your inside knee into the gas tank and attempt to stretch your outside knee to the concession stand. Given 17 corners per lap, with an average of 45 laps, in a 15 minute heat race followed by a 25 minute main event, this world's most expensive Thigh-Master works you out. Your neck, supporting your helmeted head, is also not immune to the wonders of this g-force isometric extravaganza.

Two years ago, I decided that Karting was getting too expensive. The wallet and the knees were paying too high of a price. I sold my entire racing kit and sat around for about a month before deciding that returning to off-road motorcycling would be a good idea. After all, I rode with my kids up until just 20 years ago. How much could have changed?

I learned about arthritis empirically, from these and similar endeavors. There came a point when I walked, waddled and slowed, in similar fashion to my father. His solution was to visit Dr. Lawrence Dorr, some 25 years ago. Following suit, my e-mail soon provided me with an appointment with Dr. William Long. We established goals, he recommended a pair of Mako Uni-Compartmental Knee replacements, his evaluation indicated that I'd be a good candidate for robotic surgery and within weeks, I was a willing patient. From the pre-op coordination, throughout the surgery, the post-op care and the physical therapy, I always felt confident that I was in the care of the finest professionals. The level of precision and organization in their approach is truly remarkable. It is truly a team effort and each team-member knows their role and executes it with skill, confidence and on a timely basis. The icing on the cake was when Jennifer, from Physical Therapy, showed up at my residence for our last session. I didn't anticipate that house-calls would be a part of the deal.

Wow, what a team!

My recovery went well. My post-op instructions were plain and simple..."Ambulate". I was walking around the block within two weeks, just carrying my crutches at my side, mostly for balance and warding off the occasional curious puppy. I was able to increase my walking to 2 miles within 2 months. I returned to bicycling, kayaking and swimming within 4-5 months. Dr. Long sentenced me to 8 months of no impact loading. He was spot on. My garage housed a perfectly healthy dirt bike, which was sticking its tongue out at me on a daily basis. All-the-while my mind wanted to kick-start it and go, but my body wanted to wait for the full 8 months. I knew that the stability required for balance wasn't there yet, nor was the resilience to absorb a fall.



In January, 2010, I finished serving my 8 month sentence and coincidentally my riding club was putting on a 250 mile off-road ride in Ridgecrest CA. On some days the planets just align. I was very pleased to be able to participate and knowing that I had met with Dr. Long's requirements, I launched into this new adventure and was pumped up. That would be a fairy tale ending to this saga and a good place to stop, right? But wait.....there's more.

While Los Angeles was being graced with heavy precipitation on that particular weekend, Ridgecrest was being graced with an inordinate amount of snowfall. On a dirt bike, a little snow is OK, but a lot of snow is way bad. Fifteen minutes after the photo on the adjacent page was taken, I had a low speed fall among several other bikes that had become victims of the axle-deep snow. I was hoping that the cracking noises that I heard were the Velcro fasteners coming undone on my jacket. Not so. I was also hoping that my right ankle was just sprained. Again, not so.

We were 35 miles back into the mountain trails. My thermometer was showing 28 degrees, the altimeter was at 5400 feet and a massive thunderhead was coming over the ridge. My riding partner was soaked after launching his bike into an iced-over puddle that would have swallowed a Jeep. His lips were the loveliest shade of blue.

It was a quick and unanimous decision that we should head out of this altitude immediately, and get back to some warmth. Out of the snow, traverse the mud, and then back to the dry desert was our plan. Upon arrival, highway 395 never looked so good, as we left the outback and headed for our hotel. Removing your riding gear, at day's end, tells the story of the ride. Water, gravel, cactus needles, mud, sand and monkey-butt are common souvenirs of the day's terrain that have been collecting in your britches. The best things that I took off that evening were my new CTI knee braces. They alone are responsible for saving all of Dr. Long's great work. The fall left me with a displaced tibia and a broken fibula.

The good news was that my 8-month old knees survived unscathed. The braces and knees held up admirably and the torque was transferred to my ankle. Four days later we did a little bit of surgery to install a plate and 5 screws and all was well, once again. Three short months later, I was released to ride again. Last Saturday I completed a 140 mile trail ride from Beaumont to Idyllwild and back again. This time I had great weather, beautiful scenery, a sound fibula and great knees.

To Dr. Long, his wonderful staff and all of the good people at the Good Samaritan Hospital in Los Angeles, thank you for giving this all back to me. To those who are also beginning to feel the limitations of arthritis, do not wait. Get it fixed and get back to living life.

Sincerely,
Rich Pascuzzo
May 19th 2010 – One year post-op



The fall left me with a displaced tibia and a broken fibula. A little surgery to install a plate and 5 screws and all was well, once again.

Precision Robotic Assisted Surgery For Knee and Hip Replacement

The Dorr Arthritis Institute Medical Associates and Good Samaritan Hospital would like you to join us at one of our free seminars. The Institute's team of master surgeons and anesthesiologists will discuss use of computer navigation and robotic guidance in obtaining accurate placement of implants for every hip and knee replacement performed by our surgeons.

You will learn an anterior hip incision does not improve results; that implant placement is most important. Computer and robotic precision guided surgery is providing patients less invasive joint replacement, with more rapid recovery. Same day discharge after hip replacement is possible for patients under 65 years of age.



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JOIN US AT OUR FREE TUESDAY NIGHT SEMINARS

Please come join us at one of our up coming Tuesday night seminars. Experts from the Dorr Arthritis Institute Medical Associates at Good Samaritan Hospital will discuss some of today's most advanced hip and knee replacement techniques. During this free seminar, you will learn how new computer and robotic precision guided surgery is offering patients a less invasive and longer lasting option for joint replacement.

Registration 6:00 to 6:30 pm
Program begins at 6:30
For more information call 1(213) 977-2511

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