

# TOTAL KNEE REPLACEMENT AT ORTHOMARYLAND

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## What is Total Knee Replacement?

We are glad you are considering Dr. Waldman and OrthoMaryland to care for your knee. We believe that education is the best way to prepare for surgery. This brochure is intended to be a brief introduction to modern knee replacement. Below is a list of the most frequently asked questions along with their answers. If there are any other questions that you need answered, please feel free to ask Dr. Waldman or use the above email address.

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### *What is arthritis and why does my knee hurt?*

In the knee joint there is a layer of smooth cartilage between the end of the thighbone and the top of the calf bone. This cartilage serves as a cushion and allows for smooth motion of the knee. Arthritis is a wearing away of this cartilage. Eventually it wears down to bone. Rubbing of bone against bone causes discomfort, swelling and stiffness. Pain is commonly in the knee but may radiate to the thigh, calf, or back of the knee. It will often hurt worse after periods of immobility. Most knees wear out on the inside first followed by the outside and kneecap.

### *What is a total knee replacement?*

A total knee replacement is an operation that removes the arthritic bone and damaged cartilage from the knee joint. The knee is replaced with a metal and plastic covering that simulates the natural cartilage. This creates a smoothly functioning joint that does not hurt. The natural tendons and muscles are left in place to allow the joint to function smoothly.

### *What are the results of total knee replacement?*

95% of our patients experience good or excellent results after the initial healing period. They have little to no pain and are able to



enjoy a wide variety of activities with few restrictions. Most can pursue moderate exercise, walk long distances, dance or play active sports.

### *When should I have this type of surgery?*

The decision is based on your history, exam and x-rays. There is usually no harm in waiting if conservative, non-operative methods are controlling your discomfort. When these methods no longer control your pain, surgery is usually indicated.

### *Am I too old for this surgery?*

Age is not an issue if you are in reasonable health and have the desire to continue living a productive, active life. You may be asked to see your personal physician for his/her opinion about your general health and readiness for surgery.

### *How long will my new knee last and can a second replacement be done?*

All implants have a limited life expectancy depending on an individual's age, weight, activity level and medical condition. A total joint implant's longevity will vary in every patient. The current combination of components used by Dr. Waldman have a 94% 15 year survival rate. Some of these implants may last much longer.

### *Why might I require a revision?*

Wearing of the plastic spacer may result in the need for a new liner. However, only 7% of patients nationally ever require a revision and implants continue to improve.

### *What are the major risks?*

Most operations go extremely well, without any complications. Infection and blood clots are two serious complications that can occur. To avoid these complications, we use antibiotics and blood thinners. We also take special precautions in the operating room to reduce the risk of infections. Dr. Waldman's current infection rate is 0.7% and the symptomatic blood clot rate is 0%.

### *Should I exercise before the surgery?*

Yes, exercise will do no further harm to your knee and will help to make rehabilitation easier after the surgery.

### *Will I need blood?*

The chance of needing blood after the surgery is about 20%. This rate is lower in men and in relatively healthy women. We generally don't recommend donating blood because much of it is wasted. Additionally, the community blood supply is in general, very safe. Banked blood is considered very safe and complications are rare.

### *How long am I incapacitated?*

You will probably stay in bed the day of your surgery. However, the next morning most patients will get up, sit in a chair or recliner and should be walking with a walker or crutches later that day. Most patients can try steps the second day after the surgery.

### *How long will I be in the hospital?*

Most knee patients will be hospitalized for three days after their surgery. There are several goals that you must achieve before you can be discharged. Our rehabilitation physicians will evaluate your progress two days after the surgery, and recommend a rehabilitation stay if necessary. This stay may last anywhere from three days to two weeks.

### *What is the Rubin Institute for Advanced Orthopaedics?*

The Rubin Institute is a stand alone hospital attached to Sinai Hospital. It provides specialized orthopaedic care to joint patients, physical therapy facilities and houses a number of ongoing research projects. Dr. Waldman is director of the joint replacement program at the Rubin Institute.

### *What if I live alone?*

Most patients who live alone will qualify for inpatient rehabilitation. When patients leave rehab, they should be able to care for themselves independently.

### *Will I need a second opinion prior to the surgery?*

The office secretary will contact your insurance company to pre-authorize your surgery. It is exceedingly rare that a second opinion is required by an insurance company. If a second opinion is required, you will be notified.

### *How do I make arrangements for surgery?*

Contact Marisa Jude at 410 377-8900, ext 1145. She will have the appropriate information and be able to help with planning.

### *How long does the surgery take?*

We reserve approximately 2½ - 3 hours for surgery. Some of this time is taken by the operating room staff to prepare for the surgery and to prepare the room for the next operation. The actual surgery takes about one hour.

### *Do I need to be put to sleep for this surgery?*

You may have a general anesthetic, which most people call “being put to sleep.” In most patients we recommend a spinal anesthetic, which numbs only your legs and does not require

you to be asleep. In general, spinals are more pleasant and provide better pain relief, however, choice is made individually for each patient after discussion with the anesthesiologist.

### ***Will the surgery be painful?***

You will have discomfort following the surgery, but we will try to keep you as comfortable as possible with the appropriate medication. Most patients control their own medicine with a special pump that delivers the drug directly into their IV for the first day. Generally most patients are able to stop very strong medication within a few days.

### ***Who will be performing the surgery?***

Dr. Waldman will perform the surgery. Esther Schafel, CRNP assists on most of the procedures. We often have a resident physician there to assist and to help take care of you after the surgery. They are there to learn and not to perform your surgery.

### ***How long, and where, will my scar be?***

The scar will be approximately four to five inches long in most patients. The length of the scar is somewhat proportional to the size of the patient. It will be along the front of your knee.

### ***Will I need a walker, crutches or cane?***

Yes, for about three weeks we do recommend that you use a walker or crutches. The hospital will help provide these items if necessary. Most patients can use a cane for three to four weeks after the walker or crutches are discontinued. Your physical therapist will help to determine when you will advance from walker to cane to no assistance.

### ***Where will I go after discharge from the hospital?***

Most patients are able to go home directly after discharge. Some patients may transfer to an acute or sub-acute rehabilitation facility and stay there for 3–14 days. Many patients are transferred to Sinai Rehabilitation on the 5th floor of the main hospital, so no travel is needed. The social worker will help you with this decision and make the necessary arrangements.

### ***Will I need physical therapy when I go home?***

Yes, we will arrange for a physical therapist to provide therapy at your home. Following this, you may go to an outpatient facility two to three times a week to assist in your rehabilitation. The length of time required for this type of therapy varies with each patient.

### *How long until I can drive and get back to normal?*

If the surgery was on your left knee and you have an automatic transmission, you could be driving at three weeks. If the surgery was on your right knee, your driving could be restricted as long as six weeks. Getting “back to normal” will depend somewhat on your progress.

### *When will I be able to get back to work?*

We recommend that most people take at least six weeks off from work, unless their jobs are quite sedentary and they can return to work with crutches. An occupational therapist can make recommendations for joint protection and energy conservation on the job.

### *How often will I need to be seen by my doctor following the surgery?*

You will be seen for your first postoperative office 6 weeks after the surgery. The frequency of follow-up visits after that will depend on your progress. Many patients are seen at six weeks, four months and then yearly.

### *Do you recommend any restrictions following this surgery?*

Knee patients generally have no restrictions during the healing process. Activity is limited by swelling, but not to protect the new knee parts from harm.

### *What physical/recreational activities may I participate in after my surgery?*

You are encouraged to participate in low-impact activities such as walking, dancing, golf, hiking, swimming, bowling and gardening. More aggressive sports are often possible, so please ask us about any specific activities you would like to pursue.

### *Will I notice anything different about my knee?*

In many cases, patients with knee replacements think that the new joint feels completely natural. The leg with the new knee may be slightly longer than it was before, either because of previous shortening due to the knee disease or because of a need to lengthen the knee to avoid dislocation. Most patients get used to this feeling in time or can use a small lift in the other shoe. Some patients have aching in the thigh on weight bearing for a few months after surgery.

## Minimally Invasive Knee Replacement

Dr. Waldman has one of the largest experiences with minimally invasive total knee replacement in the country. He was involved with the development of the quad sparing approach during his fellowship at the Hospital for Special Surgery in New York.

Dr. Waldman subsequently developed, along with Biomet, a quad sparing approach with accompanying instruments known as the Microplasty technique. Minimally invasive total knee replacement is intended to minimize tissue trauma, blood loss and postoperative pain.



By minimizing tissue damage, patients are able to make faster recoveries. Our results, show shorter times to return to activity and reduced need for pain medication. This innovation has allowed patients to resume their normal activities much quicker. Patients can place their entire weight onto the knee on the first day after surgery and are able to walk steps on the second day.

While this technique has allowed us to reduce hospital stays, we do not perform it as an outpatient procedure. We feel that sending the patient home prematurely places an undue burden on the family, that is now forced to assume the role that our specialized nurses are better trained for. Most patients are candidates for this technique, even if they are significantly overweight. Dr. Waldman uses this procedure in combination with platelet grafting to provide the best possible outcome for your new knee.

## Rapid Recovery

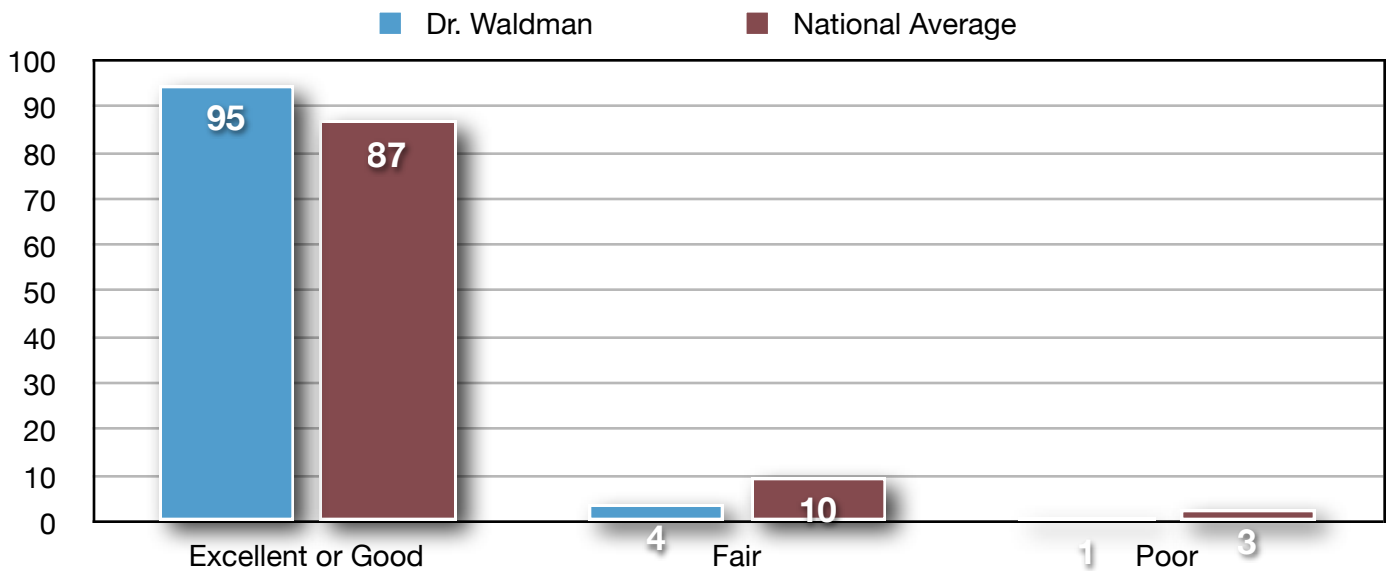
Rapid recovery is a program developed by a number of experienced knee surgeons across the United States, including Adolph Lombardi, Roger Emerson, Keith Berend and Dr. Waldman in conjunction with Biomet. The goal is to restore joint function and patient activity level as quickly and safely as possible. It encompasses preoperative, postoperative and long term care of the patient and the affected knee or knees. The goal is to take every aspect of the surgery into account and optimize outcomes by standardizing what we know to be best practices. The program includes:

- Preoperative counseling
- Through medical clearance
- Advanced knee replacement components
- Minimally Invasive Surgery
- Advanced pain management
- Progressive physical therapy
- Lowered risk of dislocation, blood clots and infections
- Postoperative accelerated rehabilitation
- Long term follow up

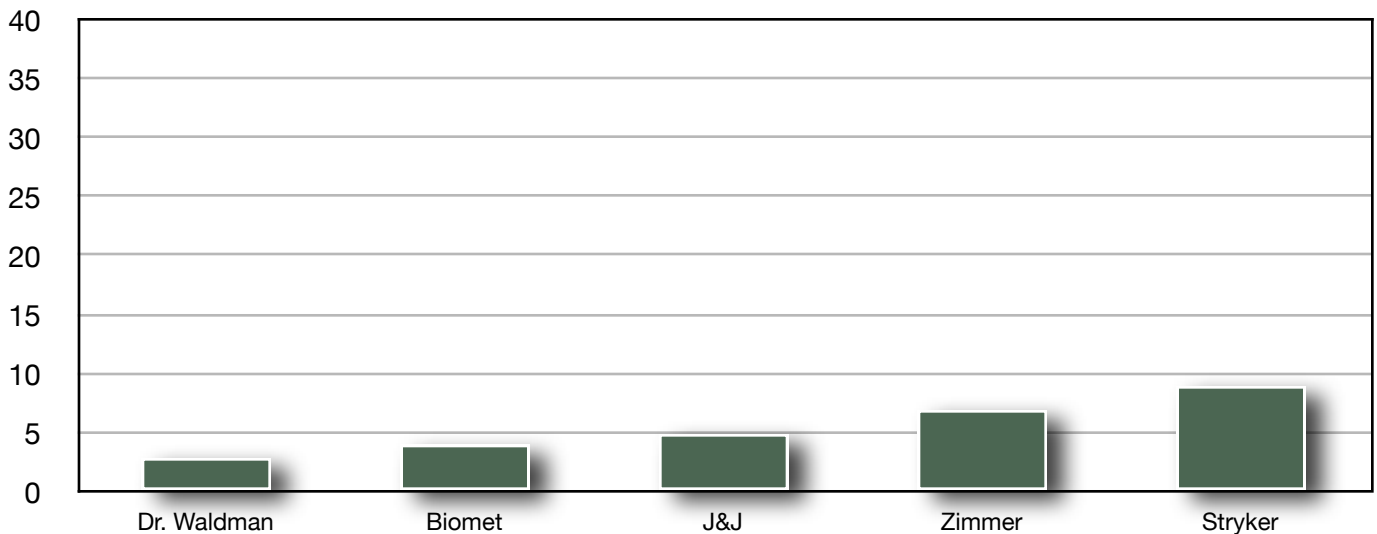
The Rapid Recovery program also includes platelet tissue grafting. We remove a small amount of the patient's blood and use a novel process to form a glue-like sealant. This substance is used to seal the wound and underlying tissues to reduce the risk of infection and aid the healing process. More information on the Rapid Recovery program can also be found at [www.myrapidrecovery.com](http://www.myrapidrecovery.com).

## Performance of Knee Replacement Implants

While the recovery time and the amount of postoperative pain is important, the long term outcome and durability of the knee are even more important. The knees we use have been proven in multiple studies to hurt less and last longer than other types of implants. Here is some of that data.



### 10 Year Failure Rate



## Dr. Barry J. Waldman's Curriculum Vitae

### Appointments

**Director**, Center for Joint Preservation and Reconstruction, Rubin Institute for Advanced Orthopaedics, Sinai Hospital of Baltimore, Baltimore, MD

**Clinical Instructor**, Orthopaedic Surgery, Department of Orthopaedic Surgery, The Johns Hopkins School of Medicine, Baltimore, MD

### Education

Fellowship - Hospital for Special Surgery. New York, New York, Surgical Arthritis Service

Residency - The Johns Hopkins Hospital, Baltimore, Maryland

Medical School - The Johns Hopkins School of Medicine, Baltimore, Maryland

Undergraduate - State University of New York at Binghamton, Binghamton, New York

### Hospital Appointments

**Sinai Hospital of Baltimore**

**Northwest Hospital Center**

**Greater Baltimore Medical Center**

**Good Samaritan Hospital**

### Certification

Diplomate, American Board of Orthopaedic Surgery

Fellow, American Academy of Orthopaedic Surgeons

Member, American Association of Knee and Knee Surgeons

### Honors and Awards

Visiting Professor, 2nd International Expert Session On Factor Xa Inhibition: Prague, 2003

Lee H. Riley, Jr. Research Award, Maryland Orthopaedic Society, 1997

Resident Research Award, Johns Hopkins Department of Orthopaedic Surgery, 1997

### Books

**Waldman, BJ**, Revision Total Knee Replacement: Modes of Failure, Chapter 36, *OKU 2: Knee and Knee Reconstruction*, Pellicci, P. M., Tria, Jr, J. A., Garvin K. L., eds, 2000

Huo, M, **Waldman, BJ**: Total Knee Replacement, Cemented, Section IV, Chapter 4., *Textbook of Orthopaedics*, Craig, E. V. ed. 1999

**Waldman, B.J.**: Ankle Fractures, Knee Replacement, Proximal Humerus Fractures, *The 5-Minute Orthopaedic Consultant*, Spon-seller PD, Wenz JF eds. 1999

### Original Peer Reviewed Publications

**Waldman BJ**, Tapered titanium femoral implant allows immediate weight-bearing. *Orthopedics Today*, June 2006(Suppl) p7-8.

**Waldman BJ**.Advancements in minimally invasive total knee arthroplasty. *Orthopedics*. 2003 Aug;26(8 Suppl):s833-6.

**Waldman BJ**. Minimally invasive total knee replacement and perioperative management: early experience. *J South Orthop Assoc*. 2002 Winter;11(4):213-7.

Mont MA, **Waldman BJ**, Hungerford DS. Evaluation of preoperative cultures before second-stage reimplantation of a total knee prosthesis complicated by infection. A comparison-group study. *J Bone Joint Surg Am* Nov;82-A(11):1552-7, 2000

Miric A, Kahn B, **Waldman B**, Sculco TP. Characteristics and natural history of transient postoperative pseudosubluxation after total knee arthroplasty. *J Arthroplasty*. Sep;15(6):736-43, 2000

**Waldman BJ**, Hostin E, Mont MA, Hungerford DS. Infected total knee arthroplasty treated by arthroscopic irrigation and debridement. *J Arthrop* Jun;15(4):430-6, 2000

**Waldman BJ**, Mont MA, Payman KR, Freiberg AA, Windsor RE, Sculco TP, Hungerford DS: Infected total knee arthroplasty treated with arthrodesis using a modular titanium intramedullary nail. *Clin Orthop* Oct;(367):230-7, 1999

LaPorte, D **Waldman BJ**, Mont MA, Hungerford DS: Infected Total Knee Arthroplasty Associated with Dental Procedures. *JBJS(B)* Jan;81(1):56-9,1999

**Waldman BJ** and Figgie MP: Indications, technique, and results of total shoulder arthroplasty in rheumatoid arthritis. *Orthop Clin North Am.* Jul;29(3):435-44. 1998

Michelson J, Solocoff D, **Waldman B**, Kendell K, Ahn U: Ankle fractures. The Lauge-Hansen classification revisited. *Clin Orthop* Dec;345:198-205, 1997

**Waldman BJ**, Mont MA, Hungerford DS: Infected Total Knee Arthroplasty Associated with Dental Procedures. *Clin Orthop* 343:164-172, 1997

Mont MA, **Waldman BJ**, Hungerford DS: Multiple Irrigation and Debridements and Retention of Components in Infected Total Knee Arthroplasty. *J Arthrop* 12(4), 426-433 1997

**Waldman BJ**, Frassica FJ, Zerhouni EA: Recurrence of Giant Cell Tumor of Bone Confirmed by Magnetic Resonance Imaging, *Orthopaedics*, 20(1):67-69, 1997

Michelson JD, **Waldman B**: An Axially Loaded Model of the Syndesmotic Screw in Pronation/External Rotation Injuries of the Ankle. *Clin Orthop*, 328:285-293, 1996

#### Course Chairmanship

**Regional Resident Workshop and Job Fair.** Annapolis MD, 2001, 2002, 2003

**Advances in Minimally Invasive Knee Surgery**, Orthopaedic Learning Center, Chicago, IL 2003

#### Presentations

**Waldman BJ, Schafel E:** *Complications in Minimally Invasive Knee Replacement*, MIS/CAOOS, October 2006

**Waldman BJ:** *Unicompartmental Knee Arthroplasty*, Concepts and Controversies: Orthopaedic Update 2003, August 2003

**Waldman BJ:** Minimally Invasive Total Knee Replacement, Perioperative Management. American Academy of Orthopaedic Surgeons. February 2003

**Waldman BJ:** *Minimally invasive total knee replacement*, Joint Concepts Meeting, September 2001

**Waldman BJ:** *Patellofemoral complications in a new total knee arthroplasty design*, Biomet VIP Meeting, August 2001

**Waldman BJ:** *A new modular total knee arthroplasty*, Joint Reconstruction Meeting, May 2001

**Waldman BJ**, Wapner JL: *PCR vs. PCS designs*, Joint Concepts Meeting, May 2000

**Waldman BJ**, Mont MA, Payman KR, Freiberg AA, Windsor RE, Sculco TP, Hungerford DS: *Infected total knee arthroplasty treated with arthrodesis using a modular titanium intramedullary nail.* Knee Society Semi-annual meeting, February, 1999

Mont MA, **Waldman BJ**, Yoon TR, Hungerford DS: *Arthroscopy in the Treatment of Infected Total Knee Arthroplasty.* Annual Meeting of the American Academy of Orthopaedic Surgeons, March 1998

**Waldman BJ**, Mont MA, Yoon TR, Hungerford DS: *The Role of Aspiration and Cell count in the Diagnosis of Infected Total Knee Arthroplasty* Annual Meeting of the American Academy of Orthopaedic Surgeons, March 1998

**Waldman BJ**, Mont MA, Hungerford DS: *Infected Total Knee Arthroplasty Associated with Dental Procedures* Annual Meeting of the American Academy of Orthopaedic Surgeons, March 1998

Mont MA, **Waldman BJ**, Hungerford DS: *Multiple Irrigation and Debridements and Retention of Components in Infected Total Knee Arthroplasty.* Annual Meeting of the American Academy of Orthopaedic Surgeons, February 1997

**Waldman BJ**, Mont MA, Hungerford DS: *Preoperative Cultures Before Second Stage Reimplantation of Infected Total Knee Arthroplasty*. Maryland Orthopaedic Society, March, 1997, Annual Meeting of the American Academy of Orthopaedic Surgeons, February 1997

**Waldman BJ**, Mont MA, Hungerford DS: *Treatment of Late Infected Total Knee Arthroplasty*. AOA Residents Conference, March 1997 Annual Meeting of the American Academy of Orthopaedic Surgeons, February 1997

**Waldman BJ**, Mont MA, Hungerford DS: *Infected Total Knee Arthroplasty Associated with Dental Procedures..* Annual Meeting of the American Academy of Orthopaedic Surgeons, February 1996 AOA Residents Conference, March 1996

Michelson JD , **Waldman BJ**, Helgemo S, Ahn U: *Kinematics of the Ankle after Fracture*. Annual Meeting of the American Orthopaedic Association, June, 1995

**Waldman BJ**, Michelson JD: Biomechanical Studies of the Syndesmotom Screw in Ankle Fractures. AOA Residents Conference, March, 1995

**Waldman BJ**, Michelson JD: *An Axially Loaded Model of the Syndesmotom Screw in Pronation/External Rotation Injuries of the Ankle*. Foot and Ankle Society Meeting, American Academy of Orthopaedic Surgeons, February 1995

#### Poster Presentations

**Waldman BJ**, Schaftel EA, Use of Arthroscopy Before Unicompartmental Knee Replacement. Annual Meeting of the AAHKS, Dallas Tx, November, 2007

Etienne G, **Waldman BJ**, Mont MA: Retaining the Femoral Stem in the Treatment of Infected Total Knee Arthroplasty. Annual Meeting of the American Academy of Orthopaedic Surgeons, February 2003

K. Rad Payman KR, Mont MA, Moore JR, **Waldman BJ**, Sotereanos DG: Nontraumatic Osteonecrosis Of The Humeral Head: Treatment By Hemi And Total Shoulder Arthroplasty Annual Meeting of the American Academy of Orthopaedic Surgeons, March 2001

**Waldman BJ**, Sharrock NE, Sculco TP: Hypotensive Epidural Anesthesia in Elderly Total Knee Arthroplasty Patients. Annual Meeting of the American Academy of Orthopaedic Surgeons, March 2000

**Waldman BJ**, Payman KR, Mont MA, Hungerford DS: Use of the Femoral Component with Antibiotic Impregnated Cement as a Spacer in the Treatment of Infected Total Knee Arthroplasty. Annual Meeting of the American Academy of Orthopaedic Surgeons, February 1999

**Waldman BJ**, Payman KR, Mont MA, Hungerford DS: Value Of Leukocyte Count And Differential After Knee Aspiration In Predicting Deep Infection Of Total Knee Arthroplasty. Annual Meeting of the American Academy of Orthopaedic Surgeons, February 1999

Huo M, **Waldman BJ**, Lennox D, and Huo S: Total Joint Replacement Surgeries in Patients with significant Peripheral Arterial and Venous Vascular Disease, Annual Meeting of the American Academy of Orthopaedic Surgeons, March 1998

Huo M, **Waldman BJ**, Riley Jr., L: First One Hundred Patients Treated with the Gemini Femoral Component, Five Year Follow-Up, Annual Meeting of the American Academy of Orthopaedic Surgeons, February 1997

#### Outside Interests

Painting, Computer Programming, Skiing, Golf