

COVER STORY

New technology for knee replacements

Gender-specific artificial knee replacement now at Fawcett Memorial

By Michelle Ritter
SPECIAL TO FEELING FIT

On July 31, Dr. David Kaler successfully performed the first 'gender-specific' artificial knee implant in Charlotte County at Fawcett Memorial Hospital.

"When performing knee replacements, surgical components seemed to be a half size off for most women," Kaler said. "I was pleased when Zimmer designed a component that is more adaptable to a woman's anatomy by offering new sizes to make it a better fit."

The patient, Dorothy Diana of Port Charlotte, is doing well, and receiving therapy at Fawcett Sports and Rehabilitation Services.

When asked about her experience, Diana said, "Dr. Kaler is such a wonderful person. I have such admiration for him."

She didn't realize prior to the surgery that she would soon benefit from the new, gender-specific implant technology Dr. Kaler planned for her, but said, "I trust him and I believe in him."

The Gender Solutions knee, manufactured by Zimmer, is the first artificial-knee replacement shaped to fit the unique anatomy of the female knee.

The U.S. Food and Drug Administration recently approved it for use in the United States.

The design of the Gender Solutions knee is based on three distinct and scientifically documented shape differences between women's and men's knees. In design-

ing the knee, researchers used a sophisticated and highly detailed map of the female knee using three-dimensional computed tomography imaging.

All other implants now being used for total knee replacement are based upon an average between the size of women's and men's knees.

Mounting research shows that the anatomical structure of the female knee is very different than the male knee.

Nearly two-thirds of the more than 400,000 annual knee replacement patients are women, according to the National Center for Health Statistics, and the numbers continue to increase each year.

Research shows that while both women and men vastly under use knee replacement, women are three times less likely than men to undergo the procedure, although they suffer from more knee pain and resulting disability.

The new artificial knee implant addresses three key differences of a woman's knee:

1. Narrower shape, proportioned to female anatomy: When determining the appropriate-sized implant, surgeons measure the end of the femur from front to back and from side to side. Women's knees typically are narrower from side to side, and are more trapezoid-shaped, whereas men's knees are more rectangle-shaped.

2. Thinner shape: The bone in the front of a woman's knee is typically less prominent than in a man's knee,



Photo provided

Port Charlotte resident Dorothy Diana recently received an artificial knee replacement that was crafted for women at Fawcett Memorial Hospital. This gender specific replacement is the first in Charlotte County.

The new knee is thinner in shape in the front, so the knee replacement more appropriately matches the natural female anatomy.

3. More natural tracking: The angle between the pelvis and the knee affects how the kneecap tracks over the end of the femur as the knee moves through a range of motion.

Women tend to have a different angle than men due to their specific shape and contour.

The new knee implant is designed to accommodate the different tracking angle and function more like a woman's natural knee.

The knee joint is composed of three bones: The end of the femur (thighbone), the top of the tibia (shinbone) and the patella (kneecap), which are all held together by tendons and ligaments and cushioned by cartilage.

Knees can become painful,

due to arthritis, injury and infection, which cause deterioration of the cartilage. When the cartilage is gone, the bones of the knee grind against each other, wearing away and typically causing severe pain. Total knee replacement involves removing the portion of bone that is damaged and resurfacing the knee with metal and plastic implant.

Diana, who is also a member of Fawcett Memorial Hospital's H2U program, plans to get back to her normal routine, including her mall walking.

Her goals are "To do everything the way I always did - without pain."

With the technology in her new knee, Dr. Kaler's skill and some great therapy from Fawcett Memorial Hospital, she is well on her way to achieving her goal.

Fawcett Memorial Hospital is a 238-bed acute care hospi-

tal located at 21298 Olean Blvd. in Port Charlotte. The hospital serves the health care needs of Charlotte County and the surrounding areas with a special sensitivity to caring for our senior community. Fawcett also offers a full-service Spine Care/Orthopedic Center. Clinical specialties include skilled emergency care, comprehensive cancer care, inpatient and outpatient surgery, cardiac catheterization, inpatient physical medicine and rehabilitation, and outpatient programs such as cardiac rehabilitation, stress testing and diagnostic services.

Fawcett Memorial Hospital also provides a variety of community wellness programs as part of its ongoing commitment to community outreach and education.

Michelle Ritter is the community relations specialist for Fawcett Memorial Hospital.