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Pain Management Technique Receives National Award

Anderson Clinic's newest hip and knee specialist, Nitin Goyal, MD, recently received the 2011 Knee Society's Chitranjan Ranawat Award for the year's top research on a knee surgical technique. Meriting this national recognition was Goyal's study on a narcotic-free method of reducing pain after a knee replacement.

"One of my chief research interests is improving pain management following total joint arthroplasty, specifically ways to improve patients' post-operative experiences in the hospital," said Goyal.

But for Goyal, who performed this research while still a Fellow at the Rothman Institute in Philadelphia, better pain reduction is just part of the goal. The other part is reducing reliance

on narcotic pain killers, whose side effects can interfere with rehabilitation.

Towards these ends, Goyal adapted a pump-and-catheter device to dispense local anesthetics directly to the knee during a patient's hospital recovery. After placing the catheter tube into the knee joint during surgery, Goyal connected it postoperatively to a small bulbous pump filled with anesthetics. In this way, anesthetics were targeted directly to the operated area.

In Goyal's words, the study's results were "exciting."



Anesthetics dispersed directly to the joint with this pump-and-catheter device give knee replacement patients improved pain relief during their in-hospital recoveries.

There were significant decreases in both narcotic consumption and pain level. The local anesthetic reduced narcotic consumption by 33% on the second day after surgery," said Goyal.

See the Doctor's Corner, page 2, for more about our newest surgeon and the recent pain management approaches used by Anderson Clinic physicians.

Championing New Procedures

Over the past few years, Dr. Bill Hamilton has been on a crusade to reduce the need for blood transfusions during total joint surgeries. This might seem an odd choice for crusades, particularly since many of us view transfusions as a standard part of major surgeries.

Among medical practitioners, however, the perception of transfusions as a safeguard for patient health has been changing. Research studies over the past decade have linked transfusions with longer hos-



Dr. Bill Hamilton has been working with Jeanine Gargiulo, PA, and AORI's Cathy Huynh (not shown) to improve blood management practices.

pital stays, higher post-operative complications, and higher costs. Due to such findings, in 2008, physicians at the Anderson Orthopaedic Clinic abandoned their practice of transfusing all joint replacement patients; instead, they adopted a new medication that reduced post-operative blood loss.

So why the need for a crusade? Despite these procedural changes, when Hamilton evaluated transfusion practices at the Inova Mount Vernon Joint

See Hamilton's Campaign, Page 8

Taking on Pain Management

Nitin Goyal, MD, is ardent about improving patient care through research. A fellowship-trained hip and knee specialist, Dr. Goyal joined the Anderson Orthopaedic Institute in August 2011. Within months, he had set several of his research passions into motion. The driving motivation behind his research?

“My foremost aspiration is to take care of each patient to the best of my ability, as if they were a part of my immediate family,” says Goyal. “I believe that a strong doctor-patient relationship, adherence to surgical principles, and a motivated patient will result in the best possible outcome.”

Raised in Great Falls, Virginia, Goyal ventured to Philadelphia for his medical training, graduating at the top of his class from the Jefferson Medical College and completing his residency in orthopaedic surgery at the Rothman Institute & Thomas Jefferson University Hospital. To further his training in complex hip and knee reconstructions, he completed a fellowship at the Rothman Institute.

In the following interview Goyal tells us about his pursuit for improved pain management and the new pain management approaches being taken at Anderson Clinic.



Nitin Goyal, MD, with his wife, Rachna, an internist completing her medical training at the University of Pennsylvania. The two enjoy their sparse leisure time traveling.

Q. Dr. Goyal, your recent research has focused largely on pain management. Why did you pursue this topic?

Goyal: Post-operative pain control is important because we want our knee arthroplasty patients to be able to participate in physical rehabilitation. The more comfortable they feel bending their knees and doing physical therapy, the more potential there is for them to have a better result and avoid complications. Also, improved pain management improves the entire patient experience following joint replacement surgery.

Q. Is there a relationship between pain and post-surgical outcomes?

Goyal: Definitely. Improved post-operative pain control has been shown not only to reduce serious complications, including the

risk of cardiovascular events, but it also has the potential to improve the ultimate outcome with regards to pain and function of the knee. This might be because patients are able to mobilize sooner and can participate more fully in physical therapy.

Q. Why are you looking at alternatives to traditional pain management?

Goyal: Our objective is to decrease the use of narcotic pain medication (opiates). Opiates can cause a variety of side effects after surgery. Adverse effects can include decreased appetite, nausea and vomiting, dizziness, constipation, and drowsiness. I want to reduce these side effects to improve my patients' experiences after surgery, as well as their final outcomes.

Q. You and the other surgeons at Anderson Clinic are using an approach called multi-

modal pain management. Would you tell us more about this?

Goyal: I'm a big proponent of multimodal pain management. Again, the goals are to minimize the use of narcotic pain medications and to reduce the side effects of each medication that is administered. We do this by attacking the pain with different methods and with various medications that work in unique ways.

Another technique we are employing is something called “preemptive analgesia.” By giving a patient an anti-inflammatory medication, Tylenol, and a nerve pain medication immediately prior to surgery, we can desensitize their pain fibers. In other words, we control the pain before the patient has it. This also allows for better post-operative pain management.

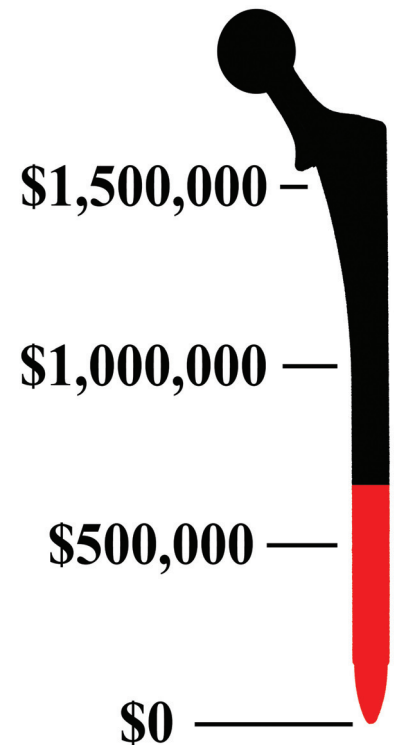
Four Decades of Progress

**This year marks AORI's 40th anniversary
and the second year of AORI's
Joint Legacy Campaign.**

With over \$668,000 received to date, we are now a third of the way toward our goal of \$2 million in gifts and planned estate donations by the end of 2012. To help us reach our goal, we hope you will consider a contribution. Every gift is deeply appreciated. All donors planning to make estate contributions, regardless of size, are recognized in perpetuity with a plaque on AORI's Donor Wall at the Anderson Orthopaedic Institute. Working together, we can establish a joint legacy to ensure that the pioneering work initiated by Dr. Charles Engh through AORI will continue to benefit the joint replacement patients of today and tomorrow. Thank you in advance for partnering with us to create a joint legacy of enduring pain-free movement by supporting AORI.

***Help ensure continued progress towards
pain-free movement.***

\$2,000,000 Goal



Q. Have you noted improvements when using multimodal pain management?

Goyal: Multimodal pain management is extremely beneficial in reducing pain and decreasing narcotic consumption. A large portion of our patients get up on the day of surgery with minimal pain. I believe that this is in large part due to improved pain management in the postoperative period.

Q. What is the future direction of your research?

Goyal: My foremost area of interest is improving outcomes following knee replacement surgery. A key issue to patients is having a sense of normal knee motion. A chief factor in that appears to be knee kinematics, or knee balance throughout range of motion. One of my interests is to develop a more kinematically balanced knee replacement. As this is also one of Dr. Jerry Engh's interests, I am beginning to work with him on it.



Bragging Rights

SPORTING "NU KNEES" plates on her car, 46-year-old Rinda Edwards shares her joy about "having her life back" with every mile she drives.

Obviously, Edwards has a great sense of humor, and it appears to run in her family. When her mother had two knee replacements 20 years ago, she purchased license plates with the same words. She then drove with them for 15 years. After Rinda had bilateral knee replacements for the same degenerative joint disease, she decided it was her turn to display the badge of honor on her car. We wonder whether Edwards will show off her Nu-Knee status for 15 years, as her mother did. We hope so.

In Gratitude

A person's spirit lives on in countless ways after his or her passing. This past September, AORI received the sad news that Caroline Sibyl Robinson, one of Dr. Charles's earliest and closest patients had died. Believing in Dr. Charles's research, Carol, as she was known to family and friends, had requested that her hip implants be donated to our implant bank. Her hip replacements had served her for an astounding 38 years, and they became the oldest ones in our implant bank. Carol's kind gesture was just one of the things that inspired us to write a story about her. The other was the last of the many Christmas photos she had sent to Dr. Charles. Carol's smile radiated an inner joy that must have been contagious. No one would have guessed she was in palliative hospice care at the time.

Before we had the opportunity to speak with Carol's daughter, Lina Robinson-Hart, for our story, AORI received a large, unexpected bequest from Carol towards our research. We greatly appreciate Carol's generosity and the memories her daughter has shared. Lina told us that her mother's parents had called their daughter their Christmas Carol, since she was born on Christmas Day in 1928. She certainly lived up to her nickname. As you will learn, the bequests Carol left us were characteristic of her giving spirit, a spirit that lives on in immeasurable ways and in innumerable people.



Carol and Jim Robinson celebrating their 58th Christmas together. Carol had a tradition of designing her own cards and always included a family photo and card to Dr. Charles.

A Daughter Remembers Her Mother

CAROL ROBINSON MUST HAVE TOLD WONDERFUL STORIES. How else could her daughter's memories and stories be so vivid that they paint little vignettes of Carol's life?

"Mother was very much an artist from an early age. She would sketch and doodle, and later she went to art school," says Lina Robinson-Hart, Carol's oldest child.

"Her family had a place called Deer Island in the Adirondacks. Mother went there almost every summer for 4 to 6 weeks. She and her sister Linda would dress up and put on skits and go swimming and rambling. As an adult, she

would go every other summer and take my brothers, Frank and Lee, and me, or her grandchildren. It was remote, so there was no TV. We'd have big dinner gatherings where everybody would tell stories, and Mother would tell us about her shenanigans growing up," says Lina.

One of the stories that must have been told repeatedly was of her mother and father's early romance. When Carol was 24-years-old, working in Rochester, New York, she met Jim Robinson, a lieutenant in the United States Army on a work assignment there. Within 10 days they were engaged.

"Mother would say, 'Well, I was an old

spinster by then. All my friends were married by that time.' But I don't think she was totally desperate. Dad was rather handsome and debonair, and he swept her off her feet," says Lina. "They had a long engagement of six months and married in 1953."

After a tour of duty in Germany, the couple settled in Chattanooga, Tennessee, where Lina was born a year later in 1955.

"When I look back on it, Mother was the model of a fifty's stay-at-home mom, and Dad was the go-to-work bread winner," says Lina, remembering how her mother kept the household

running smoothly and how she “always coiffed her hair and fixed herself up a little before Daddy came home.”

But unlike June Cleaver, television’s archetypal 1950’s mother, who waited at home for Wally and Beaver, Carol drove her children to different schools at opposite ends of town, attended their plays and activities, helped start a local Presbyterian Church, taught Sunday School, and volunteered in the community – all while enduring pain from a debilitating disease of her joints.

“In my late elementary and early teenage years, Mother was getting slower and slower in moving around. If she had to discipline us, she could still move pretty quickly, but by my senior year in high school, she could only step forward with one foot about 8 or 10 inches. Then she’d bring the other leg to her. She was very limited in her ability to get around,” says Lina.

Even so, her mother was unstoppable.

“She just had this indomitable spirit. The pain of her hips, knees, and shoulders was constant, but she kept plowing through it. She was always making soups for people who were recuperating from illness, making cookies for the neighbors, or hosting parties. In my parents’ hey-day, she would have big elabo-

rate parties that required her going up and down the stairs over and over again,” says Lina.

As Carol’s symptoms worsened in the early

1970s, she started going to the Anderson

Clinic to see Dr. Thomas Brown, who was known for his alternative methods for treating arthritis. During these visits, she connected with Dr. Charles Engh, then at the beginning of his surgical career. In 1973, she decided to have Dr. Charles replace both hips. The relief was immediate.

Lina usually went to the Anderson Clinic with her mother, because during her late teens and early twenties, her own hips were growing increasingly arthritic and painful.

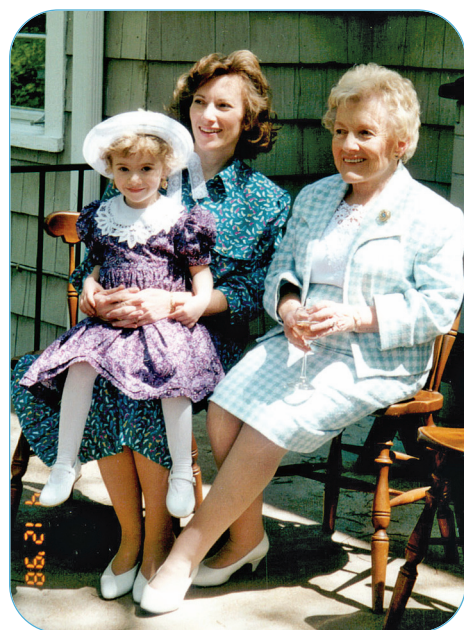
“One doctor said I had 64-year-old hips in a 24-year-old body and recommended that I use crutches, a walker, or a wheelchair until something could be done when I was older,” says Lina. “Dr. Charles told my mother that he was ready to operate when I was.”

“I had gotten to the point where I could only spread my legs about 11 inches when I sat down. I couldn’t squat, and it hurt to go from a sitting to standing transition. It was just getting more and more painful and debilitating. Finally, when my hip went out, I couldn’t stand

The pain of her hips, knees, and shoulders was constant, but she kept plowing through it. She was always making soups for people who were recuperating from illness, making cookies for neighbors....



“Mom loved writing and giving corny and funny toasts on special occasions,” says Lina. Above Jim and Carol are leading their sons and daughter-in-laws in a spoof on the “Chattanooga Choo Choo” at a family reunion.



Lina Hart, her mother, Carol, and Lina’s daughter Sarah on Easter 1998. Both women had their hips replaced early in Dr. Charles Engh’s career, Lina in 1980 and 1985 and her mother in 1973. “He kept us mobile,” says Lina.

Father and Son Take It to the Top

When Bill Whalen's son, Matt, was little, Bill would show him pictures he had taken during his years of service with the United States Navy in Japan. After looking at panoramas of Mt. Fuji, taken during the early 1970s from the United States Naval Base at Atsugi (south of Tokyo), the two would talk of climbing the mountain together someday. The seeds of far-off adventures were planted; by June, 2011, they had sprouted and were ready to bear fruit.

That's when Matt graduated from Virginia Institute of Marine Science with a Master's in marine science. A little more than a week later Matt was in Japan, working on a marine ecology research project near Hiroshima. With half the climbing duo already in Japan, the time had come for their climb.

Despite the facts that Bill's physical activity had been curtailed for 10 years by severe knee osteoarthritis, that he recently had a total knee replacement, and that he was 62, he boarded a jet to Tokyo. The ensuing experience proved to be both challenging and exhilarating.

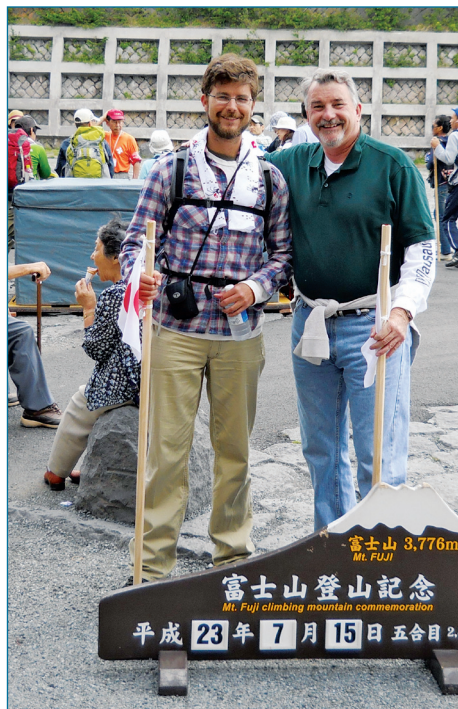
Climbing Mt. Fuji is unlike climbing any other mountain. Busloads of school children, families, the elderly, and foreign visitors descend upon the mountain during July and August. For some, the climb retains its spiritual significance; for many it's a once-in-a-lifetime challenge. For most, including Bill and Matt, the goal is to reach the top in time for the sunrise.

Along with thousands of others, Bill and Matt began their ascent in the late afternoon. The trail alternately curved through walls of black volcanic rock and up steep open slopes of volcanic gravel. Even Matt, an experienced hiker, was surprised by the difficulty.

"We didn't set any land records," says Bill. "But not everybody passed us as we went up. We even passed a few."

As is customary, Bill and Matt rested and ate at stations along the way, making it to the last hut by 10:30 p.m. for a nap. By 12:30 a.m. they were back on the trail.

"It was a conga line of climbers all the way to the mountain top from the last rest station," says Bill. "Since we were climbing in the dark, many climbers wore head



LEFT: Buses take climbers to stations on Mt. Fuji, where they begin their ascents. Bill Whalen and his son Matt are ready for their big adventure.

BELOW: Bill makes the ascent, then victory!



lights to see where they were going."

Bill and Matt made it to the peak by 4:00 a.m. With 30 minutes to spare before sunrise, they watched others express their sense of accomplishment upon arriving. Thousands waited with excited chatter.

Although it was 40 degrees, one Japanese man stripped down to a traditional loin garb. As the sun peaked over the horizon, he began chanting at the top of his lungs. The crowd hushed. When he finished, they exploded with applause and exclamations of "banzai,



banzi, banzi!" Later, Bill and Matt learned the chanter had given a song of praise to the mountain and sun gods.

It was a fitting culmination for a shared dream.

Moving On

Every year new orthopaedic surgeons of the highest caliber make their way to the Anderson Orthopaedic Institute for our Joint Replacement Fellowship. Having already performed at the top of their classes and practiced orthopaedic surgery during their residencies, these physicians come here to learn the finer points of joint replacement surgery. For one year they work alongside Anderson Clinic physicians, assisting with surgeries, attending patients before and after surgery, and taking on AORI research studies. As they move on to their long-awaited careers this summer, we thank them and wish them the best.

Junaid Makda, MD

Medical School:
Rush Medical College
Chicago
(2002-2006)

Residency:
Thomas Jefferson
University Hospital
Orthopaedic Surgery,
The Rothman Institute
(2006-2011)



The patients Junaid Makda, MD, served during his orthopaedic residency were the determining factors in his career direction. He says he picked total joint surgery as his speciality “because of how happy the patients were to be able to do activities again.”

“Total joint surgeons have the unique opportunity to reduce pain and enable patients to return to their daily lives,” says Makda.

The reputations of Dr. Charles and the other Anderson Clinic physicians

attracted Makda to our Fellowship.

“All the physicians are noted in their field, and all are still pushing forward with research,” he says.

Makda’s dedication to his profession is impressive. During the year, his wife and three children remained in the Chicago area, so he traveled there almost every weekend. His next commute to and from his new practice in Bloomington, Illinois, should be *much* better.



Arjun Saxena, MD

Medical School:
Thomas Jefferson
Medical College
Philadelphia
(2002-2006)

Residency:
Thomas Jefferson
University Hospital
Orthopaedic Surgery,
The Rothman Institute
(2006-2011)

As soon as Arjun Saxena, MD, walked into the Anderson Orthopaedic Institute for his fellowship interview, he liked the atmosphere.

“Everyone in the clinic and hospital was so pleasant and eager to work together,” says Saxena.

Saxena gained “a ton” of new skills during the fellowship.

“Honing my surgical skills was number one, but I also gained the office skills, like doing exams, interpreting x-rays, and interacting with

patients,” he says.

Saxena also worked on a research study with Dr. Bill Hamilton, investigating the outcomes associated with new knee instrumentation.

Saxena is looking forward to implementing his skills and ideas when he returns to Philadelphia. There he will be practicing with two new hospitals, one in Pennsylvania, the other in New Jersey.

Hamilton's Crusade

continued from page 1

Replacement Center in 2009, he still noted a high transfusion rate. With the technical assistance of Jeanine Gargiulo, PA, and Cathy Huynh, AORI Project Manager, he started investigating factors related to blood loss.

“There are many ways to reduce blood loss before, during, and after surgery,” says Hamilton. “For instance, before surgery we can check for anemia so that iron or blood-stimulating agents can be given. During surgery, we can reduce bleeding by using a special device to seal the vessels in the surgical site.”

To learn which procedures were most effective in reducing the need for transfusions, Hamilton initiated a retrospective study of his own hip replacement cases. He found that as he had applied blood management therapies, the transfusion rate among his patients had steadily declined. Using data collected before, during, and after surgeries, the team determined the individual and collective effects of the different procedures and patient factors.

“Before this study, I noted a 52% transfusion rate among an initial series of 60 hip replacement patients,” says Hamilton. “When we reviewed outcomes from the most recent cases in

our study, we found that the transfusion rate had fallen to 5%, or 5 out of 100 cases. That’s a dramatic difference.”

“When we reviewed outcomes from the most recent cases in our study, we found that the transfusion rate had fallen to 5%, or 5 out of 100 cases.”

Dr. Bill Hamilton

For Hamilton it was just the first step. The bigger task was putting new protocols in place throughout the hospital. Hamilton repeatedly met with everyone from intake personnel to

operating staff, fellows, anesthesiologists, nurses, and physical therapists.

“Because the process of managing blood loss for the joint replacement patient involves several different disciplines, it was important to educate and involve all of these disciplines in the process. Like many things in joint replacement, working as a team substantially improves outcome for each patient,” says Hamilton.

“All the Anderson Clinic surgeons were also on board,” says Hamilton. “Dr. Andy Engh, MD, had introduced the medication that significantly helped reduce blood loss, and Dr. Kevin Fricka has been educating consulting physicians on the proper algorithms to employ when considering postoperative blood use.”

In the spirit of a true crusader, Hamilton is continuing to spread his findings to other hip surgeons at local and national orthopaedic meetings.

“As my mentors, Drs. Jerry and Charlie Engh have long professed, the rewards of research and discovery come far less from publication than from the improvements in practice that can be made by spreading the findings throughout the orthopaedic community,” says Hamilton.



Anderson Fellows *continued from page 7*

Dustin Gay, MD

Medical School:
Medical College of Georgia
(2001-2005)

General Surgery Internship:
Union Memorial Hospital
Baltimore, Maryland
(2005-2006)

Residency:
Union Memorial Hospital
Baltimore, Maryland
(2006-2011)

For Dustin Gay, MD, the most valuable aspect of the Anderson Orthopaedic Fellowship was “the exposure to a wide variety of different surgical techniques and the hands-on surgical experience.”

Gay is taking that experience back to his home state of Georgia, where he will focus on his new practice at the Meadows Regional Medical Center in Vidalia.

A Daughter Remembers

continued from page 5

it any longer,” says Lina. “The minute I woke up after surgery, I realized the pain in my hip was gone.”

As for Lina’s mother, her disease continued to affect her other joints. Over the ensuing years, she had two knee replacements, two shoulder replacements, and back surgery.

“She was a semi-bionic little lady,” says Lina. “When I was in high school, she was about 4 foot 10 inches. As she grew older, she just kept getting smaller and smaller. Before she died, she was about 4 foot 6 inches.”

Through it all, Carol kept her good nature and outgoing spirit.

“She’d write jingles and poems for big occasions, like weddings, anniversaries and birthdays. Then she would get up and sing or render them for everyone,” says Lina.

Even when ill, under the care of the Hospice of Chattanooga, Carol’s sense of humor was unquenchable. In her younger days, she had helped establish

the hospice, and she had volunteered there for over 28 years. Lina recalls, “When people would go into Mother’s hospice room, she would say, ‘I’ve been with hospice for 28 years.’ They would look at her, like what are you talking

about? It was really funny. Mother loved to get a rise out of them.”

Carrying out the tradition of kindness and service by which she lived, Carol set money aside in her will for many charities. According to

Lina, she made a bequest to AORI because she believed so much in the work and research of Dr. Charles.

“I’m just so thankful for Dr. Charles,” says Lina. “I can’t say enough good things about how wonderful he is. He’s like the family physician for the women in our family – he kept us mobile.”

“Dr. Charles gave my mother a new lease on life, enabled her to get up and around – to go from staggered steps to being without chronic pain,” says Lina. “It did so much for her health and well being.”

“Dr. Charles gave my mother a new lease on life, enabled her to get up and around – to go from staggered steps to being without chronic pain.”

My, How Things Have Changed...

Like her mother before her, Lina Robinson-Hart had both hips replaced, one in 1980, the other in 1985. At the time, cementless, porous-coated hip implants were still relatively new, and, as Lina recalls, some of the procedures quite different than today.

For instance, femoral components came in two sizes fits all – large or small. To be certain the small one would fit Lina’s petite frame, Dr. Charles had it sent to her physician in Atlanta. Lina lay down on her physician’s exam table, and he simply held the implant up to her hip to check the fit.

After surgery, one of the nurses asked Lina if she wanted to see what her removed hip bone looked like. She answered yes and was given it in a jar!

“I still have it displayed in my bathroom,” she says.

Another big difference was Lina’s hospital stay of 10 days for recovery and physical therapy.

Thirty-two years later, Lina remains thrilled with the choice she made when she was 24.

“I can do yoga, cross my legs sitting down, crouch, and bend. Life is good!”



Gautam Siram, MD

Medical School:
Mount Sinai School of
Medicine
New York City
(2002-2006)

Residency:
Howard University
Washington, D.C.
(2006-2011)

Gautam Siram, MD, appreciated the varied surgical experiences provided by our fellowship.

“Each attending physician does surgery in their own, unique fashion, allowing us to be exposed to a variety of different techniques, implants, and methods,” says Siram.

Staying in the area where he grew up, Siram’s next move is Summit Orthopedics in Bethesda, Maryland. The community-affiliated practice enables him to serve patients and to share his knowledge with orthopaedic residents from two programs.

“My goals are first and foremost to make the right clinical decisions for my patients, but I also want to become a better teacher,” Siram says.

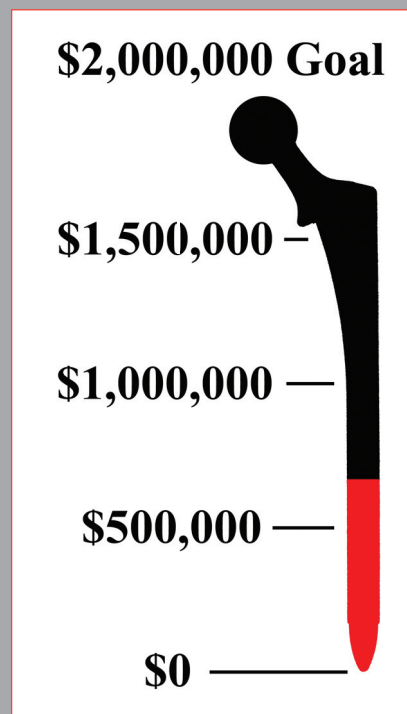
Joint Legacy Campaign On Its Way!

We at AORI extend our gratitude to those who have helped support Dr. Charles's vision for a research institute dedicated to joint replacement patients. Each donation we receive makes a difference in improving the options for individuals who suffer from debilitating hip or knee arthritis.

Your donations and bequests go towards

- the objective assessment of old and new implants
- improved diagnostic methods
- the detection of atypical complications
- the evaluation of new procedures, and
- the *overall improvement of joint replacements.*

If you donated to AORI between April 1, 2011 and March 31, 2012, and are not listed below, we apologize. Please contact Susan Sensi at (703) 619-4437 so that we can correct our mistake. It is important to us to recognize all of our supporters in the *Joint Journal*.



The ability to move without pain is a gift that opens doors to countless experiences.

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