Hospital Stays Shortened in Study of Minimally Invasive Total Knee Replacement

Feb 27, 2003

WARSAW, Ind., Feb 27, 2003 /PRNewswire-FirstCall via COMTEX/ --

Hospital stays following total knee replacement were reduced to an average of less than three days in a study, initiated in 1999, of more than 120 patients using a "MINI" incision surgical procedure with Zimmer instruments and implants, according to Luke Vaughan, M.D., Director, Orthopaedic Tumor Service, Scripps Clinic and Foundation, La Jolla, CA, who presented the results at the recent 17th Annual Vail Orthopaedic Symposium.

Dr. Vaughan's study compared results for 60 patients using the MINI incision technique and 66 patients who had a conventional knee replacement surgery. With the MINI procedure, incision length was shortened to 11 to 14 cm (approximately 4.3 to 5.5 inches) from the approximately 20 to 30 cm (7.8 to 12.0 inches) used for conventional procedures. At the start of the study, both the MINI and conventional groups averaged hospital stays of approximately 3.5 days. Over the course of the study, the MINI group fell to under 3.0 days, while the conventional group dropped slightly to about 3.25 days.

"What we found was that by adapting instruments and technique to a smaller incision, we could shorten the hospital stay, lower blood loss and speed the patient's rehabilitation, all while leaving the patient with a more cosmetically appealing scar," said Dr. Vaughan. "Importantly, the patients in the study who had a MINI technique scored as well or better for Range of Motion and Function as did those with the conventional procedure, and there were no additional complications in the MINI group."

According to Dr. Vaughan, the MINI patients were slightly older, on average, than the conventional procedure patients, but they weighed approximately 25 pounds less, on average. "I believe the MINI is best suited to patients who weigh less than 250 pounds and who do not have complex or significant deformities," said Vaughan.

Alfred Tria, M.D., Clinical Professor of Orthopaedic Surgery, Robert Wood Johnson Medical School (New Brunswick, NJ), who is also working with Zimmer on applying minimally invasive concepts to knee replacement, says Dr. Vaughan's work shows the promise of greater patient benefits. "The MINI is an important step in proving the benefits of less invasive knee procedures, and we are now well down the development process on the next step with the goal of enabling knee replacement patients to return quickly to their normal daily activities," said Tria. "I've performed approximately 50 procedures using a substantially less invasive, Quad Sparing approach, and most of those patients have gone home within 48 hours."

Zimmer is the industry leader in applying minimally invasive concepts to joint replacement surgery. More than 20,000 Zimmer M/G(TM) Unicompartmental Knees have been implanted using Minimally Invasive Solutions(TM) instruments. More 350,000 knee replacement surgeries were performed in the U.S. in 2002. Hip replacement is also undergoing a transition to less invasive procedures. Shortened-incision, or MINI, surgical approaches have also been applied for hip replacement. As compared to a MINI surgical approach, an even less invasive hip replacement procedure has been used for more than 300 patients. This "2-Incision procedure," developed by Zimmer with leading surgeons, has the potential to dramatically reduce length of stay and rehabilitation time for patients, and overall treatment costs for health care payers. Information about the procedure and a list of surgeons who have been trained to perform it can be found on a Zimmer-supported website, www.pacewithlife.com .

Zimmer says the previously announced opening of its Zimmer Institute, which will be focused on MIS training, is on track for opening April of this year. The company expects to facilitate training for approximately 1,500 surgeons on the MIS Hip Replacement Procedures. Based on the success of the MINI knee replacement procedure, Zimmer plans to train over 100 surgeons on the even-less invasive MIS Quad-Sparing Total Knee Replacement procedure during 2003.

Zimmer (NYSE: ZMH), based in Warsaw, Indiana, is a global leader in the design, development, manufacture and marketing of reconstructive orthopaedic implants and trauma products. Orthopaedic reconstruction implants restore joint function lost due to disease or trauma in joints such as knees, hips, shoulders and elbows. Trauma products are devices used primarily to reattach or stabilize damaged bone and tissue to support the body's natural healing process. Zimmer also manufactures and markets other products related to orthopaedic and general surgery. For the year 2002, Zimmer recorded worldwide revenues of approximately $1.4 billion. Zimmer was founded in 1927 and has more than 3,600 employees worldwide.

Scripps Health is a not-for-profit, community-based health care system that includes more than 2,600 affiliated physicians, five acute care hospitals, an ambulatory care network, and home health care services. Scripps employs about 11,000 people in San Diego County and treats more than 525,000 patients annually.

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