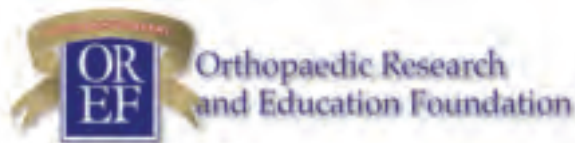




# IMPACT



VOLUME IX

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## Zimmer/OREF partnership supports research that lessens pain, enhances healing in bone loss patients



Kristy L. Weber, M.D. works with mice near the Faxitron X-ray machine

**P**atients who suffer from bone loss due to trauma or disease, such as cancer, may find help through research studies conducted by recipients of the OREF/Zimmer Career Development Award.

Each year Zimmer supports six \$50,000 awards through OREF. According

to Ray Elliott, Zimmer Chairman, President, and CEO, "When we realized that young, practicing clinicians did not have the resources that are available to residents or veteran clinicians, we decided to help these young researchers by providing funding through OREF for a new grant program. Since then, we've granted to OREF more than a quarter of a million dollars each year to help these younger surgeons pursue additional research, education, travel, or any legitimate endeavor to help them advance orthopaedic science or care."

The work of two current Zimmer recipients — **Kristy L. Weber, M.D.** and **Robert L. Satcher, M.D., Ph.D.** — demonstrates how **research can be used to help patients whose bones are affected by disease or trauma.**

### Study gives new hope of less suffering to bone cancer patients

Cancer is a dreaded diagnosis for any patient. Though not always fatal, it can be debilitating, which leads researchers to investigate ways to prevent complications from the disease.

**Kristy L. Weber, M.D.**, chief of the Division of Orthopaedic Oncology and associate professor at Johns Hopkins School of Medicine, is investigating how kidney cancer metastasizes, moving from the kidney into the bone. She hopes that her research will lead to new treatments for metastatic kidney cancer.

"We're not so bold as to be looking for a cure for kidney cancer," Dr. Weber said. "We are really just trying to make a small step forward in how these patients' lives are lived. We're trying to stop some of the suffering due to bone metastasis."

### From kidneys to the bone

Kidney cancer, unlike breast and prostate cancers, does not respond well to chemotherapy, radiation, or hormone treatments. According to Dr. Weber, once kidney cancer is in the bone, there is currently no method that can reliably stop it. As kidney cancer spreads into the bone, it can cause destructive holes that result in fractures and, if it enters the spine, even paralysis. Orthopaedic surgeons can surgically repair some of the damage and prevent future fractures by placing hardware in the bone

*(continued on page 9)*

Robert L. (Bobby) Satcher Jr., M.D., Ph.D., mission specialist astronaut candidate, floats freely aboard a KC-135 aircraft as part of his early training.



To read about Dr. Satcher's studies of how bone reacts to the forces placed upon it, please turn to page 10.

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Charles A. Rockwood Jr., M.D.  
Board Chairman

## Your support helps fund research that benefits orthopaedic specialties

As you know, OREF began an Anniversary Campaign this past spring to celebrate 50 years of supporting the best research — and researchers — to *Discover the Future of Orthopaedics*. That campaign has been largely successful, as Gene Wurth discusses on the following page.

As fall quickly approaches, it is time for OREF to ask you to make your regular Annual Campaign contributions. The contributions to both OREF's Anniversary and OREF's 2005 Annual Campaigns will allow OREF to fund more orthopaedic research that improves treatment for patients. As a shoulder surgeon, I have seen several examples of such clinical benefits in my specialty area:

**Evan L. Flatow, M.D.** studied the mechanics and clinical outcomes of rotator cuff repair, using resulting data to prospectively compare arthroscopic and open repair. He found that, although many tendons did not heal in either case, those that did heal were stronger and functioned better, which encouraged others to develop improved repair methods to *strengthen the tendon and prevent further injury*.

**Ken Yamaguchi, M.D.** is currently researching the natural history of symptomatic rotator cuff tears and has already established the importance of monitoring cuff tear size for individuals whose rotator cuff tears are being treated conservatively. *Careful monitoring of rotator cuff tears can prevent further injury*.

Shoulder research is just one of a variety of specialty areas for which OREF has funded research. The two examples above are just a

couple of many instances of OREF-funded research that ultimately led to better patient care. More examples can be found in this issue of *Impact*, which features two grant recipients whose research was initially begun with awards funded through a partnership between OREF and Zimmer.

Zimmer's support exemplifies the corporation's dedication to funding tomorrow's researchers. The recipients, **Kristy L. Weber, M.D.** and **Robert L. Satcher, M.D., Ph.D.**, demonstrate how that funding was used to support research that could be used in everyday practice to prevent cancer patients from suffering from bone loss, or to reconstitute areas of bone that have already been lost.

You will soon be receiving letters and new brochures in which more practical applications of OREF-funded research are highlighted. Please take some time to reflect on how research has made a difference in your career as well as in patients' lives as you consider your gift to OREF's 2005 Annual Campaign.

Thank you for your support.

Charles A. Rockwood Jr., M.D.  
Board Chairman

### About Impact

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## 50th Anniversary Campaign update

OREF began 2005 by kicking off its 50th Anniversary Capital Campaign. This campaign set an ambitious yet attainable goal of raising \$100 million to permanently endow many research grants and awards.

To date, OREF has received more than \$60 million toward this goal. When this campaign is complete, we hope to have added several million dollars to our endowment pool. This permanent source of funds will enable OREF to encourage and support promising young researchers for years to come.

We are grateful to these donors for their generosity. By making these gifts, they are helping to ensure a strong future for orthopaedics. For more information on endowing OREF grants and awards

please contact me at [wurth@oref.org](mailto:wurth@oref.org) or (847) 384-4362.

We are currently requesting donations for our Annual Campaign, but it is not too late to make cash and pledge contributions to the Anniversary Campaign. These contributions can be made by logging on to [www.oref.org](http://www.oref.org). To date, OREF has received nearly \$8 million in cash and pledge contributions for 2005.

Sincerely,



Gene R. Wurth  
President and CEO



*... it is not too late to make cash and pledge contributions to the Anniversary Campaign.*



*The sculpture, "The Light of Discovery" by Kathleen Friedenberg, B. Vet Med., MRCVS, symbolizing research as a way to light the future, was unveiled during the 2005 Shands Gala. The sculpture will be given to supporters who make certain commitments as part of OREF's 50th Anniversary Capital Campaign.*



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Joseph C. McCarthy, M.D.  
Chairman, Shands Circle Committee

## Support 2006 research with a contribution to the 2005 Annual Campaign

The number of projects that OREF is able to fund in a given year depends to a great degree on unrestricted contributions made to the Annual Campaign in the previous year. Many more worthwhile projects can be funded with our help, and I encourage everyone in the Shands Circle to make a contribution to the 2005 Annual Campaign to support current research grants.

Your Shands Circle contributions support the OREF Endowment, which is comprised of an unrestricted fund for OREF, and more than 25 other funds for specific causes that benefit the larger orthopaedic community. Funds to the endowment are permanently invested; only the income is used annually to support research.

While funding the endowment is important, the 2005 Annual Campaign will support next year's research grants and awards. In the last 10 years, OREF's peer review committee has rated about 30% of the more than 1,000 received applications in the fundable range. Because of a lack of resources, we were only able to support about half of these. In 2005, OREF provided \$2.4 million to fund 115 grants and awards, and an additional \$1.6 million in research and education programs through various specialty orthopaedic organizations. With your contribution, we could fund even more in 2006.

Your Annual Campaign contribution will help tomorrow's researchers uncover new methods to treat orthopaedic patients and improve those patients' quality of life.

Annual Campaign donors will be recognized with:

- An *Order of Merit* certificate and an *Order of Merit* badge ribbon, which can be worn at the AAOS Annual Meeting, for those who contribute \$1,000 and above.
- Acknowledgments at the OREF Exhibit at the AAOS Annual Meeting
- Lapel pins
- Listings in OREF's Annual Report
- Recognition on [www.oref.org](http://www.oref.org)

You may contribute to the Annual Campaign by:

- Logging on to [www.oref.org](http://www.oref.org) and clicking the *Donate Now* tab
- Sending your check or credit card information with the form on page 15
- Contacting **Ed Hoover**, Director, Annual Giving, at (847) 384-4354 or [hoover@oref.org](mailto:hoover@oref.org) or **Maria Aguirre**, Development Coordinator, at (847) 384-4357 or [aguirre@oref.org](mailto:aguirre@oref.org)

Thank you to all of our Shands members, including those who have just joined the Shands Circle this year, for your generous support.

Sincerely,

Joseph C. McCarthy, M.D.  
Chairman, Shands Circle Committee

To learn how to join the Shands Circle, or for more information on how to make contributions toward the 2006 Shands Gala, please contact:

**Gene Wurth**,  
President and CEO  
at (847) 384-4362  
or [wurth@oref.org](mailto:wurth@oref.org)  
or **Maureen Corcoran**,  
Director, National  
Board Programs at  
(847) 384-4360  
or [corcoran@oref.org](mailto:corcoran@oref.org).

## Preserving retirement assets for life

If you are like many people planning for retirement, you've been building a retirement nest egg in the form of a qualified retirement plan. You probably intend to preserve those funds for your lifetime, withdrawing as little as possible and conserving the rest "just in case." You feel secure in the knowledge that your well-thought-out financial plan is in place. But what happens to your retirement assets after you are gone?

*Many of these taxes can be avoided by using qualified retirement assets to fund charitable gifts.*

In many cases, they are subject to both income taxes and estate taxes. Upon your death, the remainder of your qualified retirement plan generally will be included in your gross estate for federal taxation purposes. For large estates, this tax rate is as high as 47%. If left to your heirs, the funds are considered "income in respect of a decedent," and income taxes will be due at distribution. (Your spouse may

roll any inherited amounts into his or her Individual Retirement Account and delay taxation.) Nearly 65% of your retirement assets may go to the government, not your heirs.

There are alternatives to this scenario. Many of these taxes can be avoided by using qualified retirement assets to fund charitable gifts. These gifts are not at the expense of your heirs; it is the federal government that is disinherited! Consider these options to discuss with your estate planning attorney:

- Name OREF as the beneficiary of your qualified plan account. Your estate will get a charitable deduction for the entire amount, and no income taxes will be triggered because the beneficiary is a tax-exempt entity.
- Use the annual distributions from your plan to fund a charitable gift annuity. You'll get fixed annual payments from the gift annuity, and your charitable deduction will help to offset the taxable income from the annual distribution.
- Create and then name a tax-exempt charitable remainder trust as the beneficiary of the retirement plan. After your death, the trust can pay income

to your heirs during their lifetimes or for a certain period of years. Income taxes will be spread over this period, providing much greater tax deferral than would otherwise be available. The remainder then is distributed to the charitable organizations named as beneficiaries of the trust.

### What is a "Qualified Retirement Plan"?

The term "qualified retirement plan" refers to many different plans that share certain characteristics:

- Contributions are made with pretax dollars.
- Earnings grow tax-deferred.
- Distributions are taxed only when they are withdrawn.

Examples: 401(k), 403(b), Keogh and IRA accounts, profit-sharing or stock bonus plans from your employer or other defined contribution pension plans. If you die before you have withdrawn all the funds in your account, you can designate who is to receive the remainder interest. Another type of qualified plan is a defined-benefit "annuity plan" that makes payments to you for life but usually terminates upon your death (or your spouse's) and thus has no remainder interest. If you are unsure if your account is a qualified retirement plan, ask your plan administrator.

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## *Career as orthopaedic device distributor inspires major gift commitment*

Since it was formed in 1994, more than 430 people have joined OREF's high-level recognition society, the Shands Circle; not all of them, however, are orthopaedic surgeons.

Included among the non-surgeon Shands members is OREF National Board Chairman **Sydney M. Pond**, a retired distributor for Zimmer, who made a major gift commitment through the Shands Circle when it began. According to Mr. Pond, there are many benefits to becoming part of OREF, both for surgeons and non-surgeons.

"Most people need better insight and understanding about what health care and, specifically, what orthopaedics is all about," he said. "People who succeed in life tend to be the people who are most informed. Being involved with OREF gives you an inside look at what goes on in medicine. It gives you access to meetings and some very successful doctors who, at some point, could help you with your medical problems. Becoming involved with OREF will make people more knowledgeable. They'll know the difference between a chiropractor, an osteopathic, and an orthopaedic surgeon."

Mr. Pond first became involved with OREF in 1992, when his career as a distributor for Zimmer connected him with many Chicago-based doctors. During a lunch meeting with **William F. Hejna, M.D.**, who was active in OREF, Mr. Pond was invited to join the National Board.

"His primary objective was to get me to contribute to OREF," Mr. Pond said. "But he flattered me; he said 'oh you'll be good for them.'"

Mr. Pond agreed and began to support OREF, both as a donor and as a member of OREF's National Board. When the idea of a high-level recognition society was introduced, Mr. Pond, like other Trustees, decided to become a member.

"It's complimentary to be asked to serve on a board, but being on a board also requires that you participate financially," he said. "It's great to give your free advice and your name to an organization, but what the organization really needs is for people who join the board to become financially involved. So when the Shands Circle was formed, it was evident that the right thing to do was for leadership people like the Trustees to join."

Mr. Pond took his example of leadership further by increasing his Shands gift. With retirement money from Zimmer, Mr. Pond and his wife, Ann, made a large

contribution to OREF in the form of a charitable remainder trust (CRT).

"My wife and I had agreed that we were going to do something in the future to help orthopaedics because we'd been very fortunate to have benefited in our lives from working with orthopaedic doctors and hospitals," said Mr. Pond. "We chose a charitable remainder trust because it provides a way to contribute that also gives us a small return in the form of income that we can choose to take or roll over."

There were other advantages of giving his large gift as a charitable remainder trust, Mr. Pond said. For example, he is able to continue to add to his gift.

"I had some investments that I bought years ago, and rather than accepting the money — which would have complicated my structure of giving — I decided to just



Ann and Sydney Pond



Planned Giving

sign it over to my charitable remainder trust. I was able to make a sizable gift from the income of that investment by adding it to my trust, which also reduced the tax obligation on my part."

*"It's great to give your free advice and your name to an organization, but what the organization really needs is for people who join the board to become financially involved."*

Mr. Pond said that the Foundation's commitment to funding orthopaedic research is why he and his wife chose to make a large contribution to OREF.

"You can contribute to every little charity that exists, or you can focus your effort on one Foundation, such as OREF, where you genuinely know how your support is panning out. With OREF, you're well-informed about how the organization works and what it does with your contribution. OREF is ideal for those people who want to make sure that what they give actually benefits the cause the organization is about."

Many organizations, Mr. Pond pointed out, use high percentages of their contributions to fund special events and to pay for overhead. OREF keeps its overhead and operating expenses under control. Less than 20 cents of every dollar raised — in current and deferred gifts — goes toward fund-raising expenses.

According to Mr. Pond, people should consider contributing to orthopaedics. "The importance of making a charitable contribution is that the money you give comes back in rewards with people's research. Orthopaedics covers many different health issues, so giving to a Foundation that funds orthopaedic research, such as OREF, could greatly benefit patients."



### *Orthopaedic research helped Ann Pond regain mobility*

Sydney Pond's wife, Ann, shares in his enthusiasm for supporting orthopaedic research. Like her husband, her involvement comes from personal experience — of a different type. Ann Pond is an orthopaedic patient.

When osteoporosis caused Mrs. Pond to suffer from a great deal of knee pain, she opted for a total knee replacement. Because of this surgical procedure, and because of arthroscopy performed on her other knee, she regained full movement.

Beyond her knee surgeries, Mrs. Pond suffered from injuries to her ankle and elbow. Doctors treated her ankle with a walking cast, which allowed movement during her recovery. And when she fell and hit her elbow on a tile floor, surgery helped to heal the fracture.

"Orthopaedic research helped me, especially when I injured my elbow. Doctors used wires and pins to treat the injury and now I have total use of my elbow again," she said

Mr. Pond thinks that his wife's full recovery was due to research "Often, orthopaedic research isn't about curing diseases, but about fixing fractured elbows and finding better treatment methods." Mrs. Pond's experience further demonstrates how supporting research enhances patient care.



*Ann Pond practices her golf swing.*



## Zimmer funding helps advance patient care

Zimmer has been a major supporter of OREF for more than 20 years, providing more than \$5.4 million, which includes annual gifts of more than \$300,000 to fund the OREF/Zimmer Orthopaedic Career Development Awards. *Impact* recently spoke to Zimmer’s Chairman, President, and CEO, **Ray Elliott**, about why his company is so committed to funding orthopaedic research and education.

### *Impact: Why is Zimmer committed to supporting OREF?*

**Mr. Elliott:** Zimmer believes that our role as a leader in orthopaedics means more than just selling the most hip and knee replacements in the world. Leadership means taking responsibility for the future, in this case the future of the practice of orthopaedics. We believe our support for OREF is an opportunity to help shape the future by encouraging the brightest minds in the field.

### *Impact: How does Zimmer benefit from funding the OREF/Zimmer Career Development Awards through OREF?*

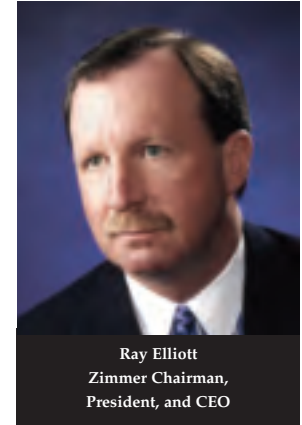
**Mr. Elliott:** OREF and Zimmer have a common, overriding goal, and that is to improve treatment for orthopaedic patients. We had a chance to re-tool one of our grant programs a few years ago and we observed that there was a gap in the different programs that helped support orthopaedic advancement. Veteran clinicians and researchers could attract support because of their demonstrated records and there were many scholarship programs for residents and fellows, but younger practicing orthopaedic surgeons with great ideas had fewer places to turn. Since then, we’ve granted to OREF more than a quarter of a million dollars each year to help these younger surgeons pursue additional research, education, travel, or any legitimate endeavor to help them advance orthopaedic science or care. These are the thought leaders of the future, and we’re proud to help support them.

### *Impact: If OREF did not exist, how would Research & Development initiatives at companies like Zimmer be affected?*

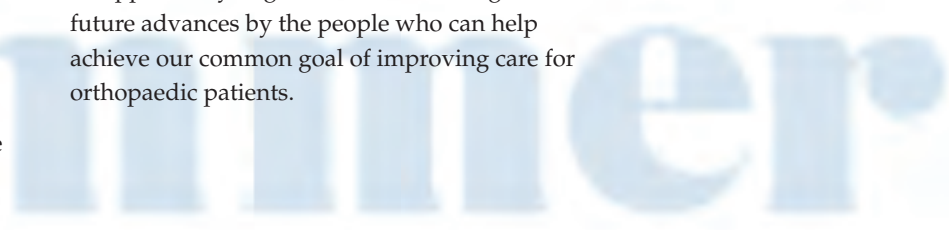
**Mr. Elliott:** A unique characteristic of the orthopaedic specialty is the intense level of cooperation and collaboration between professionals in the field and industry. Our involvement in OREF is an important component of that collaborative process. We enjoy the opportunity to be associated with the best scientific and clinical minds in orthopaedics as peers. We know that parts of the process itself, unrelated to OREF, are under considerable scrutiny relative to compensation. We trust that our mutual commitment to improving orthopaedic care generates far greater results than if we did not have that level of collaboration.

### *Impact: What would you say to persuade a colleague in the orthopaedic device industry to support OREF?*

**Mr. Elliott:** Every company has to evaluate OREF for itself, but I believe the key question to ask is “do you want to be part of the solution?” In a sense, this is a stewardship issue: we’ve enjoyed a measure of success as a business in the orthopaedic field and OREF represents an opportunity to give back, to encourage future advances by the people who can help achieve our common goal of improving care for orthopaedic patients.



Ray Elliott  
Zimmer Chairman,  
President, and CEO





## Zimmer/OREF partnership supports research that lessens pain, enhances healing in bone loss patients *(continued from page 1)*

prophylactically, but Dr. Weber would like to find a way to prevent kidney cancer from moving into the bone, or stop it from growing if it does.

"We're looking for a way to help the bone specifically. Once kidney cancer is spread in the bloodstream, it's incurable, so to treat it, we need to find a way to stop it from spreading from the kidney."

To find out how to stop it from spreading, first Dr. Weber must learn how and why kidney cancer metastasizes, or moves, into the bone. With permission, Dr. Weber obtained kidney cells from one of her patients whose cancer had spread to his arm. As Dr. Weber placed a metal rod in the patient's arm to prevent a fracture, she scraped out some tumor cells.

She placed the cells in a dish in the laboratory and with the right ingredients, the cell line continued to grow. Repeating this procedure with other patients, Dr. Weber now has six to eight kidney cancer cell lines that she uses to test different drugs and to investigate the various molecular pathways the cells take when specific growth factors are added.

In addition to the cell line studies, when Dr. Weber performs surgery on a patient with kidney cancer in his or her bone, she removes a slice of tissue and extracts the DNA or RNA: the building blocks of the cancer.

Through this research, Dr. Weber is trying to answer several questions. She wants to know how the cells respond to different drugs and different growth factors; what proteins the cells secrete along the molecular pathway; how the kidney cancer that lives in the kidney differs from the kidney cancer that lives in the bone and what causes the difference.

"We try to figure out what had to happen for someone's kidney cancer to move into

his or her bone, and what growth factors are turned on in the bone versus in the kidney environment," she said.

### Stopping cancer's destruction

Dr. Weber is also studying bone metastasis from kidney cancer in an animal model. The cells from her patients are placed in a mouse's leg bone where they grow. Using a small, digital X-Ray machine, she can view how much of the bone is destroyed.

*"Many of the current advances in orthopaedics are due to research performed using OREF funds."*

*— Kristy L. Weber, M.D.*

She and her research team experiment, testing specific drugs or modifying the cells in some way, such as by blocking a certain growth factor receptor, to see if they can stop cancer growth and bone destruction.

"One drug doesn't really cure anybody's cancer anymore. Cancer cells are really smart, and if you block one pathway for growth, they will find a way around it," said Dr. Weber. "So you've got to hit cancer with a few different agents at the same time. Just when we think we've made progress in one area we find another whole area that's more difficult to solve."

In addition, Dr. Weber said, the right drug probably hasn't been developed yet. Because of this, she also looks for

natural methods of blocking cancer cell growth, such as antibodies or small molecule inhibitors.

"When we discover a successful biological treatment in our mouse model, we can work that into actual treatment of patients in the clinic. We're testing different ways to block growth factors, and if any of them look incredibly promising, then we'll work with a company to develop the drugs that can reproduce the effect. If we can stop kidney cancer from moving into or growing in the bone, we can prevent patients from breaking their bones and living in such misery," she said.

### Supporting research

Dr. Weber began her research with funding from an OREF/Zimmer Orthopaedic Career Development Award, and without the award she doesn't think her bone metastasis research would have gone as far.

"The OREF/Zimmer award was one of the first grants I received for the bone metastasis research, which has become the main focus of our laboratory. Without that support, we wouldn't be going forward as we are," she said.

Dr. Weber also thinks supporting OREF is important to advance orthopaedic care. She became a member of OREF's highest recognition society, the Shands Circle, in 2004, and has given to the annual campaign at the *Order of Merit* level — \$1,000 or more — since 2001.

"Without OREF funding, I probably wouldn't be able to conduct any research today, because I wouldn't have had the money to get the experiments off the ground. We are now applying at the NIH level and hopefully we will receive additional support, but OREF helped me in the beginning."

*(continued on page 10)*



## *Zimmer/OREF partnership supports research that lessens pain, enhances healing in bone loss patients (continued from page 9)*

Dr. Weber also thinks that doctors who are not researchers, as well as the general public, could also support OREF. “People who don’t have such an interest in research may understand what I’m trying to do for bone cancer patients and want to support OREF, too. Many of the current advances in orthopaedics are due to research performed using OREF funds,” she said.

### **Researcher looks at ways to replace destroyed bone**

Bone loss can occur after trauma, diseases such as cancer, and surgical procedures, prompting researchers to study ways to replace the loss.

Upon conducting his post-doctoral work, **Robert L. Satcher, M.D., Ph.D.** became interested in how bone responds as a whole to the various stresses thrust upon

it and, conversely, how it responds to the absence of those stresses. In 2002 he received an OREF/Zimmer Career Development Award to begin that study.

### **The stresses bones face**

To gain a better understanding of how various forces affect bones, Dr. Satcher, then an assistant professor of orthopaedic surgery at the Feinberg School of Medicine, a researcher at The Robert H. Lurie Comprehensive Cancer Center of Northwestern University, and an orthopaedic surgeon at Northwestern Memorial Hospital, investigated bone at the cellular level. Bone is made up partly of living tissue and partly of an inorganic and organic matrix. Proteins make up the organic portion, while calcium and phosphates constitute the inorganic part.

It is the living portion, however, that reacts to stress placed upon it.

“It’s been known for a long time that if you subject bone to physical stress, such as loading it, the bone will become larger in size,” Dr. Satcher said. “What that means is that the bone cells — the smallest living units that make up the bone — are helping to build up that bone to make it stronger in response to that physical stress.”

*“As people age, most will need orthopaedic care, even if it’s not operative... If orthopaedics is going to continue to improve, it is going to be through research that is carried out intelligently and effectively. Supporting research is essential to the continuing improvement and evolution of orthopaedics.”*  
— Robert L. Satcher, M.D., Ph.D.



*Dr. Satcher, a mission specialist candidate in NASA’s 2004 astronaut class, poses with a T-38 jet trainer aircraft at Ellington Field.*

Using bone cells harvested from rats, Dr. Satcher and a team of researchers were able to study how bone reacts to different physical forces using several methods. In



## Cover Story

one method, Dr. Satcher observed flowing fluid across the bone cells to see how they were affected. The side of the cell exposed to the flowing fluid represented how a physical force would impact bone.

Dr. Satcher was also able to grow cells on a deformable membrane. "When you deform the membrane that the cell is growing on, it subjects that cell to the same deformation, which is equivalent to a physical stress that would cause deformation in the bone."

This allowed Dr. Satcher to test the cells' response to controlled loading. "We can specify how much straining the cells experience, or the deformation they experience because we artificially input the load. This lets us observe the patterns of response."

These initial studies that began with the OREF/Zimmer award led Dr. Satcher to his more recent investigation of designing materials that promote bone growth and that could be used to reconstitute areas of bone lost due to trauma, surgery, or cancer.

"We took what I had learned from working on the more fundamental process of how physical stresses affect bone and applied it to practical applications."

#### Research beyond Earth

Dr. Satcher may have the opportunity to study this process in a completely different setting. He was selected as a NASA astronaut candidate last year. He is currently completing a nearly two-year basic training course that involves everything from classroom training, which teaches the specifics of the space shuttle and international space



photos and captions courtesy of NASA

Dr. Satcher gets a closeup look at one of the agency's T-38 jet trainer aircraft.

station, to training in a large pool that simulates weightlessness.

"We also have a trip that involves leadership training, where we are put in scenarios of hostile environments and have to work together as a team to solve the problem under stressful situations," Dr. Satcher said.

Once his training is finished and he has completed a technical assignment to support ongoing activities at NASA, Dr. Satcher will be eligible to be assigned to either a space shuttle mission or a research project on the international space station. In either case, at least part of Dr. Satcher's role will be that of researcher.

"There have been some NASA experiments that have specifically studied how bone cells respond to a low gravity environment, but I won't necessarily be conducting orthopaedic research," Dr. Satcher said. "NASA has a review process similar to the NIH or OREF, where they accept research proposals, and select which

experiments are going to be flown on the space shuttle and on the space station. Most likely I'll be a proxy scientist for the principle investigator, doing some experiments that were selected by the peer review process."

#### Discovering the future of orthopaedics

Dr. Satcher stresses, however, that it is important to support orthopaedic research. "Orthopaedics as a whole has been expanding throughout the years and the capabilities of the surgeries have become better as technology has improved," Dr. Satcher said. "As people age, most will need orthopaedic care, even if it's not operative. Our joints are going to start to bother us, or our back is going to give us problems. If orthopaedics is going to continue to improve, it is going to be through research that is carried out intelligently and effectively. Supporting research is essential to the continuing improvement and evolution of orthopaedics."



# 2004 Corporate Associates

To learn more about the Corporate Associates Program, please contact **Judy Sherr**, VP, Corporate Relations at (847) 384-4356 or [sherr@oref.org](mailto:sherr@oref.org) or **Jackie Opel**, Coordinator, Corporate Relations at (847) 384-4350 or [opel@oref.org](mailto:opel@oref.org).

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## *OREF-directed research projects produce profitable partnerships*

OREF supports the best science and the best researchers, those we identify through our peer review process. In this model, grants are awarded on an unrestricted basis. Complementing that approach is a program of **Directed Research** funded by industry.

Grants Board, yet these projects may not be company- or product-specific. With written guidelines and careful review by the Board of Trustees and the Grants Board, OREF ensures that the research is of scientific merit and not subject to influence by the sponsor.

Directed Research projects may study a particular area of orthopaedics that is of interest both to the sponsor and to the OREF



OREF would like to congratulate recipients of recent Directed Research Grants and Awards.

**The OREF/ Ortho Biotech Award for Excellence in Blood Management Research** was awarded to:

**Friedrich Bottner, M.D.** and **Thomas P. Sculco, M.D.**  
of the Hospital for Special Surgery, New York, NY

Drs. Bottner and Sculco received the \$20,000 award for their work completed on: *Blood Management in Patients Undergoing Bilateral Total Knee Arthroplasty.*

**The OREF/Pfizer Fellowship Award in Pain Management Application** was awarded to:

**Tony S. Wanich, M.D.**  
of the Hospital for Special Surgery, New York, NY

Dr. Wanich received the fellowship for his work on: *Efficacy of a Percutaneous Neuromodulation Pain Therapy Device Following Total Knee Replacement.*

OREF is currently accepting applications for another Directed Research Project

### ***The OREF/Ortho Biotech Research Grant***

OREF is pleased to announce a new \$40,000, one-year clinical research grant to be awarded on the topic of *The Role of Blood Management and Treatment of Anemia in Improving Outcomes in Orthopaedic Surgery Patients.*

The grant will be awarded to an orthopaedic surgeon working at an institution in the United States who has not received an NIH R01 grant or equivalent. The study will investigate whether the use of Epoetin alfa will:

- Improve wound healing
- Reduce complications (morbidity)
- Decrease length of hospital stay
- Reduce costs

Deadline for submission is October 31, 2005. For the Request for Applications, please log on to [www.oref.org](http://www.oref.org). To receive the application, please contact **Mary Marino** at (847) 384-4359 or [marino@oref.org](mailto:marino@oref.org). Please address questions to **Jean McGuire** at [m McGuire@oref.org](mailto:m McGuire@oref.org) or (847) 384-4348.



## *OREF provides residents opportunities to advance as clinician scientists*

OREF offers several opportunities for residents who are just beginning their research careers. In addition to Resident Research Awards, OREF hosts Resident Research Symposia in New York, Boston, and the Midwest each year.

These programs give residents:

- Encouragement to incorporate research into their careers
- A forum where they can exchange research ideas and scientific data, giving them insight to new concepts in orthopaedics
- The opportunity to present their research projects to their peers without being overshadowed by veteran researchers
- Feedback from moderators and peers about their research projects, which can help them to advance in their careers as clinician scientists

The symposia are funded in part by corporations. Past sponsors of OREF Resident Research Symposia have included: DePuy; Genzyme Biosurgery; Hospital for Joint Diseases; Medtronic Sofamor Danek; Organon Sanofi-Synthelabo; Pfizer; Scheck & Sirex; Smith & Nephew; Stryker; Synthes; Wyeth, and Zimmer.



“Exchanging research projects and scientific data among your peers provides insights, new ideas and methods that

ultimately enhance your own research methods. In addition, discussion and insightful critique of the research I presented at the Resident Symposium provided valuable information that would allow me to improve future research endeavors. The OREF Resident Research Symposium is an invaluable experience for young clinician scientists in orthopaedic surgery.” — **R. Michael Meneghini, M.D.**  
*First place award winner in the Clinical Science category at the 2004 Midwest Resident Research Symposium*



“The Resident Research Symposia provide many benefits for residents. Through these symposia, residents come to appreciate the

opportunities that OREF represents; both as a source of future funding and as a national scientific resource, and, from this appreciation, they understand the importance of supporting OREF economically as residents and after they graduate.” — **Gunnar B.J. Andersson, M.D., Ph.D.**

*Host of the 2004 Midwest Resident Research Symposium at Rush University Medical Center*

## *Annual Campaign donors reveal why they give*

The number of projects that OREF is able to fund in a given year depends to a great degree on unrestricted contributions made to the Annual Campaign in the previous year. Many more worthwhile projects can be funded with your help.

“I support the OREF Annual Campaign because without research, the specialty would become stagnant. In the 40 years since I’ve been practicing, I’ve seen much advancement in orthopaedic treatment, including joint replacement and arthroscopy, which would not have been developed without research. I also believe that it is important to give back to your profession.” — **Charles A. Borgia, M.D., San Jose, CA**



“I contribute to OREF because it has been in the business of supporting our specialty with a very high return on dollars invested in the mainstream of basic science research. After

all, it seems to me, that is what continues to make our specialty stronger. It benefits orthopaedic surgeons by giving us new and better ways to solve age-old problems for our patients, and it benefits our patients with shorter hospital stays, quicker returns to work and play activities, and shortened costs because of quicker recovery times, both in and out of hospital.” — **Paul N. Krop, M.D., Virginia Beach, VA**



## Please Support OREF's 2005 Annual Campaign

### Personal Data

(Print name clearly as you wish it to be recognized in the OREF Annual Report.)

Name: \_\_\_\_\_

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### B Annual Giving Levels:

Order of Merit—Platinum	\$5,000 & Above
Order of Merit—Gold	\$2,500-\$4,999
Order of Merit—Silver	\$1,000-\$2,499
Bronze	\$500-\$999
Copper	Up to \$499

Enclosed is my check for the 2005 calendar year in the amount of \$ \_\_\_\_\_.

I would like to pledge \$ \_\_\_\_\_ for 2005.

Please remind me of my pledge during the month of \_\_\_\_\_.

Charge my contribution of \$ \_\_\_\_\_ to my:  Visa  Mastercard  AMEX

Signature: \_\_\_\_\_

Print name as it appears on credit card: \_\_\_\_\_

Account No. \_\_\_\_\_

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Please send me an Order of Merit Certificate.

### C Memorials and Tributes

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My contribution is in:  Memory of  Tribute to

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### D Designated Giving Program

Order of Merit members (contributions of or exceeding \$1,000 annually) have the opportunity to designate support for specialty societies through their annual contribution to OREF.

**NOTE: Contributions less than \$1,000 may not be designated.**

I understand that a minimum of **\$500** of my annual Order of Merit contribution is **unrestricted** to OREF. I have indicated below the total amount I'd like to designate to OREF and to these specialty societies:

\$ _____ OREF	\$ _____ KS
\$ _____ AAOS	\$ _____ LLRS
\$ _____ AAHS	\$ _____ MAOA
\$ _____ AAHS	\$ _____ MSTS
\$ _____ AFSH	\$ _____ NASS
\$ _____ AOA	\$ _____ OLC
\$ _____ AOFAS	\$ _____ ORA
\$ _____ AOSSM	\$ _____ ORS
\$ _____ ASES	\$ _____ OTA
\$ _____ ASIA	\$ _____ POSNA
\$ _____ AANA	\$ _____ RJOS
\$ _____ CSRS	\$ _____ SICOT
\$ _____ EOEf	\$ _____ SRS
\$ _____ HS	\$ _____ SOMOS
\$ _____ ISAKOS	\$ _____ WOA
\$ _____ JRGS	\$ _____ <b>Total Gift</b>

For more information, please contact **Ed Hoover** at hoover@oref.org or (847) 384-4354 or **Maria Aguirre** at aguirre@oref.org or (847) 384-4357

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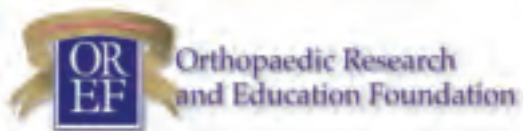
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*Discovering the Future of Orthopaedics*

## *AAOS to support OREF's 2005 Annual Campaign*

As fall quickly approaches, it is time to make your regular Annual Campaign contributions. The contributions to both OREF's Anniversary and OREF's 2005 Annual Campaigns will allow OREF to fund more orthopaedic research that will enhance patient care.

Soon, all AAOS members will receive a joint letter from AAOS President **Stuart L. Weinstein, M.D.** and OREF Board Chairman **Charles A. Rockwood Jr., M.D.** encouraging members to support OREF's 2005 Annual Campaign.

As stated by Dr. Weinstein in the Presidential Address at the AAOS Annual Meeting in Washington, D.C. and reprinted in the July issue of the *Journal of Bone and Joint Surgery*, we "...cannot overemphasize the importance of supporting OREF for the future of our specialty."

To complement the message, in October AAOS members may also receive a personal call as a follow-up to the letter.

—◆◆◆—  
*At this time of  
unprecedented loss,  
our thoughts and  
hopes are with the  
victims of Hurricane  
Katrina and all of  
those who are offering  
assistance to them.*  
—◆◆◆—

