

New Directions



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Innovations in Surgery Help Shoulders Do the Heavy Lifting

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Shoulders Do the Heavy Lifting

Innovations in Surgery Can Help

“The shoulder is the most unstable joint in the body,” says Edward J. Bieber, M.D., chair of orthopedic surgery at Suburban Hospital. “And that is what makes it so wonderful!”

Most people don’t realize the “heavy lifting” their shoulders do every day until they start experiencing severe pain and limited range of motion. Just ask Charles Lewis, 87, of Wheaton.

Lewis, a competitive marksman since he was 22, says the pain changed his life. “Basically, when I was awake, I was in pain,” explains the retired mechanical engineer, “and soon I couldn’t move my left arm anywhere behind or above me.” Following shoulder replacement surgery 10 years ago, Lewis has been pain free.

“Because people like Mr. Lewis are living longer and more active lives, we are seeing an increase in patients who can benefit from shoulder replacement surgery, and yet many are not aware of the innovative procedures that are now available,” notes Dr. Bieber. “They know you can replace a knee or hip, but they are much less familiar with interventions for shoulders.”



Shoulder replacement surgery has allowed Charles Lewis to enjoy hobbies such as carpentry.

The shoulder is a ball-and-socket joint comprising three bones: the upper arm bone (humerus), shoulder blade (scapula) and collar bone (clavicle). The rotator cuff is a group of muscles and tendons that attach the upper arm to the shoulder blade. The rotator cuff tendons provide stability to the shoulder, and the muscles allow the shoulder to rotate.

According to Dr. Bieber, the shoulder’s instability gives it significant range of motion; if it were a constrained joint like the hip, it would not be able to move the way it does.

Whereas the hip fits into a tight socket that holds it in place, the shoulder fits into a flat socket and the only structures holding it in place are muscle, tendons and ligaments. If they are not working properly, you don’t have normal motion.

“The shoulder has a critical role in positioning the hand; it allows you to do everything from washing your hair and shaving in the morning, to reaching for groceries on the top shelf of the supermarket or playing tennis and swimming,” explains Dr. Bieber.

In a healthy shoulder joint, the surfaces of the bones where the ball and socket run together are very smooth and covered with tough protective cartilage. Over time, and as a result of increased usage, the cartilage breaks down and the joint becomes inflamed.



Orthopedic Surgeon Edward J. Bieber, MD, with a model of the shoulder joint.

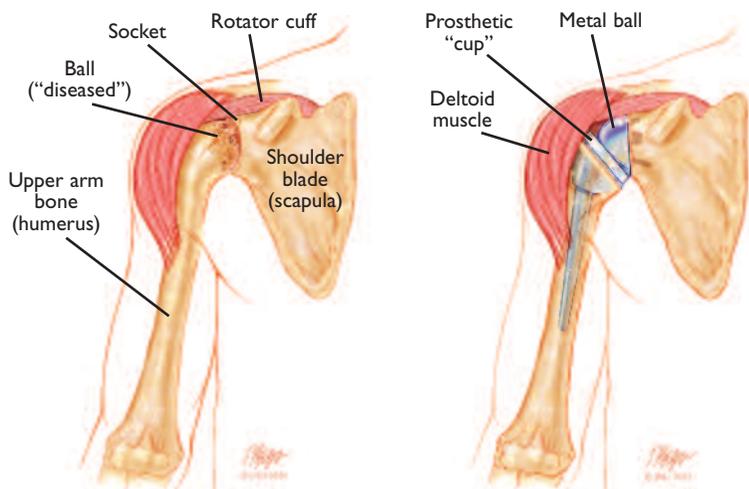
This is known as “arthritis.” The damaged surfaces eventually become painful as they rub together.

“If you’re not getting relief from resting the shoulder or from routine anti-inflammatory medications like ibuprofen, then you should be evaluated,” says Dr. Bieber. “It’s important to understand the source of the pain and make sure you are not making it worse through continued activity. A decision you may make at 18, such as continuing to exercise through the pain, can be a silly decision when you are 60.”

While many patients will benefit from cortisone injections or physical therapy, some will get relief only from surgery.

“Fortunately, numerous innovations in shoulder replacement surgery are making a significant difference in patient outcomes,” notes Dr. Bieber. “I’ve been practicing for close to 30 years and, for me, this is the most exciting time in the field of orthopedics.”

ON THE COVER | After reverse shoulder replacement surgery, John Surr of Bethesda is pain free and back on the playground as a volunteer.



At left, the anatomy of a shoulder joint. Right, in reverse shoulder replacement surgery, the positions of the ball and socket (prosthetic cup) are reversed.

For example, “customizable” replacements offer patients better comfort and function. “Some people have severe arthritis or deformity that alters our ability to place the shoulder parts properly,” explains Dr. Bieber. In these cases, a new system allows surgeons to produce a 3-D model of the shoulder from a CT-scan and create instruments and an implant perfectly designed to match the patient’s specific anatomy.

Charles Lewis, whose problem was severe arthritis, was one of many patients who benefit from conventional shoulder replacement surgery. “Dr. Bieber is my medical hero,” he exclaims. In the past 10 years, however, a procedure called “reverse shoulder replacement” has provided a better solution for those with torn rotator cuffs as well as compound fractures or bone tumors.

A conventional shoulder replacement mimics the normal anatomy of the shoulder: the prosthetic “cup” goes into the shoulder socket and the metal “ball” is attached to the top of the humerus. In the reverse total shoulder replacement, the socket and metal ball are switched. The metal ball is fixed to the socket and the plastic cup is fixed to the upper end of the humerus. The reverse replacement relies on the deltoid muscle, instead of the rotator cuff, to power and position the arm.

“It used to be we would tell some patients we couldn’t help them,” explains Dr. Bieber, who has performed several hundred shoulder replacement surgeries. “If the rotator cuff were damaged, there was nothing to hold the new ball and socket in place.

Now, two-thirds of the shoulder replacements I perform are reverse. These have revolutionized the surgery.”

John Surr of Bethesda has been pain free since Dr. Bieber performed reverse replacement surgery on his right shoulder about a year ago at Suburban Hospital’s busy Joint Replacement Center, which performs more procedures than any other hospital in Montgomery County. “My rotator cuff was basically useless,” explains the 77-year-old retired attorney who had enjoyed decades of whitewater paddling, which contributed to his injury.



Free Seminar: Reversing Shoulder Pain and Impairment: Innovations in Surgery

Thursday, May 1, 2014

6 pm: Registration and
Light Refreshments

6:30-7:30 pm: Seminar

Suburban Hospital Auditorium

8600 Old Georgetown Road

Bethesda, MD 20814

Join Suburban Hospital Orthopedic Surgeon Edward Bieber, MD, for a discussion on the signs and symptoms of shoulder impairments, including arthritis, frozen shoulder and torn rotator cuff. Dr. Bieber will discuss minimally invasive therapeutic options as well as surgical innovations such as reverse shoulder replacement surgery. To register, go to suburbanhospital.org/events or call **301-896-3939**.

Today, Surr is back in action as a volunteer at The Clara Barton Center for Children in Cabin John, where he depends on his “new” shoulder to assist the children and store their toys on high shelves.

“Not to mention, my wife is pretty petite, so she really appreciates me being able to reach for the food on the top shelf!”

TO LEARN MORE | For more information about Suburban Hospital’s Joint Replacement Center, go to suburbanhospital.org/jointcare

For a referral to an orthopedic surgeon, call **1-855-JHM-3939**.

When he’s not busy as an advocate for reforming early childhood policy at the local, state, national and global levels, John Surr volunteers at the Clara Barton Center for Children in Cabin John.