

# Shoulder Work ahead!



ABOVE LEFT: X-ray of a failed rotator cuff repair. Note: The humeral head (ball) is riding high because the rotator cuff is not working. ABOVE: X-ray of a reverse total shoulder replacement. The ball is now secured to the glenoid (previous socket), and the new humeral cup revolves around the ball when the arm is raised. The new ball keeps the humerus down when the patient raises their arm.

Many new discoveries in the world of treating shoulder conditions have led to new techniques to help patients who suffer from maladies about the shoulder. Once an area of difficulty for orthopedic surgeons, there is now hope that newer techniques and devices can lead to far better outcomes for very difficult problems. Many of these treat the common injury of a rotator cuff tear...especially here in the Coachella valley where golf and tennis reign supreme.

According to Eisenhower's Patrick St. Pierre, MD, the rotator cuff is responsible for stabilizing the humeral head (ball) within the glenoid (socket) of the shoulder. The shoulder is one of the most complex joints in the body because it is designed as a very shallow ball and socket joint to allow the hand to be placed in space all around the body. Not only does it have to precisely position the hand; but also, in the case of baseball, tennis and golf, it has to do so with a tremendous amount of force.

The rotator cuff is a group of four muscles around the shoulder that provide rotation — that's where it gets its name — but the most important function is to keep the humeral head down in the socket when the arm is being raised by the deltoid muscles. Injuries to the rotator cuff occur frequently in athletes in overhead sports such as swimming, tennis, weightlifting, and baseball. However, rotator cuff injuries may occur in anyone as a result of trauma such as a fall, or something as simple as reaching for something heavy in the back seat of a car.

The exciting advances have occurred in the treatment of rotator cuff tears that can be repaired and also those that cannot.

Newer arthroscopic techniques have improved the surgeon's ability to repair the cuff anatomically, and to enhance the healing environment so that the tendon will heal to the bone. For a shoulder specialist, it is exceedingly rare to have to make an incision to repair the rotator cuff — even in massive tears. Additionally, surgeon's can use the patient's blood, spin it down in a centrifuge to create a clot of platelets (blood cells that have a concentrated amount of healing factors), and then sew the clot into the repair. "This is a very safe technique because it uses the patient's own blood, but the clinical effectiveness is still being investigated. In fact, we are just starting a prospectively, randomized study here at Eisenhower."

The other significant development is the introduction of the Reverse Shoulder Arthroplasty. This shoulder replacement is designed for patients who do not have a functioning rotator cuff. "In the past, when patients had shoulder arthritis and an unreparable rotator cuff, we had few options to offer because a standard total shoulder replacement would not work," explains Dr. St. Pierre. "Now, by reversing the ball and socket joint we have a solution to the problem." According to St. Pierre, this surgery is not for everyone — especially those under 70 years of age. However, it is a breath of fresh air for the many patients who have been told that there is nothing that can be done for their shoulder.

Eisenhower's Dr. St. Pierre is the only member of the prestigious American Shoulder and Elbow Surgeons (ASES) in the Coachella Valley. The ASES is a society of surgeons and scientists dedicated to research and treatment of shoulder and elbow injuries. There are fewer than 200 members in the United States and 300 worldwide. Dr. St. Pierre has been using the reverse shoulder prosthesis since it was introduced in the United States in 2003 and is currently on a design team to improve it.