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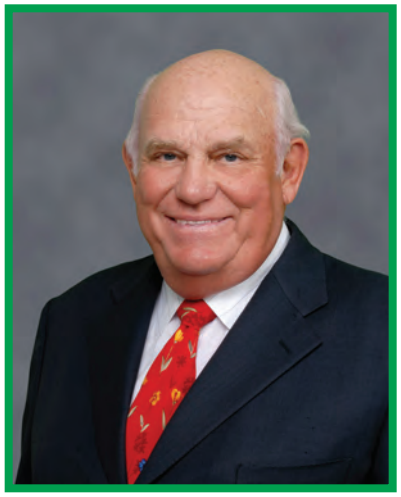
Surgical Outcomes from the Dorr Arthritis Institute

by Lawrence D. Dorr, M.D.

Ten years ago (1999) we published our outcome data for hip and knee replacements from three years, 1996-1999. In 2002 we again published data from the years 2001 and 2002 which was unchanged from the previous report. It was encouraging at that time to see our results were consistent and well below national averages for complications. The current debate on healthcare reform stimulated us to publish our outcome data again. We anticipated our data with dislocation after total hip replacement (THR) would improve because of the use of computer navigation for component positioning and small incisions with less tissue trauma. Complete avoidance of any complication is impossible in medicine, but patients should know the statistical odds of one occurring when choosing a doctor. Establishing complication rates for a mechanical operation like joint replacement is relatively easier than for biologic treatments like, for instance, diabetes. But my opinion is that every medical practice should be accountable to their patients by providing outcome data. Knowledge of this data also can stimulate changes to improve care as will be illustrated by our experience with infection.



Lawrence D. Dorr, M.D.

National data on total joint replacement is available from the administrative database of Medicare.[1,2] Published results from clinical scientists provide another source of comparative data for our outcomes.[3,4] We will compare our data to that of two other choices for THR most commonly asked about by our patients, the anterior approach for THR [3] and surface replacement THR [4] Comparison to national averages, when available, will also be compared for your evaluation.

Table 1-4 presents the data from 1999 compared to that of one year, July 2008 to July 2009. The current data combines that of Dr. Dorr and Dr. Long. (The data in 1999 was just of Dorr) The data is separated by primary (first time) hip replacement, revision hip replacement, primary knee replacement, and revision knee replacement.

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Perhaps the most impressive overall conclusion from these outcomes is the consistency of data being superior to national data over the past 10 years. Our data with both THR and total knee replacement (TKR) remains consistently superior to national data. This consistency is important because the projection of experts is that revisions will increase significantly between 2005 and 2030. [5] The best protection against revision is an excellent primary operation.

A summary of the data shows that with primary THR the biggest improvement is reduction of dislocation. This improvement is because of the use of computer navigation and small incisions. The comparative data shows no difference in rate of dislocation when compared to THR with anterior incisions. This reduction of dislocation has been a major claim of superiority from those who advocate anterior incisions. The posterior small incision incises the Gemelli and Obturator Externis muscle and saves the Piriformis and Quadratus Femoris muscle, while the anterior incision incises the Piriformis and Gemelli. There is no difference in muscle damage with these incisions (Mayo Clinic data) and with correct component position the dislocation rates will be the same as we have seen.

Our infection rate of 0.66% deep infection was our biggest concern during 2008. We had two patients with wound infection which required drainage and two deep infections which required implant removal and treatment of the infection. As a comparison, the anterior hip data of Matta [1] had one deep infection and 3 wound infections; the surface replacement data had one deep infection and no mention of how many wound infections.

Our concern was not that we had infections – infection is inevitable with greater risk in patients with diabetes, rheumatoid arthritis, obesity, alcoholism, and smokers. Nationally, infection is the #1 cause of revision for TKR with 25% of 60,355 revisions reviewed. For THR, dislocation is the #1 cause of revision with 22% of 51,000 reviewed and infection was the third cause with 15% of revisions. Our concern was that the two infections were Methicillin resistant staph aureus (MRSA). Hospital infections are increasing recently. MRSA is now 19% of TKR infections and Methicillin resistant staphylococcus epidermidis is 11%. Resistant organisms are hospital generated. Methicillin resistant bacteria are such bad bugs because so few antibiotics can kill them. If this infection occurs it requires aggressive surgical removal of infected tissue and a strong host defense (immune system of the patient). We had concern because we had no infections at Centinela Hospital the previous year and certainly no MRSA. The two wound infections were in patients considered obese so not unusual. Both healed (one patient has subsequently purposely lost 75 pounds so the infection, was in the end, beneficial for her.)

The two deep MRSA infections caused us to ask the hospital administration to review their central supply (instrument cleaning and packing procedures) and culture OR personnel for identification of any carriers of the germ. Our team initiated it's own review. The outcome of that review is that all preoperative patients have nasal cultures and we have added an intravenous antibiotic administered in the operating room which is specific for MRSA. Since we have begun this protocol in January 2009 we have had no MRSA infections and only one wound infection overall. We are again confident our patients are at no unusual risk for infection at surgery, thanks to the obsessive concern for patient care of all members of the Arthritis Institute team.

A second factor in control of infections and deep venous thrombosis (blood clots) is our rapid recovery program. With primary THR we can discharge patients under 65 years of age home the same day (Medicare does not pay for same day discharge) and patients who are over 65 years can go home the next day. Patients 75 years or older commonly stay two nights or until safe and functional. Patients with primary TKR spend two nights in the hospital. The increased activity at home protects against blood clots and our published data [6] is as good as those who use Coumadin or Lovenox blood thinners which also cause wound drainage and hematoma which can lead to infection. We have had no deaths from pulmonary embolism (blood clot to lungs) in several years. Patients at home cannot get infected with hospital germs either! My favorite saying is, despite the absolute superb nursing our

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Table 1 Primary THR

Complications	474 hips 1999	300 hips 2009	National
Dislocation	1.47%	0.66%	3.2%
Infection	0.63%	0.66%	0.32 – 0.59%
Fracture	0.2%	0.70%	0.81% *
Loosening	0.4%	0.33%	0.39%
Reoperation	2.2%	2.1%	4.0% +

* Combined data of Mayo Clinic and Dorr Arthritis Institute
\+ Estimated from number of revisions per year (does not include evacuation of hematoma which our data does in reoperation. Revision alone for us was 1.0%).

Table 2 Revision THR

Complications	311 hips 1999	120 hips 2009	National
Dislocation	3.54%	2.25%	14.4%
Infection	1.3%	0.8%	1.0%
Fracture	0.64%	0	
Loosening	1.00%	0.8%	
Reoperation	8.0%	2.0%	

Table 3 Primary TKR

Complications	494 knees 1999	265 knees 2009	National
Patella	0.4%	0.8%	
Infection	0.4%	0.8%	3.0%
Instability	0.4%	0	
Wear	0.2%	0	
Loosening	0.2%	0	
Reoperation	1.8%	1.8%	7.0% +

\+ Estimate from number of revisions (60,000) in one year.

Table 4 Revision TKR

Complications	115 knees 1999	58 knees 2009
Patella	1.7%	0
Infection	1.7%	0.4%
Loosening	0.9%	0
Stiff	0	0.4%
Reoperations	7.00%	3.4%

Table 5 Primary THR

Complications	311 Posterior DAI	494 Anterior Matta	500 Surface Multicenter	National
Dislocation	0.7%	0.6%	1.7%	3.1%
Infection	0.66%	0.2%	0.2%	0.2%
Fracture	0.2%	2.4%	2.4%	0.81% - 6.2% *
Loosening	0.4%	N/A	0.4%	
Nerve injury	0	0.2%	1.7%	0.2%
Reoperation	2.1%	1.5-2.0%	6.0%	4.0% +

* Absolute figures not given in article + Estimated. See Table 1.

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patients receive, "Nothing good happens in the hospital after the surgery is completed."

Our data show results comparable to THR with anterior incisions and surface replacement (Table 5). Both anterior and posterior small incision patients with conventional THR have data better than the surface replacement data. Of most interest is two complications: dislocation and nerve injuries. These were higher in the surface replacement group but the authors observed that these complications occurred mostly during the learning curve of the surgeons for the operation. One benefit of surface replacement is supposed to be avoidance of dislocation because of the large ball used. However, the surgical incision is so large, and soft tissue damage so much more than with either posterior or anterior small incisions, that dislocations are more frequent. The increased (and high) percentage of nerve injuries is for the same reason. Nerve injuries may be the worst complication a patient can endure because so many do not fully recover. We can eradicate infection and cure dislocations, but nerve injuries heal only at the hand of God.

Finally, the biggest improvement has been with the revision surgery which has had improvements because of better implants (modular implants give greater versatility) and the use of the computer. Dislocation was a frequent complication after revision THR, but is significantly reduced with the use of larger femoral heads and computer navigation. Infections are reduced by shorter operative time and earlier decision for revision which reduces the tissue damage present in failed hip or knee implants.

We are proud of the care we give to our patients with such superior nurses. The operating room team is of comparable superiority but their work for the patient occurs while the patient is anesthetized so patients don't have as much recognition of this care. The clinic staff makes going to the doctor enjoyable. Our superior surgical outcomes complete the high standards we aim to achieve.

Letters To The Editor

The Bucket List

By: Dave Appel

Long before Jack Nicholson and Morgan Freeman began to fulfill their "Bucket List", Dr. William Long was creating lists to encourage his patients to fulfill their dreams.

On March 4th, 2005 I found out that I had Arthritis in my right hip and that I would need to have joint replacement to ease the pain. I thought my career as a Firefighter was over.

On the morning of November 16th, 2006 Dr. Long stepped up to my bed side with a pad of paper and asked me "Once you have healed from the surgery, what would you like to be able to do?"

Of course I had just taken my pre-op medications and felt like I had spent an hour at one of the best happy hours of my life. I told him that I wanted to be able to do some cardio vascular workouts on a Stair Master or treadmill. He then restated the question, "What would you <u>really like</u> to do?" I told him that I would like to be able to finish my career as a Firefighter, play beach volleyball, water ski, wake board and snow board. He wrote them down and told me that every year when I came in for my annual checkup, that he wanted to check at least one of the items off of the list.

That was a little less than three years ago and as of this last Summer I was able to check the last thing off on my list. I am so grateful to Dr. Long and all of the people at the Arthritis Institute for giving me back a lifestyle that far exceeds my expectations. To anyone who is contemplating joint replacement, I would say start your list and never look back!

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Do Or Not To Do

By: Annie Capri

To "DO" or "Not To Do" – there is No question!! The smile on my face has come back thanks to the wonderful care and help I received at the Dorr Arthritis Institute. I am now living once again pain free with my smile which had been missing for over two years due to painful debilitating knee/hip pain. I can only write this in praise or Dr. Lawrence Dorr and perhaps more importantly to give you a glimmer of hope beyond the pain.

My story is one that may help others to decide to "Do" rather than live a life of compromise, and pain. My name is Annie Capri, 49 year old mother of 8 beautiful athletic, non-stop children. I am (or at least was prior to this debilitating condition) an athletic warrior myself- always pushing the impossible , 3rd degree black belt , accomplished player of most sports, growing up with 8 siblings in a very active family- you get the picture! Oh, and I must add, I have been diagnosed as having Parkinson's Disease for over 9 years now. This has been weakening my right side of my body. To have my life come to a screeching halt was enough to wipe the smile from anyone's face.

I had countless minor surgeries, both knees reconstructed, countless injections, physical therapy sessions and money wasted with the wrong orthopedic offices. Frankly just prior to seeing Dr. Dorr, I was at my wits end to find the answer to my inability to walk without extreme pain and crutches, sleep without pain killers or give up one more day of my independence. When I walked into numerous orthopedists offices, they would pound a similar mantra……. "You need to be crawling into my office before I will surgically do anything" (I was!!) and "You have Parkinson's, Why would you bother with more surgeries", Can you imagine how I felt? Was walking in my life over? The Dorr Arthritis Institute was the last place I went to, and it should have been my first. But can I tell you Dr. Dorr is a gift. He took me along this journey and opened a door once again, to a smile, to my life. For this I will be forever grateful. I learned from him that in fact, I had degenerative hips from birth, a hereditary problem . That would help explain the hip surgeries of my uncle and my father, my father that has since passed from complications from his own hip replacement.

You can imagine my concerns, I wish we knew Dr. Dorr then!

I invite anyone to experience the expertise of this gifted surgeon Dr. Dorr. His talent is god-like, as is his warm teddy bear personality. The talent he's hired is second to none, from the doctors, the nurses , to the cleanliness of those who care for you in the hospital. Each and every team member complements the great man. They work as a family, a winning team. Most importantly, they truly care and will go to all lengths to help the patient.

I had a double hip replacement and from the moment I woke from surgery, my smile has returned. I'll never forget the feeling when I walked the first day. I almost cried I was so happy. It was the first time in my life that my legs were level, what a great feeling! I could walk with a walker day one. This was step one, each step, each day got easier and easier. I spent a few secure days in the hospital, then the next step was to go HOME with the KIDS! I was nervous, but at each step the entire Dorr team was present and there for me, helping me achieve the next step, and then the next.

The in-home nurse was so encouraging, helping me advance to crutches in a few days, then to a cane for about 1 ½ weeks, (mainly for protection from running children!), and then the confidence to go without a cane around home by the third week. My right leg had atrophied so badly that it took some extra time to catch up to the stronger left side. Slowly but surely it regained strength not seen in years. I had a terrible tummy for medications and went without most of them after a few days, never really needing pain killers. The only place that was sore were the surgical incision areas. I was stiff for a few weeks, feeling sort of like a robot. I needed help to learn to get in and out of bed, but that got easier and easier each day. Nights were the only hard part for me because while my body was recovering from surgery, my legs would 'jump' as a reaction. It took about 6 weeks for them to sleep soundly. I could've taken medication for this, but I truly felt better without any drugs at all. I drove after about a month, practicing in a big opened parking lot first! It's been 3 months now I've been taking classes at my gym and swimming with ease. I know that I'm still not 100% , but I feel so great right now, I can only imagine what it'll be like in a year! I'll never even remember I had surgery! I try to look back at just a few short weeks ago and I shudder at the thought of all that pain I had lived with for two wasted years of my life. My kids have their Mom back and I have my independence back. To "Do" or "Not to Do", there definitely is No Question!

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Exercise in Total Knee Arthroplasty

by Dr. Paul Gilbert

Arthritis is a debilitating problem that often makes any movement, including exercise difficult and painful. It tends to make us sedentary. Even those that continue to exercise find their tolerance and endurance suffers. Our general health, including our cardiovascular function, deteriorates. Knee replacement surgery helps to eliminate pain and get us back on our feet.

With or without, before or after surgery, exercise is always a benefit. Studies show that cardiac reserve improves, high blood pressure and diabetes are easier to control, cholesterol is controlled and our immune system is enhanced as well as other benefits. So here at the Arthritis Institute, we encourage and promote healthy living and joint preservation through proper, directed exercise. Here are some tips.

It is important to pick the right exercise. I hear often that "I can't exercise because it hurts to walk." With an arthritic knee, this makes sense, but it doesn't mean you can't exercise; you just have to pick the right type. Stairmaster, inclines like hills, squats, lunges, deep knee bends and even walking are usually hard on the knees and result in pain and swelling. Swimming, biking and the elliptical are generally well tolerated by the knee and very effective for cardio training and leg strengthening.

One should also pick an exercise that they like. "Stationary bike is boring." You are not going to continue a workout routine that doesn't keep your interest. Try setting goals for yourself, workout with a friend or group, vary your routine or have TV or iPod to provide some stimulation. Pick an exercise that is easy to get to. I use a stationary bike and weight machine in my garage because it is easy and convenient.

Start slow and be realistic in your goals. Your first workout should be just a few minutes. You will build gradually and it is a great sense of accomplishment when your warm up becomes as long as your initial routine! Most common mistake is too much too fast. The result is pain and the feeling that this doesn't work. (Stupid doctor). However, if you understand that we are in this for the long haul, pushing too hard at the beginning becomes less important.

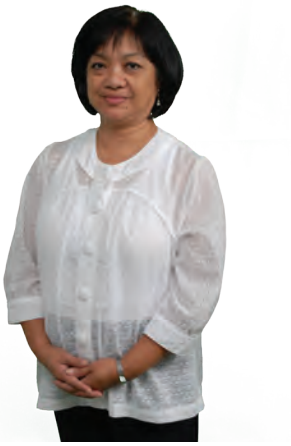
In that regard, set realistic expectations. You need to exercise to the point of getting tired, elevating your heart rate and breathing, but we don't need to have muscles like Arnold or endurance like Lance Armstrong.

The corollary to the benefits of consistent exercise is rest. Some of us go 100 miles per hour all day and collapse exhausted at the end of the day. We don't get enough sleep and start all over again. And you want me to do more? The body needs recovery time. Rest is a time to kick back and allow the natural healing and building processes to occur.

Your physical therapist or licensed trainer can help you with specifics. You have to be consistent and committed. It sometimes takes six months to really see and feel a change, but the rewards are health and vitality.

Meet The Staff

by Liway Jacot



My name is Liway Jacot and I am one of the admitting coordinators at the Dorr Arthritis Institute at Good Samaritan Hospital. I was born and raised in the Philippines. I moved to the United States in 1981, got married, and had three children.

I started working as an admitting clerk in a busy emergency room in Los Angeles. The job was very challenging. I saw patients getting admitted and getting discharged and that was about it. I didn't get a chance to know the patients very well. Working here at the Dorr Arthritis Institute we get to know our patients better. We see them prior to and after surgery. I am responsible for admitting the patients on Mondays and Wednesdays prior to the preoperative class and I have a chance to get to know the patients at that time. It is very rewarding for me to see them after surgery when they are happy and walking well. It makes me happy to be a part of making their lives better. I look forward to meeting you on your visit to the Dorr Arthritis Institute.

Letters To The Editor

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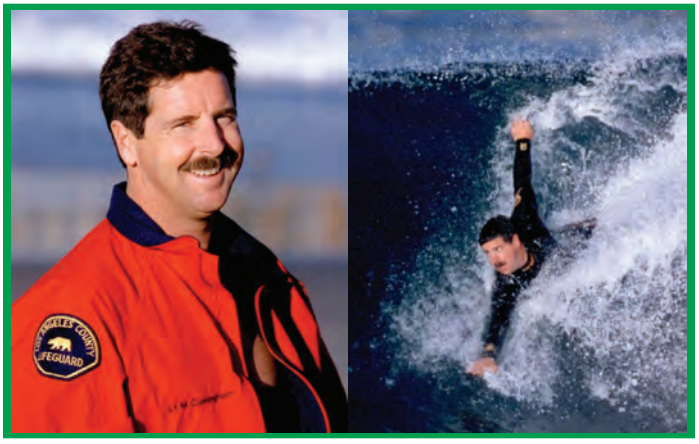
Hi Jeri,
Just a note to again say thanks to you and all your staff.
"I had a steadily progressing hip pain and it was keeping me from returning to work as a Los Angeles County Lifeguard Captain and, more importantly, keeping me out of the ocean. My doctor recommended a consultation with the Dorr Arthritis Institute and I was sold after I attended one of their free seminars at the Manhattan Beach Marriott. Now, six months after Doctor Long performed my total hip replacement surgery, I am back in the ocean, and riding waves. Next summer, I am again planning to compete in the World Bodysurfing Championships."

Mike Cunningham



County Lifeguard Captain and Champion body suffer Mike Cunningham

Hi Jeri,
I Thought Dr. Dorr would like to see his patient Martial Thirsk hiking in Sun Valley ID. 7 weeks after he replaced both of Martial's hips.
Great job Dr. Dorr!!
Thanks,
Martial and Melanie

Martial and Melanie Thirsk

Please Visit Our Website
www.dorrarthritisinstitute.org

My Christmas Gift

by Jeri Ward, R.N.

As I was driving to work today my mind was wandering to the upcoming holidays. My husband asked what I wanted for Christmas, and we pondered over items for our children and grandchildren. I have to tell you that I could not think of one thing that I wanted. I am at a period in my life where I have received so many wonderful gifts that I am truly happy and content! I can only think of all the good things I have already received this year. Every one of them pertained to giving to others.
In an uncertain economy our patients, families and friends continue to give to Operation Walk. It would be so easy to eliminate charity when people have less themselves. Even having "less" in America is having so much more than those in developing countries. Every cane, TED hose and walker that I handed out in El Salvador and Guatemala this past year meant so much to me. I remembered each of you who bought back those items so they could help someone else, and your kind words of gratitude for the help our staff gave in improving your life. What a wonderful gift!
I reflect on Dr. Dorr, Dr. Long, Dr. Gilbert, Dr. Raya and all of the California Lung associate doctors who took time away from their busy practices to help Operation Walk abroad and at home. I thank Zimmer, Steris, SterileTek, Cardinal and Stryker and all the other companies who, even in the time of dwindling profits, still felt generous and giving.
I thank Good Samaritan Hospital for their support in providing access to medications for Operation Walk, and supporting the team leaders in the extra work involved to make our missions a success. I thank all of the nurses and physical therapists, technicians and volunteers who gave their vacation time to help others.
Operation Walk started as a one man band, and has grown into an orchestra! I thank God for giving me a good heart, a strong back and the gift of caring for so many wonderful people over the years. May you all have a happy and healthy New Year.

JOIN US AT OUR FREE TUESDAY NIGHT SEMINARS

Please come join us at one of or 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.

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