Arthritis Institute Research Keeps Life “A moving experience!”

Encarta Dictionary defines research as the "methodical investigation into a subject in order to discover facts, to establish or revise a theory, or to develop a plan of action based on the facts discovered." It is safe to say that the Arthritis Institute is engaged in all of the above.

Virtually every field of medicine has seen dramatic advancements as a result of research, discovery and innovation. Some have changed quite rapidly and dramatically. Cardiac surgery saw advances in open heart surgery, general surgery with the development of the laparoscope and now total joint replacement surgery is changing with the advent of the "mini incision" and computer navigation.

Joint replacement surgery has reached new technological and technique milestones making surgery today unlike anything in the past. There has never been a better time to undergo total joint replacement and the Arthritis Institute is striving to be a leader in research, technology and technique.

Once again, Drs. Dorr, Long and Yun were asked to represent the field of joint replacement at the Academy of Orthopedic Surgeons (AAOS) annual meeting in Washington, DC this year where they presented lectures and papers to an assembly of orthopedic surgeons from all over the nation. They spoke on a variety of topics that have been researched and refined at the Arthritis Institute over the past year.

Dr. Dorr led the group with four lectures on Total Hip Replacement. He is one of the most sought after speakers on Total Hip Replacements and has utilized research conducted at the Arthritis Institute to address questions on the issues of achieving equal leg lengths using computer navigation, as well as single incision minimally invasive surgery (MIS). Dr. Dorr also participated in a much anticipated debate on the optimal technique for Total Hip Replacements.

Dr. Long, who is becoming one of the foremost authorities on the use of Metal on

Arthritis Institute Opening in Marina del Rey

A satellite Arthritis Institute is currently being developed in the medical office building next to Marina Hospital on Lincoln Blvd. in Marina del Rey. This location will help to expand our outreach and serve as a more convenient location for residents of Westchester, Marina del Rey, Venice, Culver City, and Santa Monica.

New patients will be seen at this facility, as well as postoperative patients or patients coming in for annual checkups. If you would like to be seen at the Marina Arthritis Institute please let the scheduler know when you call 310-695-4803 for your appointment.

We look forward to seeing you there and providing the same outstanding, high quality care for your arthritic joints! Opening day is April 18, 2005.
Standing Ovation.

Congratulations to Lawrence D. Dorr, M.D. — 2005 Humanitarian of the Year by the American Association of Orthopaedic Surgeons.

For those that feared they might never walk again, Operation Walk is truly a miracle. Each year Dr. Dorr and his team of physicians, nurses and volunteers travel to help those crippled by arthritis or injury. Peru, El Salvador, Nicaragua, Cuba, the Philippines, even right here in Los Angeles, their mission of mercy knows no boundaries. Life, like Operation Walk, is indeed a moving experience.

From all at Centinela Freeman, we are proud to support Operation Walk and join in offering our congratulations to one of the nation’s leading orthopaedic surgeons.

310.695.4800
centinelafreeman.com
dorrarthritisinstitute.org
Dr. Lawrence D. Dorr was recently presented with the Humanitarian of the Year Award for 2005, by the American Academy of Orthopaedic Surgeons at their annual meeting in Washington, D.C. on February 26, 2005. Dr. Dorr was recognized for the development in his work with Operation Walk. A video of Operation Walk was shown to the Academy and Dr. Dorr gave a warm acceptance speech. He acknowledged his parents for instilling in him the desire to give back to the community. Dr. Dorr founded Operation Walk in 1994 and has led teams to operate on over 850 patients throughout the world. Operation Walk has been supported by the Zimmer company, Centinela Freeman Regional Medical Center, Stryker, Biomet, Chuck and Carolyn Miller, The Skirball Foundation, Mr. Mark Brutten, and Mr. George Etheridge. The Operation Walk team and the staff of the Arthritis Institute and Centinela Freeman salute Dr. Dorr!

Lawrence D. Dorr, M.D. receives Humanitarian of the Year Award from the American Academy of Orthopedic Surgeons President.

Forty-three team members traveled to Sonsonate, El Salvador in March 2005 to operate 44 hips and knees in a 3-day period. The trip was quite a challenge. Sonsonate is a 2-hour drive from the San Salvador airport. The weather was extremely hot, at least 90 degrees every day with high humidity. The hospital in Sonsonate operates about 5 joints per year, usually through other orthopedic relief organizations.

The patients had compelling stories as most of our Operation Walk patients do. One patient, Jose Cisneros is a 32-year-old man with ankylosing spondylitis. This is a form of arthritis that causes bones in the knees, hips, and spine to fuse, thereby making the patient unable to sit or bend at all. Basically, Jose's body was like a plank and it was very difficult for him to get up. Once Jose was up on his feet, he would stay up for hours at a time because it was so difficult for him to try and lay back down. The Operation Walk team operated both of his hips and we had him sitting at the bedside before we left to return to Los Angeles (of course, he was very happy!). Our plans are to return to El Salvador within the next 18 months to replace both of his knees, thereby allowing him to sit normally and go from sitting to standing more easily. We will also be returning to treat other patients. As in many other countries to which we have visited, needs overwhelm the means that we have at that time. For this reason, subsequent trips are a necessity. If you would like to sponsor the knee replacement surgery for Jose, or other patients like him in El Salvador, please make a contribution to the Dorr Institute for Arthritis Research and Education/Operation Walk. Donations can be made on-line.

Top: On the last day the patients gather with the team for a photo, and to say thank you and goodbye.
Left: It takes a lot to get Jose Cisneros on his feet for the first time. It got much easier by the end of the week!
Right: Lawrence Dorr receives a certificate of appreciation from Manuel Arce, the Mayor of Sonsonate, El Salvador.

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Log on to our website at http://www.dorrarthritisinstitute.org/operationwalk

Don't forget crutches, walkers, canes, and TED hose that have been used should not be discarded, but returned to the Institute for reprocessing and use for future Operation Walk trips. Again, we thank everyone for their support in allowing us to continue these efforts.

This hopeful patient is visited by her 12 year old son who took a bus for 3 hours just to visit his mother.

Dr. Kenneth Landis and Lynne Zawacki R.N. examine a patient prior to surgery.

Keith Jackson is the signature voice of college football. But faced with a painful knee injury, he made the call of his career...to the Arthritis Institute at Centinela Freeman. Today, with two new knees, the Hall of Fame announcer can't say enough about being back in the game.

At the Arthritis Institute we offer comprehensive orthopedic services, complete knee and hip replacement, and of course, rehabilitation. Our pioneering team is internationally renowned not only for its depth of experience but also for advancing the art and science of joint replacement.

Life is a moving experience, but the first step is up to you. Join Keith and the thousands of others we've helped to get their freedom back! Call today and ask for Jeni Ward.

In 12 years with the Green Bay Packers, Willie Davis never missed a game. But while linemen couldn't stop the lightning-fast defensive end, arthritis did. So when the NFL Hall of Famer needed joint replacement surgery, he turned to Centinela Freeman. According to Willie, "If I'd known it would be this successful -- I would never have waited so long."

Don't wait. Life is a moving experience, and at the Arthritis Institute we can help you regain your freedom. We offer comprehensive orthopedic services, complete knee and hip replacement, and of course, rehabilitation. Our pioneering team is internationally renowned not only for its depth of experience but also for advancing the art and science of joint replacement.

The first step is up to you. Join Willie and the thousands of others we've helped to get their freedom back! Call today and ask for Jeni Ward.
Metal components for total hip replacements lectured on this topic using a recently completed and published study (An American experience with metal-on-metal total hip arthroplasties. A 7-year follow-up study; Journal of Arthroplasty, December 2004, Supplement • Volume 19 • Number 8 • p29 to p34 William T. Long, MD, Lawrence D. Dorr, MD, Vlad Gendelman, MD)

Dr. Yun presented a paper that was accepted for a podium presentation on the use of the computer navigation system during total hip surgery. Dr. Yun is one the first surgeons in the United States to have used the computer navigation system for hip replacements. He presented the results of research on the efficacy of the computer which was performed by Dr. Dorr, Yugi Hishiki, R.N. and the research team led by our longtime and well published research director, Zhinian Wan, M.D. Additional calculations were made by our visiting international (Japan) research physician, Yutaka Inaba, M.D. These surgeons have kept the research department working at full capacity on over 22 ongoing projects. They are performing studies comparing the post-operative pain control technique for Total Knee Replacements. They are also comparing the use of the femoral catheter to the use of epidural pain control after knee surgery, and would like to determine if placing pain medication closer to the affected surgery site gives better pain relief with more range of motion in the first 36 hours after surgery. The goal is to find the optimal technique for pain relief and maximize the range of motion of the knee joint in order to return the patient to normal function in a shorter amount of time.

The Arthritis Institute’s most sought after information is gait (walking) studies on both hip and knee patients to measure the advancement of functional recovery from the operations. The way a patient walks is measured before surgery and again at six weeks, three months and six months post-operatively. Each aspect of the gait (walking) cycle is studied to determine how the surgical technique may have restored the patient’s walking pattern.

While gait studies are essential in evaluating total knee and hip surgeries, they are rare and normally very difficult to maintain. Therefore, the Arthritis Institute’s work in this area is increasingly in demand for the total joint community.

Research would not be possible without the patient population’s willingness to participate. Your participation has had an immediate impact on the orthopedic community and the techniques being utilized by surgeons today.

RESULTS: The following are a few results from a randomized incision study comparing Mini incisions to Long incisions.

This study was opened in Jan 2004 and is still currently open to enrollment. The following tables represent the average pain scale scores and medications taken during their hospital stay.

<table>
<thead>
<tr>
<th>Average pain scale rating (0-10)</th>
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<td>Day of surgery</td>
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<td>Day One</td>
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<table>
<thead>
<tr>
<th>Pain medications*</th>
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<td>Day Three</td>
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* Average number of pain medication (narcotic) tablets taken per day.
† Statistically different: p value = 0.03

Here are the percentages of patients who used the following assistive devices when they left the hospital.

<table>
<thead>
<tr>
<th>Discharge Assistive Device</th>
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<tbody>
<tr>
<td>Did not walk</td>
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<tr>
<td>Front Wheel Walker</td>
</tr>
<tr>
<td>2 Crutches</td>
</tr>
<tr>
<td>1 Crutch</td>
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<tr>
<td>Single point cane</td>
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</table>

Note:
Average discharge day: MINI incision: Post Op Day 2
LONG incision: Post Op Day 3
Lawrence D. Dorr, M.D.

See AI's web site for details
www.dorrarthritisinstitute.org

Small incisions have encouraged patients. Those of you who have read Malcolm Gladwell's book "The Tipping Point" know that the excitement with small incisions is past the tipping point. This is particularly true in metropolitan areas such as Los Angeles and Southern California where it has been publicized most frequently.

Our research foundation has data on the reasons for popularity and objective studies of the benefits of small incisions. Several ideas have been introduced claiming "better recovery", "no muscle cut", and "quicker discharge home". However, many of these claims are unsubstantiated.

A psychological survey was conducted to determine why patients favor the small incision. This survey has shown that patients have greater confidence, a more positive attitude, and a belief in better recovery with the small incision. The psychological survey has three domains (sections): pain, function, and well-being. In all three domains, the small incision is preferred, even by those patients who had long incisions.

Objective studies have included a randomized study and a study of a cohort of patients who had posterior mini incisions. These studies reveal that patients with a small incision use less pain medication than those with a long incision. Eighty percent of patients with a small incision are discharged home on a cane compared to 20% of patients with a long incision. Gait analysis study at six weeks shows that the posterior mini incision has better gait function than that of the the patient with a long incision.

Claims have also been made with regard to anterior incisions. Some propose that anterior incisions would be a better approach with the small incision surgery. The theory was that anterior incisions would be favorably as no muscle would be cut and therefore a quicker recovery would occur.

In fact, the posterior mini incision recovery may be as good or better than that of the anterior incisions. At Centinela Freeman, the pain medication usage, discharge function, and the recovery potential with full function, including absence of dislocation precautions - is the same. According to research conducted by the Arthritis Institute, gait studies to-date favor the posterior mini incision because hip extension is better in patients with the posterior incisions. These studies were conducted at 6 weeks postoperatively and suggest that the anterior incision of the capsule, and the severe resisted torsion of the leg during femoral stem placement with anterior incisions, injures as much or more tissue than the controlled muscle cut that occurs with the posterior incision. In addition, dynamic gait studies (dynamic EMG) have shown that the cut of the gluteus maximus muscle, which has a small muscle cut during posterior mini incision, is typically functioning normally at 6 weeks postoperative.

What else is new? The most exciting development in the past 10 years is computer navigated hip replacement (see the web site for a simulated use of the computer with hip replacement). This advancement is the most important since the new articulation surfaces were introduced 10 years ago. It provides a greater opportunity to achieve incredible precision with hip replacement by providing knowledge to the surgeon about the position of the cup and the stem, and the biomechanical reconstruction of the hip including leg length and offset. The computer navigation allows avoidance of impingement of the stem and cup which may be the most important factor for avoidance of dislocation, accelerated wear, and postoperative pain.

Its use allows some patients to go home within 24 hours with full function after the posterior mini-incision. “Full function” refers to clearance for the patient for most home activities, which can include putting on shoes and stockings, using regular chairs and beds, and resuming sexual activities.

The computer navigation program was developed at the Arthritis Institute over the past two years. Much work was done by Dr. Dorr’s team of Yuji Hishiki and Roseanne Springer in the operating room; Deanne Newton is the physician assistant who collected the data; Leigh Ellen Sirianni, Myriam Boutary, and doctors Zhinian Wan and Yutaka Inaba of the research team cooperated in tabulating and analyzing data. Our congratulations to them for this advancement and gratitude for their interest and work.

There will be a section on the web site called "Front Page News" in Current Events. This front page news will list new data findings for hip and knee replacements happening at the Dorr Arthritis Institute, as well as nationally. This news will be updated every 2 weeks. Visit the web site to stay informed.
Exciting advances for hip replacements patients are taking place daily at Centinela Freeman Regional Medical Center. Some patients at the Arthritis Institute who have undergone hip replacement surgery can go home as soon as 12 hours after the procedure. Most of our patients are able to go home within 24-48 hours after the operation.

We attribute the advances that are being made to sophisticated anesthesia protocols, better patient education, and the advent of minimally invasive hip replacement surgery and computer navigated surgery. More information on minimally invasive hip replacement (MIS) can be found in this issue!

Patients undergoing hip replacement surgery are required to attend a preop class. During the preop class our goal is to answer all of the patient’s questions prior to their hospitalization. We discuss the surgery itself, what to bring to the hospital, some things that are relevant to the hospital stay, and what to do when you are discharged home. The physical therapist works directly with hip replacement patients teaching them how to get in and out of a recliner, in and out of bed, climb stairs, and get dressed. Actually performing these maneuvers before the operation gives the patient confidence and helps take away the fear of learning new things in the immediate postoperative phase. The class is taught by the same physical therapist that will be treating the patient in the hospital, which also helps to build rapport and install confidence.

Anesthesia protocols have changed dramatically. In past days patients were given a general anesthetic, which required them to be intubated and have a Foley catheter placed in their bladder. Now, with epidural management of operative patients, the need for these measures can be reduced. Patients have epidural anesthesia and a light sedation through their intravenous line. They seldom need intubation or catheterization. After surgery the patient wakes up with less of the side effects that are usually associated with a general anesthetic, nausea and dizziness. Prophylactic medications are given to alleviate the chances of developing these annoyances. Working together as a team to manage our operative patients has helped us make advances in postoperative care. Patients who have had surgery many years ago at our facility marvel at these techniques when they see how much better patients can feel after the operation, today.

We also boast some of the BEST nursing care for joint replacement patients. Our nurses have worked together for over 10 years as a team to provide high tech skills with old fashioned care and compassion for our patients. Our specialty unit provides the best nurse patient ratios to help assure you a safe and more rapid recovery.

### Upcoming Events

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<th>Date</th>
<th>Event</th>
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<tr>
<td>4/28 - 4/30</td>
<td>Master’s Series</td>
<td>Pasadena</td>
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<td>5/14/05</td>
<td>Arthritis Health Day</td>
<td>Los Angeles</td>
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<td>5/24/05</td>
<td>Evening Seminar</td>
<td>Torrance</td>
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<td>6/11/05</td>
<td>Operation Walk</td>
<td>Los Angeles-Ingleswood</td>
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<td>6/14/05</td>
<td>AI Open House</td>
<td>Marina Campus</td>
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<td>6/21/05</td>
<td>Evening Seminar</td>
<td>El Segundo</td>
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<td>9/20/05</td>
<td>Evening Seminar</td>
<td>Long Beach</td>
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<tr>
<td>10/18/05</td>
<td>Evening Seminar</td>
<td>Los Angeles</td>
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For information about upcoming events, our staff, and the management and surgical treatment of arthritis, visit our website www.dorrarthritisinstitute.org
Dear Dr. Dorr,

It has been a little over 6 months since your outstanding team performed a double knee replacement on me. Your team had previously performed a double knee replacement for the third baseman on my senior softball team. He was able to resume playing 3 months after his operation and my goal was to meet or exceed his remarkable recovery time. I am happy to report that I was able to resume pitching (slow-pitch) at 11 weeks. I owe a debt of gratitude to your outstanding team and especially to Deanne Newton who I have nicknamed "dragon lady" for her diligent monitoring of my postoperative knee flexibility. Not bad for a couple of 70ish ball players.

Sincerely,
Robert K. Jue

Dear Kent,

Thank you so much for being a team member on our Operation Walk El Salvador trip March 12-19, 2005. We appreciate your spirit in volunteering to help others in need. We operated 44 joints over a 3-1/2 day period. Quite a feat in 90 degree weather! I appreciate everyone hanging in there and getting so much work done. The patients were very happy when we left.

Kent, thanks again for your help. I hope it was a good experience for you. I admire your sense of humor, your spirit of willingness, and your extra efforts with hard work on the mission. I hope you do well in school and find your niche in life. You will always be the first student with Jamie on Operation Walk and therefore we will never forget you. Let's promise to stay in touch.

Love,
Jeri Ward, R.N.

The Arthritis Institute
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