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www.bostonssc.com

To My Patients,

Thank you for the opportunity to take part in your care. My number one goal, along with that of my team at the Boston Sports and Shoulder Center, is to improve your quality of life through our knowledge, skill, experience, and most importantly – compassionate care. Shoulder replacement surgery is a highly effective procedure, but we recognize surgery can be stressful. We hope to make this process as smooth as possible.

This binder is intended to be a resource to help you and your loved ones understand how a shoulder replacement works, what the risks are, and what to expect during your surgical and postoperative experience. Please keep this with you all the way up to your date of surgery and beyond. Additionally, my team and I are always here to answer your questions – please do not hesitate to contact us about anything. See the backside of this binder for information on how to relay questions to my staff and me.

My team and I are highly committed to improving patient outcomes and satisfaction. To this end, we kindly ask that you complete our patient-reported outcome questionnaires before each of your appointments. The questionnaires will ask you about your pain, shoulder function, general health, and satisfaction with your care. I rely on your responses to get a better understanding of how my patients are doing and identify ways to improve the experience and outcomes for future patients.

Sincerely,

A handwritten signature in blue ink that reads 'Andrew Jawa'.

Andrew Jawa, MD

Meet Your Team

ANDREW JAWA, MD

Dr. Jawa is the open shoulder specialist at Boston Sports & Shoulder Center. He focuses on primary and revision total shoulder replacements (Reverse and Anatomical), Latarjets, tendon transfers and fractures. He performs between 200-250 shoulder replacements each year. He is a regional and national leader in his field, training other surgeons on the best management and surgical techniques for shoulder surgery. He is the head of the shoulder section of the New England Shoulder and Elbow Society, and a member of the prestigious American Shoulder and Elbow Society.

Dr. Jawa earned his undergraduate degree at Williams College, and his medical degree at the University of Pennsylvania Medical School. He performed his residency at the Harvard combined orthopaedic surgery residency at Massachusetts General Hospital and Brigham and Women's Hospital. He then completed two fellowships at Massachusetts General Hospital; one in hand and upper extremity surgery, and the other in shoulder and elbow surgery. He performs all of his surgeries at the New England Baptist Hospital and the Boston Outpatient Surgical Suites.

SARAH RICE, PA-C

Sarah Rice works closely with Dr. Jawa and his patients as a Physician Assistant. She is a graduate of Massachusetts College of Pharmacy and Health Sciences in Boston. She should be considered a Navigator for the process of your total shoulder replacement and is available to answer questions about surgery at any time before and after the operation. Additionally, she often assists Dr. Jawa the day of surgery. Sarah can be reached by calling A.J. or by calling our main phone number, 781-890-2133, and asking a member of our staff to send a message through your patient chart.

A.J. HELMS, SURGICAL COORDINATOR

A.J. handles all surgery, imaging and procedure scheduling for Dr. Jawa and Sarah Rice. He is the bridge between patient and provider. He is able to answer common logistical questions before and after surgery, as well as connect patients with Sarah or Dr. Jawa with clinical questions. A.J. can be reached at 617-751-5311.

MICHAEL CARDUCCI, SURGICAL OUTCOMES ASSISTANT

Michael is a medical assistant at BSSC who works closely with Dr. Jawa to monitor surgical outcomes, complications, patient experience and satisfaction. If you have any suggestions to improve patient care, please contact Michael via email at mcarducci@bostonssc.com or by phone 617-751-5310.

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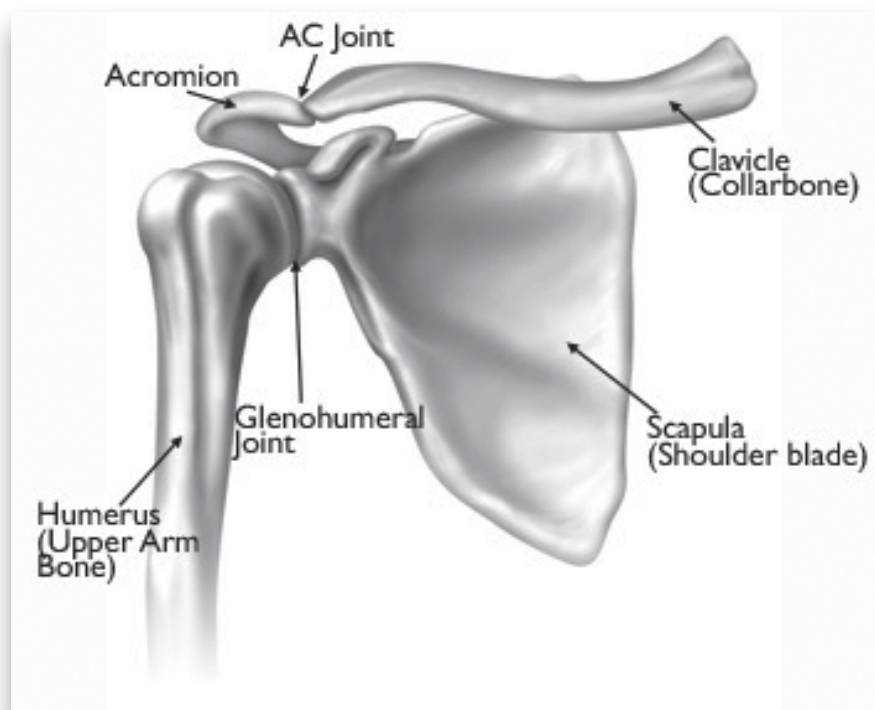
Understanding Shoulder Replacement Surgery

Shoulder replacement surgery has been recommended for the treatment of your shoulder problem. This operation is usually performed for arthritis, unreparable rotator cuff tears or fractures of the shoulder, but other conditions can also be successfully treated with shoulder replacement surgery.

The purpose of this information packet is to give you information about the surgery, as well as answer the most common questions patients typically ask. This handout provides information on your surgery, your hospital stay (if needed), as well as your return home. Additionally, a video about total shoulder replacement surgery can be found at www.bostonssc.com under the *Patient Resources* tab.

The Normal Shoulder

The normal shoulder is very complex and involves three bones and more than one joint. These bones are the clavicle (collar bone), the scapula (shoulder blade), and the humerus (upper arm bone). The upper end of the arm bone (humerus) and the outside edge of the scapula bone (glenoid) form a “ball-and-socket joint.” There are numerous muscles, ligaments and tendons, which also comprise the shoulder, and which help to provide stability and movement. This joint is remarkable because it typically allows greater range of motion than any other joint in your body.



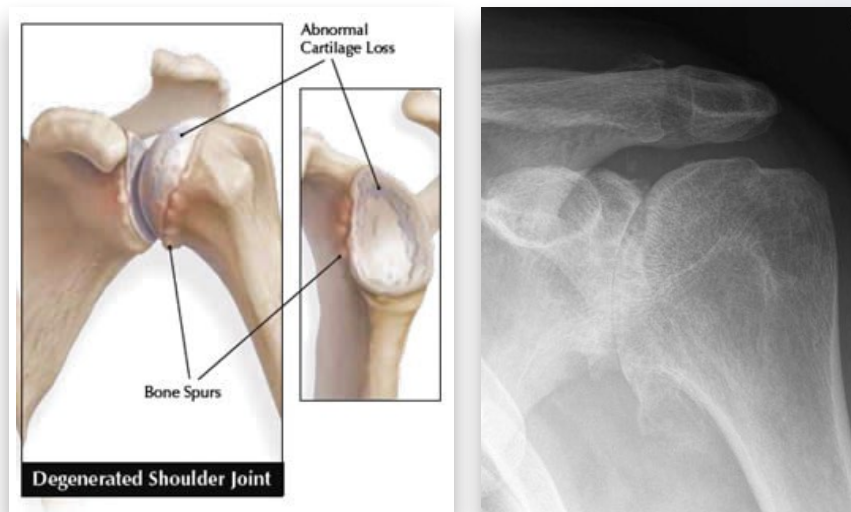
Types of Shoulder Replacements

There are two types of replacements. The anatomic total shoulder preserves the anatomy of your shoulder. A metal ball replaces the end of the upper arm bone (humerus) and a plastic cup replaces the socket (glenoid). The rotator cuff is left intact. A reverse shoulder replacement reverses the implants and a metal ball replaces the glenoid and a plastic cup replaces the end of the humerus.

There are multiple factors that determine which implant is best suited for you. Some of the factors are your age, activity level, body type, strength of your bone, and the quality of your rotator cuff tendons.

Who Needs Total Shoulder Replacement Surgery?

Total shoulder replacement surgery is suggested if there is degeneration of the ball-and-socket joint. When the smooth surfaces (cartilage) of the ball and socket become rough, they rub against each other rather than glide. This rubbing causes pain, stiffness and swelling. Most patients who decide to have shoulder replacement surgery have experienced shoulder pain for a long time. Many patients have developed pain that limits their daily activities, and may interfere with their ability to sleep. Shoulder stiffness may also interfere with the use of their arm for everyday activities. A shoulder replacement is performed to alleviate shoulder pain, and improve range of motion of your shoulder joint.



Anatomic Total Shoulder Replacement

Joint replacement surgery replaces the ends of damaged bones in a joint. The shoulder joint allows you to move the upper arm in multiple directions and it is where the end of the upper arm bone (humerus) meets the end of the scapula bone (glenoid). In the shoulder joint, the end of the humerus is shaped like a ball and the glenoid is shaped like a shallow cup. During total shoulder replacement surgery, the damaged part of your shoulder is removed and replaced with an implant. Implants are made of various materials: stainless steel, titanium, cobalt-chrome, and polyethylene (surgical-grade plastic). Bone cement may also be used in the replacement.



The most common reason for a total shoulder replacement:

Severe degenerative joint disease (osteoarthritis)- The cartilage has worn away resulting in bone-on-bone contact. When the smooth surfaces of the head of the humerus (ball) and glenoid (socket) become rough, they rub against each other rather than glide.

Reverse Shoulder Replacement

Reverse total shoulder replacement surgery is an option when the bone quality or shape is not ideal for anatomic replacement, or the rotator cuff muscles surrounding the shoulder are not functioning properly, usually due to a chronic tear. Chronic rotator cuff tears can also lead to degeneration of the ball-and-socket joint resulting in arthritis. Combined, a disorder called Rotator Cuff Arthropathy, can lead to chronic pain and shoulder dysfunction. Reverse shoulder replacement surgery is designed to alleviate most of the shoulder pain and restore function. It often helps to improve the range of motion of your shoulder joint. For a reverse shoulder replacement procedure, most of the surgery will follow the same steps as the conventional total shoulder. However, the components of the reverse are shaped differently. The glenoid (socket) component is shaped like a ball called the glenosphere. This is fixed to the scapula with screws. The humeral (arm) component is now the socket that attaches to the upper end of the humerus.

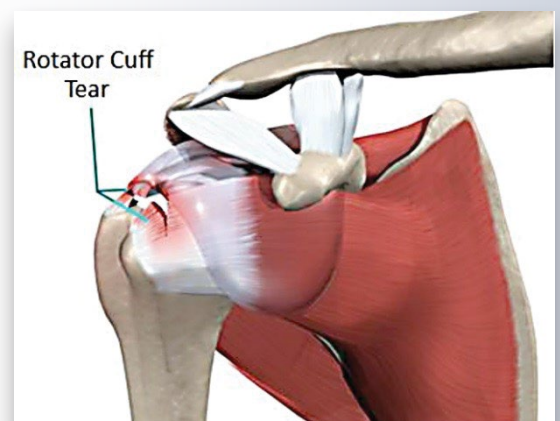


Common reasons for reverse shoulder replacement surgery are:

- Chronic tear of the rotator cuff tendon(s)
- Rotator Cuff Arthropathy (chronic rotator cuff tear with associated arthritis)
- Worn glenoid (cup)

Other reasons for reverse shoulder replacement surgery:

- Complicated shoulder fractures
- Poor healing (mal-union, non-union) of shoulder fractures previously repaired
- Worn bone or thin rotator cuff for patients with osteoarthritis



Preparing For Your Total Shoulder Replacement

The following information is addressed in this packet. Any questions or concerns should be discussed between you and Dr. Jawa or Sarah in preparation for your surgery. Much of this information can also be found in the video mentioned earlier and watched in the office.

- Preoperative education about the surgical procedure
- Surgical risks
- Preparation for surgery
- What to bring to the hospital
- Discharge planning (if needed)
- Home preparation for after surgery

Where is the Surgery Performed?

Most of the surgeries are performed at the New England Baptist Hospital, where patients stay overnight, and the majority of patients go home the next day. For patients without significant medical issues, the replacement can be performed at Boston Outpatient Surgical Suites, where patients go home the same day. The complication rates may be lower when the surgery is performed as an outpatient, but is only recommended if you have caregivers available to help at home the day of surgery.

Pre-Operative Testing

For those patients who have surgery at the New England Baptist Hospital, a pre-operative testing appointment at the hospital will be made roughly 2 months ahead of your surgical date. This appointment should be within 30 days of your scheduled surgery date.

If you have not received your pre-admission testing schedule within 3 weeks before your surgery, or if you have questions regarding the dates or times, please contact A.J. Helms at Boston Sports and Shoulder Center.

New England Baptist Hospital will provide you with the information and perform any tests that may be required to have prior to surgery. The following are discussed with you at your pre-screening appointment:

- Medications
 - Please bring a list of your medications to your pre-operative visit. You may use the blank Medication Information Sheet included in this packet.
- Blood/Urine tests
- Medical clearance from your doctors
 - You may have additional appointments with a specialist (cardiologist, hematologist) depending on your medical history.
- Pre-operative infection prevention

It is important to continue taking all your other prescribed medication until your pre-admission testing office visit. During this visit, you will be given specific instructions about all of your prescription medication(s).

For those having surgery at Boston Outpatient Surgical Suites, your primary care physician will have to perform an electrocardiogram (if over the age of 65), a test for MRSA, as well as a history & physical within one month of surgery.

Preparing Your Home for Surgery

- Move frequently used items, especially in the kitchen, bathroom, and bedroom, to easy-to-reach drawers and/or shelves.
- Make sure all your medications are within easy reach.
- Have a cell phone or cordless phone close to you.
- Place a list of emergency phone numbers by the phone.
- Shampoo and soap containers with pump tops are much easier to use than pop open tops.
- Stock your freezer with easy to reheat meals and stock up on non-perishables which are pre-cut as using a knife is not easy immediately after surgery. You will need to drink a lot of water and eat plenty of healthy foods and snacks.
- If possible, arrange assistance with laundry and cleaning.
- Clear pathways between your most commonly used areas – such as from your bedroom to your bathroom and kitchen; also between the living room, bedroom, and bathroom.
- Remove all clutter and keep stairs free of objects.
- Install night lights between bedroom and bathroom.
- Make arrangements to keep pets in another area of the house when you first get home. They can be an unintentional hazard.

Clothing for After Surgery

- Loose fitting clothing is recommended after surgery or Shoulder Shirts. You can purchase Shoulder Shirts at www.ShoulderShirts.etsy.com
- You may want to get a couple pairs of pants that have elastic waist.
- Many patients prefer bras that fasten in the front.
- You will want to be sure to have a pair of slip on shoes. Do not wear flip flops as it is too easy to trip.

Cold Therapy Machine

A Cold Therapy Machine to use following your surgery is highly recommended, as it seems to make recovery less painful and reduces swelling. Unfortunately, insurance does not cover these machines. You can search online using “Cold Therapy Unit” and will find some options. BSSC does sell a “Breg Polar Care Cube” for \$175, which can be purchased the same day as surgery (We have them at our Waltham office, as well as our New England Baptist office on Converse 7) or via phone ahead of time if that is easier. This is not a requirement for surgery, but can be an easier alternative to making ice packs after your procedure and seems to be more effective.

Diet

Healthy eating **before** surgery helps you heal and recover **after** surgery. Good nutrition is necessary for healing. During the healing process, the body needs increased amounts of calories, protein, vitamins A and C, and sometimes the mineral zinc. The following guidelines will help you choose “power” foods to promote healing. Eat a variety of foods to get all the calories, proteins, vitamins, and minerals you need. If you have been given a special diet, follow it as much as possible. It will help promote wound healing and may prevent infection and some complications.

Iron-rich foods

Eat iron-rich foods prior to surgery. Iron combines with protein to make hemoglobin, the substance that carries oxygen in the blood to all parts of your body. When hemoglobin is low, weakness and fatigue may result causing a slower recovery.

Foods that contain a high amount of iron include:

- Lean red meat/ liver
- Enriched bread, pasta, fortified cereals
- Dried beans and peas
- Dried apricots and raisins
- Green leafy vegetables. NOTE: Patients on coumadin should talk with their physician

Vitamin C

Eating foods high in vitamin C along with iron-rich food will help your body absorb the iron.

Foods that are high in vitamin C include:

- oranges and orange juice
- cantaloupe
- tomatoes
- potatoes

Eating in the days leading up to surgery

Eat only light meals, especially the day before surgery. The combined effects of anesthesia and your medication may slow down your bowel function. This can cause constipation after surgery. Increase fluids and fiber in your diet as well.

Practice Using a Sling

We suggest practicing daily activities or household duties using one arm or while wearing a sling for a few weeks prior to surgery. This will help you adapt and prepare for after surgery.

Preparing For Your Surgery

The Night Before Surgery

- Remember that you are to have nothing to eat or drink after midnight the night before surgery. Do not eat or drink anything including: gum, mints, or candy, and water or black coffee.
- If you are experiencing any signs of infection such as fever, cold/flu symptoms, diarrhea, skin rash, or open sores, please call Dr. Jawa and your medical doctor as soon as possible.
- Try to get a good night's sleep. It is important to be well rested before surgery.
- Bathe or shower the night before or the morning of your surgery. A special wash may have been recommended by pre-screening at New England Baptist Hospital.
- All nail polish should be removed before your arrival for surgery. Your fingers will be used to accurately monitor your oxygen level during surgery.
- Creams and lotions should not be worn on the day of surgery. A light application of deodorant is allowed.

If you are having surgery at New England Baptist Hospital, you will be admitted to the hospital on the morning of your surgery. You are typically asked to arrive about three hours prior to your actual surgery time. New England Baptist Hospital will contact you the day prior to your surgery between 4-7pm with an exact time to arrive at the hospital registration area on the day of surgery. Please make every effort to arrive on time.

Most patients are discharged the day after surgery. Patients are typically discharged to their home without the need for a rehab facility. It is important to prepare your home for discharge after surgery (see Preparing Your Home for Surgery section). A case manager will be assigned to you the day of surgery and he or she will determine if you would benefit from going to a rehab facility instead of straight home. This process will also be initiated at your pre-operative appointment.

If you are having surgery at Boston Outpatient Surgical Suites, you will be contacted the day before surgery, between about 12 PM and 3 PM, for your surgery time and arrival time.

What to Pack for an Overnight Stay

Pack a bag or small suitcase with only the items you may need during your hospital stay. Please bring your own toiletries and any necessary personal items. While in the hospital you may opt to wear the hospital gown or you may bring your own clothes from home. Please review the following about what to and what not to bring with you.

What to Bring to Surgery

- This Total Shoulder Replacement Guide
- A full set of comfortable clothing. The clothing should be loose-fitted to allow room for any post-operative swelling
- Shoes with non-skid soles
- Personal items: contact lens/denture care materials, glasses, hearing aids
- CPAP/BIPAP machine (if routinely used). If you require a CPAP/BIPAP, you must stay overnight at the hospital for monitoring.
- Form of photo ID and insurance cards to present to the registration and admitting department.
- Cold Therapy Unit, if purchased ahead of time.

What Not to Bring to the Hospital

- Money, jewelry, or other valuables
- Medication - unless instructed by your surgeon/pre-operative nurse
- Cigarettes, electric cigarettes, or tobacco

Bring this Total Shoulder Replacement Binder with You on the Day of Your Surgery.

Your Surgery Day

When You Arrive at the Hospital or the Outpatient Suite

The day of surgery you will check in and proceed to the pre-operative area where you will change into a hospital gown. You will be asked to confirm your name, date of birth, your surgeon's name, and the procedure for which you are scheduled. Before your surgery, several different people who are in charge of your care will ask you to repeat this information. Do not be alarmed, this is a routine safety measure. The nurse in the surgery area will take your vital signs, start an IV, and review your medical history.

You will also meet with the anesthesiologist. Anesthesiologists are physicians who administer the medication to make you fall asleep and provide pain management during and following the surgery. During surgery, anesthesiologists choose from a variety of medications for their different functions such as relieving pain, making the patient unconscious, and relaxing the body's muscles. To do this they may administer inhalation (gas) anesthetic agents, sedatives, muscle relaxants, and other medications. The anesthesiologist balances all of these medications in accordance with medical and surgical needs of each patient.

The most common method of providing anesthesia during shoulder replacement is general anesthesia. With this, you are unconscious and have no awareness of the surgical procedure or any sensations. A tube is placed into the airway into your lungs. In addition to this, it is common to have a regional nerve block administered either before surgery or right after surgery. This will be discussed with you further by the anesthesiologist.

It is important to inform your anesthesiologist in the pre-operative area of any allergies or medications that have caused you problems in the past. It is also important to discuss any problems you may have had in the past with anesthesia.

Nerve Block

You may have a nerve block to control your pain before surgery. A nerve block is used when pain from surgery affects a smaller area of your body, such as an arm. There are several potential advantages of a nerve block. One advantage is that nerve blocks may allow for a significant decrease in the amount of opioid (narcotic) medication needed, which may result in fewer side effects such as nausea, vomiting, itching, drowsiness, constipation, and light-headedness. Nerve blocks generally last for 18-24 hours after surgery. We recommend taking pain medication prior to when your block wears off even though you are not experiencing pain; therefore, you do not fall behind in pain management when the block wears off.

Hearing aids

If you use hearing aids, wear them to the hospital on the day of your surgery. Wearing them will help you hear everything we need to tell you.

Dentures

You will be asked to remove all nonpermanent dental work before your surgery.

Contact lenses

Wear glasses if possible. If contact lenses must be worn, bring your lens case and solution. If glasses are worn, bring a case for them.

Hair

Wear your hair loose. Do NOT use clips, pins or bands in your hair. Do not use hair spray. A head cover will be provided on the way to the operating room. Before going to surgery, patients are asked to remove wigs and hairpieces.

Family Waiting Area

When you are taken to the operating room, your family will be directed to the family waiting area, where they will wait during your surgery. Once the surgery is completed, your surgeon will call or visit your family to update them on your condition.

During Surgery

Once in the surgery suite, you will be assisted onto the surgical table. The surgery room itself is kept cool and the nurses will give you warm blankets if needed.

The anesthesiologist will attach monitoring equipment and check your IV. They will constantly monitor your vital signs, including your heart rate and rhythm, blood pressure, and amount of oxygen in your blood throughout your procedure.

An additional aspect of our culture of safety is called the “time out.” In this safety measure, we confirm that we have the following before surgery begins:

- The correct patient
- The correct side and site marking
- The correct procedure
- The correct position on the operating table
- The correct implants, special equipment, and x-rays (when applicable)

Your surgery will last approximately 2 to 3 hours, possibly longer.

Post Anesthesia Care Unit (PACU)

After surgery, you will be taken to the Recovery Room/Post-Anesthesia Care Unit (PACU) where a nurse will care for you for at least the next 2-3 hours. The total time spent in recovery varies for each patient. The nurse will take your temperature, pulse, and blood pressure and assess your pain level. Pain medication will be started. You may feel very cold after surgery and may be warmed with blankets. Your arm will be in a sling. Dr. Jawa will assess your ability to move your fingers, wrist, and elbow and the sensation in your hand.

To assist your breathing, you may receive oxygen through a small nasal tube or mask. Circulation aids will be applied to your lower legs to prevent blood clots. A cold pack system may be wrapped around your surgical site to reduce swelling and pain. An X-ray will be done on your operative shoulder.

At New England Baptist Hospital, family and friends cannot visit with you in the PACU but can meet you in your hospital room. Dr. Jawa or the hospital staff will inform your family members that once they leave you in the pre-operative waiting area it may be a number of hours before they see you again.

At Boston Outpatient Surgical Suites, your accompaniment will be brought into the recovery room when you are ready to see them.

Going to Your Room at New England Baptist Hospital

After leaving PACU, you will be transferred to a nursing unit. The nurses will check your vital signs and make you comfortable.

A member of your surgical team will visit you daily. Many times, this visit will occur early in the morning. You are encouraged to write down any questions you may have for your surgical team so they may be answered during the visit. In addition to your surgical team, you may also be treated by an internal medicine doctor, his/her nurse practitioner or physician assistant. They will also be aware of your plan of care and will assist as needed.

Circulation Aids

Compression stockings: You will not be as active as you usually are; therefore, you have a greater chance of developing blood clots. To help prevent them from forming, you will need to wear TED stockings. They are to be used at all times, except when bathing. Once you are home and ambulatory and if your lower extremities are not swollen, then these can be discontinued.



Sequential Compression Calf Sleeves: You can move while using the pump. The sleeves inflate every 20 to 60 seconds and make it feel as though your calves are being massaged. These sleeves are a very important part of your care. Please help by making sure you wear them at all times while in bed. Tell your nurse if you do not feel the sleeves inflating.



Cough and Deep Breathing

Coughing and deep breathing are extremely important to your recovery after surgery.

Incentive Spirometer: When in the hospital, you will be using a small device called an incentive spirometer. A nurse will show you how to use it and help you with deep breathing exercises. It is important that you use the incentive spirometer 10 times every hour while you are awake. Using it helps reduce the chance of developing Pneumonia after your surgery and helps to keep your lungs clear and active during your recovery. Having good lung function will help you perform activities of everyday living once you return home.



Pain Management

Effective pain management following surgery is a major priority for both you and your healthcare providers. Every effort is made to safely minimize your pain; however, it is normal to experience some discomfort following surgery.

Pain management will actually start 2 days before surgery with preoperative medication. A prescription will be e-prescribed to your pharmacy for Tylenol and Meloxicam with instructions on dosage and timing. Not all patients are able to take these medications, so please inform our office if you are unable to take either medication.

You will be asked about your level of pain upon admission, and this will continue throughout your stay. You will be asked to “rate” your level of pain on a scale from 0 to 10. A rating of ‘0’ means that you are not in any pain at all, a 5 means that you are experiencing a moderate amount of pain, and a 10 means you are experiencing the worst possible pain. This score will be used to select the best pain medicine to manage your level of pain. Again, remember to take pain medication before your block wears off to stay ahead of your pain.

Most commonly, post-operative pain is best managed with oral pain medications.

The following information will help you understand your options for pain treatment and empower you to take an active role in making choices about pain treatment.

- You may receive more than one type of pain treatment, depending on your needs and the type of surgery you are having. All of these treatments are relatively safe, but like any therapy, they are not completely free of risk. Dangerous side effects are rare. More common side effects, such as nausea, vomiting, itching, drowsiness, constipation, and light-headedness can occur. These side effects are usually easily treated in most cases.
- Be sure to tell your doctor and nursing staff if you are taking pain medication at home on a regular basis and if you are allergic to or cannot tolerate certain pain medications.

Why is pain control so important?

In addition to keeping you comfortable, pain control can help you recover faster and may reduce your risk of developing certain complications after surgery, such as pneumonia and blood clots. If your pain is well controlled, you will be better able to complete important tasks such as walking and deep breathing exercises.

IMPORTANT! Do not wait until your pain is severe before you ask for pain medications.

Bowel Management

Some patients become constipated because of the pain medication and inactivity. We recommend staying on a stool softener or laxative while you are taking pain medication.

Physical Therapy

The goal of therapy on the day of surgery is to begin doing activities that will help you move about while still abiding by your restrictions. Doing these activities will help you gain confidence. These activities may be performed at bedside by your nurse or a Physical Therapist.

Occupational Therapy

Occupational therapy is the part of your care plan that centers on teaching you how to take care of yourself once you return home.

Occupational therapy focuses on such things as:

- Activities of Daily Living (ADLs), which includes bathing and bathroom safety, dressing, toileting, and homemaking tasks
- Advice on possible equipment needed
- Education about restrictions

Care Coordination

During your surgical stay at the Hospital, a Care Coordinator will visit with you to assist in making your discharge plans. You have already discussed your options in the pre-operative stage, but the Care Coordinator is there to help make the final arrangements. Most patients plan to be discharged home after surgery. Generally, outcomes after surgery are much better when patients go home. However, if there is concern about your ability to manage at home, the Care Coordinator will help discuss post-operative rehabilitation in the facility of your choice. The referral process will be started and you will be informed of the status and anticipated day of your discharge.

If you are going to a community skilled nursing or rehab facility, you may want to consider having a family member/friend drive you to the facility on the day of discharge from the hospital. Transportation can also be arranged through an ambulate service; however, there may be a cost for this service.

After Discharge

You will be discharged from the hospital or the outpatient suites when it is felt that you are safe to be discharged and your pain is under control. This is a collaborative decision made by you, your nurse, and the physical therapist. It varies for each individual patient.

Your nurse will review your discharge instructions, medications, and address any questions you may have.

If you are having surgery at the hospital and you have not met the criteria to be discharged home, you will be discharged to a skilled nursing facility of your choice. The facility will be informed of your hospital stay and a time of anticipated arrival will be arranged.

Please have your ride available on this day. Your team will let you know the approximate time. When notifying the person coming to pick you up, ask them to bring a pillow for your comfort. If you chill easily, it would be a good idea to have them bring a blanket.

Prescriptions

You will receive an e-prescription from Boston Sports and Shoulder Center for Tylenol and Meloxicam, medications to be taken the 2 days prior to surgery, and the 5 days following surgery. You will receive a written prescription for pain medication (opioid) before you leave the hospital or for any other medications that your surgical team would like you to take while you are recovering at home.

If you need any refills on your medications, please call the prescriptions line at Dr. Jawa's office (ext. 114) when you have a 3-day supply left. If you were taking other medications for blood pressure, heart problems, etc., you should discuss this with your family physician. Your nurses will review all your medications and instructions prior to your discharge.

Incision Care

An Aquacel dressing is applied during surgery and will stay on until your first post-operative appointment. The dressing is waterproof so you may shower immediately with Aquacel intact but avoid soaking in bathtub or swimming pool. Do not scrub the dressing. If you notice saturation (dark staining) on the dressing, contact Dr. Jawa's office immediately.

Once your dressing is removed, you may leave your incision open to air or apply a dry gauze dressing. The sutures are dissolvable and Dermabond (surgical glue) is applied. Skin glue will gradually come off as incision heals. If you notice redness, swelling or drainage around incision, contact Dr. Jawa's office immediately.

Swelling and bruising of the operative arm is normal. Continue wrist motion and fist squeezes and elbow range of motion to promote circulation. Swelling often times takes weeks to resolve after surgery.

Restrictions and Outpatient Physical Therapy

You will receive a detailed instruction sheet from the hospital or outpatient surgical suites when discharged which will answer many questions you may have.

Sling: For the first two to six weeks after your surgery, you will be wearing your sling the majority of time, coming out of it to complete exercises given to you by the therapists and Dr Jawa upon your discharge from the hospital. After your first post-operative visit, Dr. Jawa may suggest you come out of your sling during the day to do activities in front of you. Wearing the sling alerts others around you to be cautious and to avoid accidentally striking your arm. Also, during this time do not use your arm to pull or push yourself out of bed or out of a chair.

Dr. Jawa prefers that his patients do not do formal physical therapy after Total Shoulder Replacement. He has found that most patients do well with progressing their motion and strength through normal daily activities. He has also found that sometimes physical therapy pushes patients too much causing increased pain and discomfort. At each post-operative appointment, Dr. Jawa will teach you exercises to do on your own to work on range of motion. Although you should progress with some gentle range of motion, as demonstrated by Dr. Jawa, do not force any shoulder motions. Most importantly, do not let anyone (family members, physical therapists, etc.) force your arm into uncomfortable positions.

Driving

You are **not permitted to drive** a car while taking narcotic medication or when you are wearing a sling. Do not drive until after your first follow-up visit with your surgeon.

Returning to Work

Returning to work depends on the demands of your job and should be discussed with Dr. Jawa before the surgery.

Follow Up Visits

Dr. Jawa or his Physician Assistant, Sarah, will need to see you for multiple appointments after your surgery. Typically, Dr. Jawa will see you back after 2 weeks and 6 weeks and you will see Sarah at your 3-month appointment. You will be seen at 1 year, 2 years, 5 years and 10 years.

WHEN TO CONTACT YOUR DOCTOR AFTER SURGERY

- You have a fever over 101 degrees
- You have drainage from incision
- The area around your incision becomes hot to touch, red, or swollen
- You have increased pain that is not relieved with pain medication
- You develop sudden or severe calf pain, or swelling in the calf that does not decrease after elevation of leg
- You have questions regarding activity or your medications

Narcotic Fact Sheet for Patients

Please read the information below regarding what to expect following your surgery, the goal of post-operative pain management and the side effects of the medications prescribed.

What to expect after surgery

- Almost all surgical procedures result in some level of pain and discomfort. Pain and discomfort is generally greatest immediately after surgery and subsides as time goes on.
- Reducing your pain is a priority for caregivers.
- Over time, your pain will reduce and may be eliminated completely.
- Oral narcotic medication is frequently administered to patients after surgery to help control post-operative pain. It is important to note that although these medications are effective for the treatment of acute pain, use beyond that can be detrimental to your health.
- It is vital that you spread out and/or discontinue use of these medications as soon as your pain allows. Specifically, the medication should only be taken as needed as prescribed (usually every 4 hours). The medication is not required for the prescribed time interval.

Narcotic medication: Facts you need to know

- Physical dependence to opioids (which means the absence of opioids can produce withdraw symptoms) can occur at prescribed doses.
- Opiate abuse is on the rise in recent years and has tripled in the U.S. since 1990.
- 5 million people in the United States are addicted to opiates.
- There are 17,000 opiate overdoses per year in the U.S.
- There were nearly 5 million drug related ER visits in 2010; 425,000 from narcotic pain relievers.
- Every day in the U.S., 46 people die of prescription drug overdoses.
- Unintentional deaths from prescription narcotics outnumber those of heroin or cocaine.

Adverse reactions to opioids include:

- Sleepiness
- Difficulty controlling arms/legs
- Constipation
- Limit ability to fight infection
- Itching
- Hormonal imbalance
- Decreased breathing
- Drug interactions
- Death

Early symptoms of withdrawal:

- Agitation
- Anxiety
- Muscle aches
- Insomnia
- Sweating

Potential risk factors for opiate abuse:

- Age 18-34
- Male
- 4 or more opioid prescriptions
- Refilling prescriptions early
- Opioid prescriptions from 2 or more pharmacies or physicians

Late symptoms of withdrawal:

- Abdominal cramping
- Diarrhea
- Nausea
- Vomiting

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Rockville, MD: Substance Abuse and Mental Health Services Administration, 2012.

Gregory TB. How to safely prescribe long-acting opioids. *J Fam Pract*. 2013 Dec; 62 (12 Suppl 1): S12-8. Opioid Painkiller Prescribing (Centers for Disease Control and Prevention) www.cdc.gov/vitalsigns/opioid-prescribing/

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Other Concerns/Considerations

Infection

What is a surgical site infection (SSI)?

A surgical site infection (SSI) is an infection that occurs after surgery in the part of the body where the surgery took place. Most patients who have surgery do not develop an infection.

Some common symptoms of surgical site infection are:

- Increased redness and pain around the area where you had surgery
- Drainage of cloudy fluid from your surgical wound
- Fever

DVT/Blood Clot

Deep Vein Thrombosis (DVT) is a formation of a blood clot. This is a potential complication following a total shoulder replacement. A blood clot from your leg can travel to your lungs and cause a serious complication.

Sudden onset of shortness of breath and chest pain are warning signs of this condition. If you develop any of these signs, call 9-1-1.

Symptoms of a DVT may include:

- Pain in your calf and leg
- Increased swelling of your thigh, calf, ankle, or foot
- Redness
- Increased skin temperature at the site

Prevention of blood clots is the best treatment:

- Exercise, increased mobility
- Blood thinners
- Support stockings

Future Procedures

It is possible to develop an infection in your artificial joint if antibiotics are not taken before having certain procedures. These procedures include:

- *ANY* dental procedure for 2 years post-surgery

Antibiotic protection should be given by the treating physician or dentist for any of these procedures for 2 years after your total shoulder replacement. Prior to having any procedures, let the physician doing the procedure know you have an implant.

Smoking

If you smoke, you are strongly encouraged to stop. Stopping smoking will reduce the risk of breathing (respiratory) problems and complications from anesthesia that is used for surgery. Smoking also affects wound healing after surgery and puts you at an increased risk of infection.

There are many other health benefits from stopping smoking. Stopping smoking helps to:

- Prolong your life
- Decrease your risk of disease, including heart disease, heart attack, high blood pressure, lung cancer, throat cancer, emphysema (a type of lung disease), ulcers, gum disease and other conditions
- Help you to feel better (if you stop smoking, you won't cough as much, have as many sore throats, and your stamina will improve)

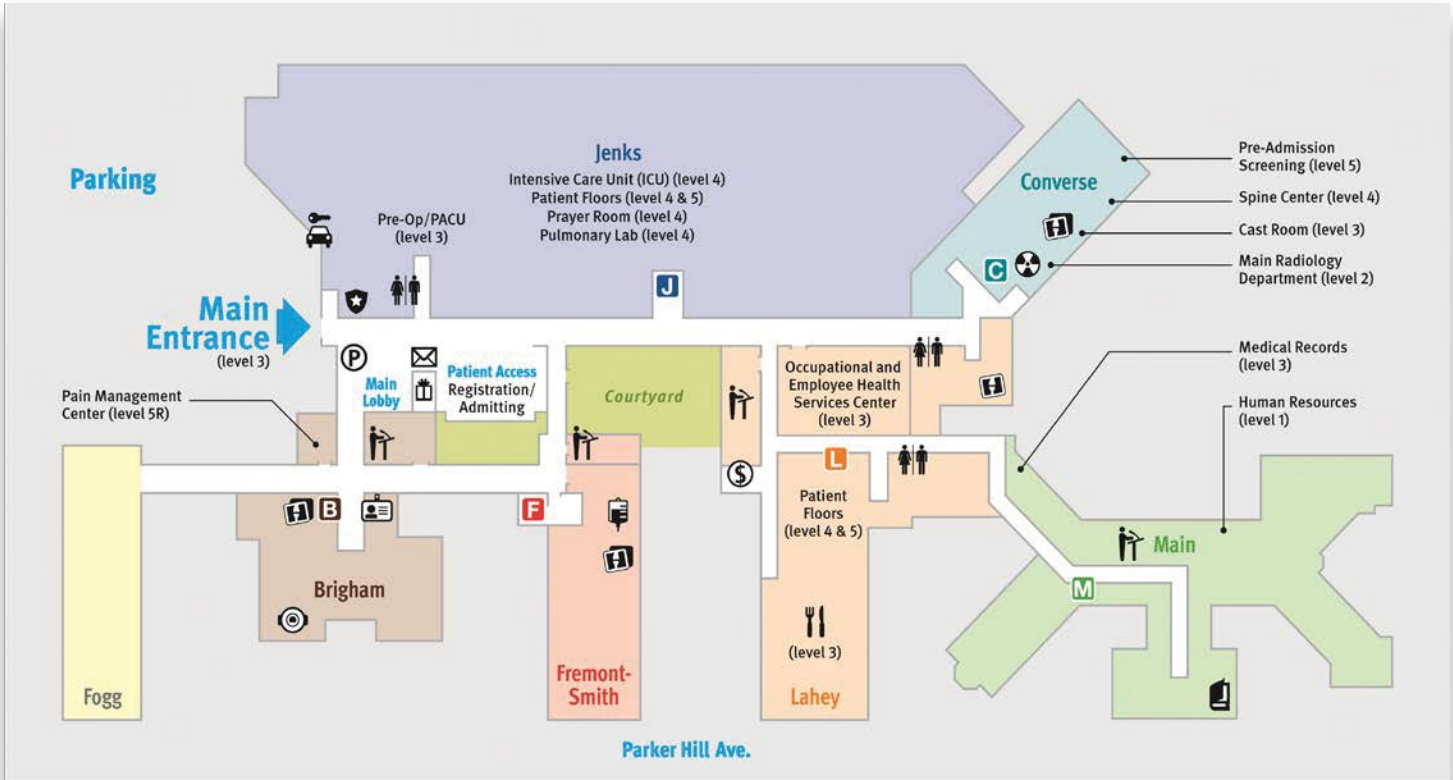
Speak with your primary care physician for information on how to stop smoking. For more information about other smoking cessation programs in your community, please contact your local American Heart Association at 1.800.242.8721 or American Cancer Society at 1.800.227.2345.

Alcohol Use

Drinking alcohol can greatly affect the outcome of your surgery. Your recovery from surgery may not proceed as planned if your health care providers are not aware of your history of alcohol use. Tell your health care provider how many drinks you have per day (or per week). Although it may be difficult to discuss alcohol use with your healthcare team, it is done for your safety and to improve the outcome of your surgery.

During your pre-surgical visit, you will be asked a series of questions. Your answers will help determine your risk of alcohol withdrawal and other alcohol related problems that could occur after surgery. Please respond to the questions as honestly as possible. Remember, any information provided is held in strict confidence. We are here to help you prepare and recover from your surgery as quickly and safely as possible.

Map of New England Baptist Hospital



- ATM
- Blood Bank, Outpatient Drawing Center (level 3)
- Cafeteria
- Employee Badging Office (level 3)
- Gift shop (level 3)
- Laboratory (Level 4)

- Library
- Mailbox
- Parking Paystation
- Restrooms
- Security
- Valet

- Elevators**
- Brigham
 - Converse
 - Fremont-Smith
 - Jenks
 - Lahey
 - Main

- Radiology**
- Converse 2 Radiology: Bone Density, CT, Image Service Center, Interventional Radiology, Nuclear Medicine, Ultrasound
 - MRI, Brigham 3
 - X-ray (Robbins Outpatient), Lahey 3
 - X-ray, Brigham 5
 - X-ray, Fremont-Smith 5
 - X-ray, (Hand Clinic) Converse 7

- Conference Rooms**
- Courtyard, Lahey 3
 - Nelson, Fremont-Smith 3
 - Potter, Brigham 4
 - Warren, Main 1



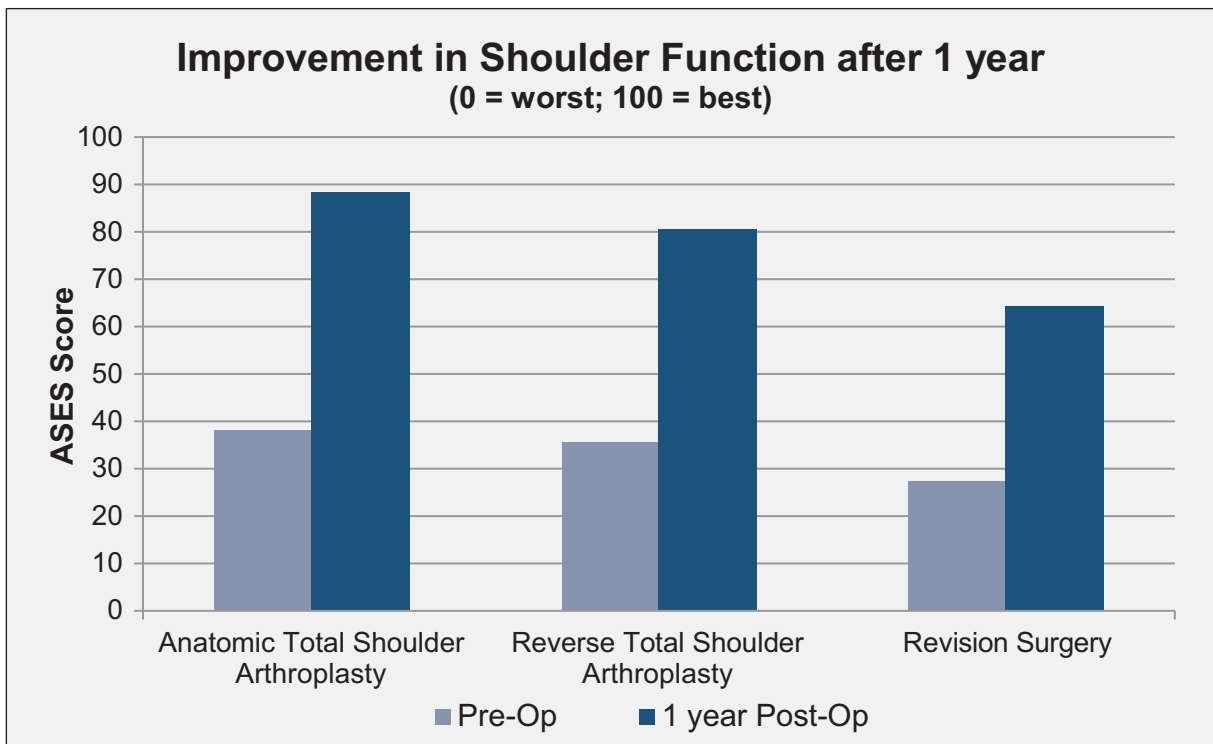
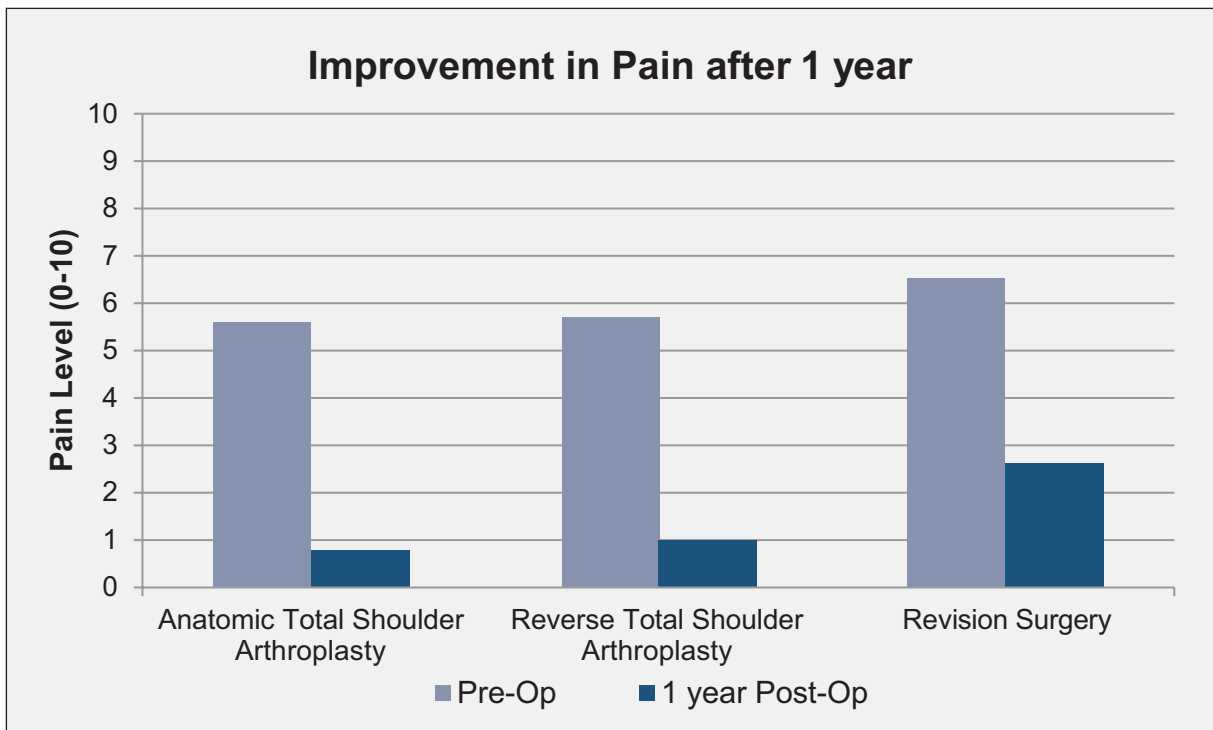
Dr. Jawa's Surgical Overview and Outcomes

2018 Complete Surgical Overview

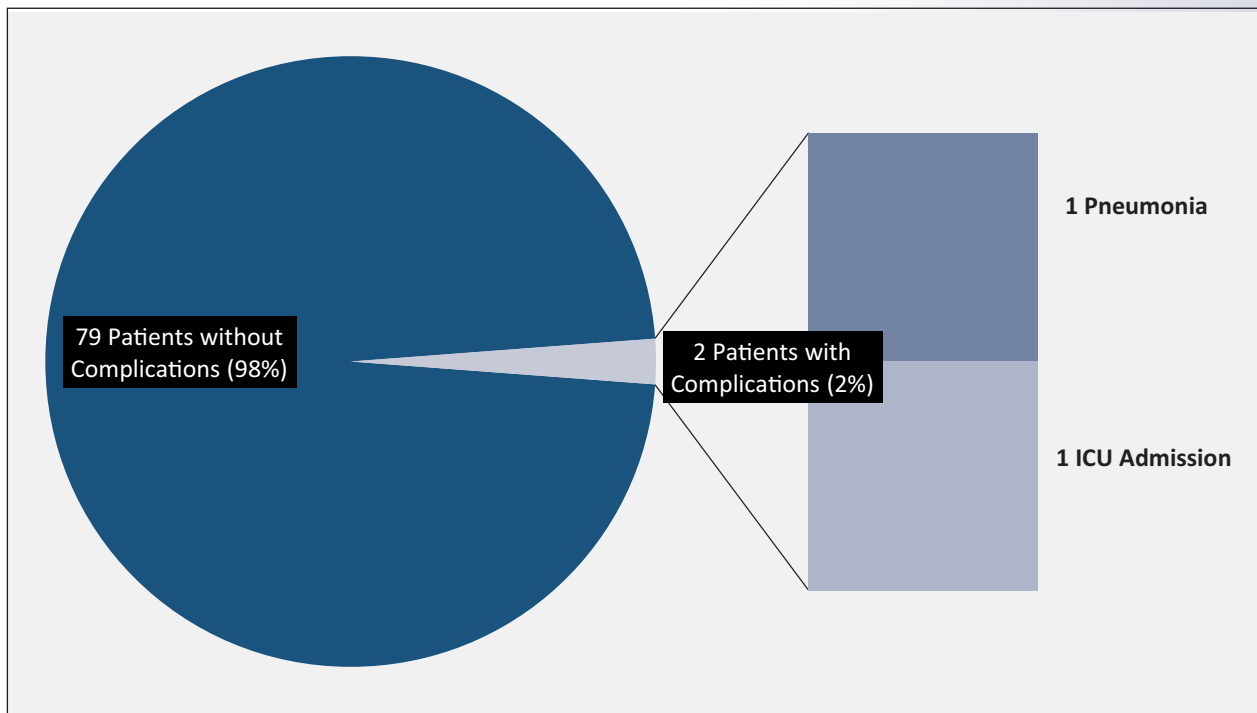
Dr. Andrew Jawa

Procedure Type	Number of Procedures Performed
Primary Total Shoulder Replacement (Anatomic and Reverse)	263
Revision Total Shoulder Replacement	9
Latarjet	18
Shoulder Irrigation and Debridement	2
Hand and Wrist Surgeries (Carpal Tunnel, Cubital Tunnel, Trigger Finger Release)	6
Open Rotator Cuff Repair (Subscapularis Repair)	1
Open Reduction Internal Fixation of Periprosthetic Fracture	1
TOTAL	300

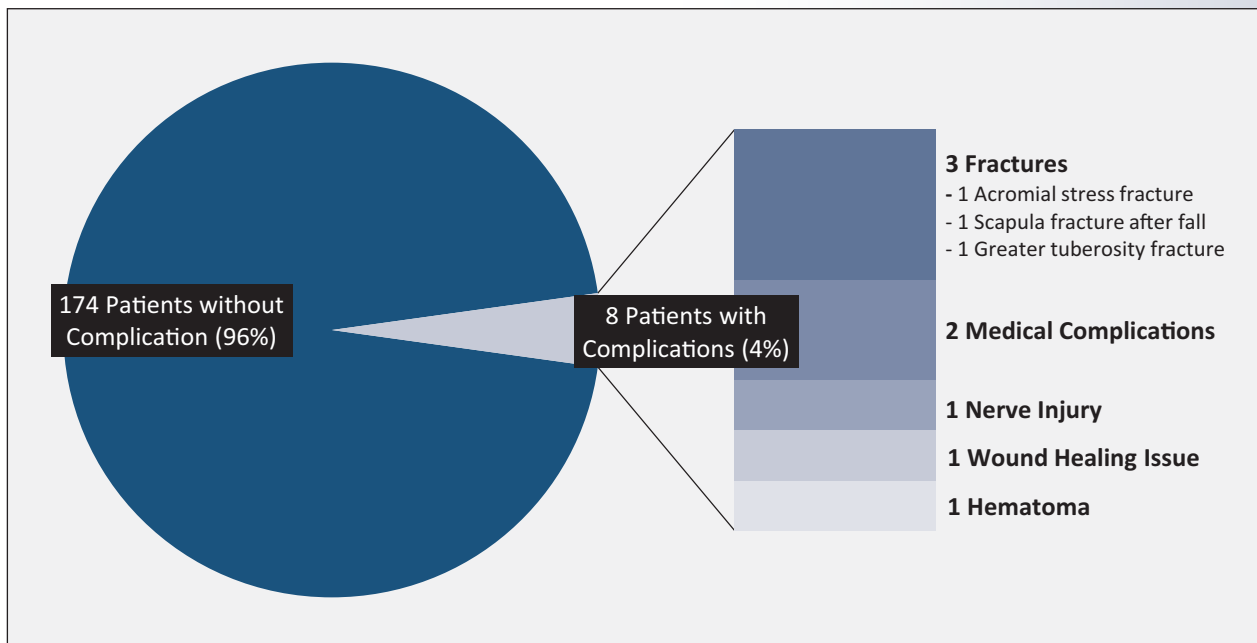
Dr. Andrew Jawa's Total Shoulder Replacement Outcomes (Surgeries Performed 2017)



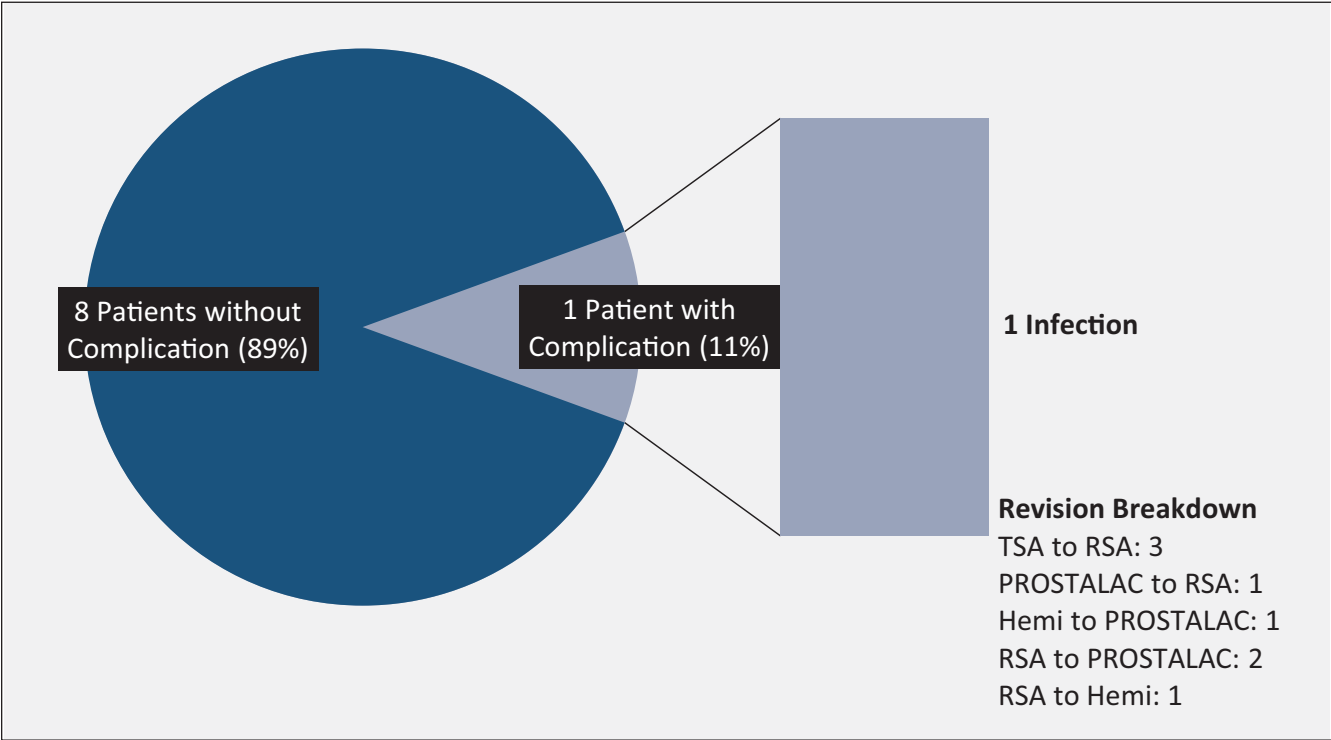
Anatomic Total Shoulder Replacement Complications 2018



Reverse Total Shoulder Replacement Complications 2018



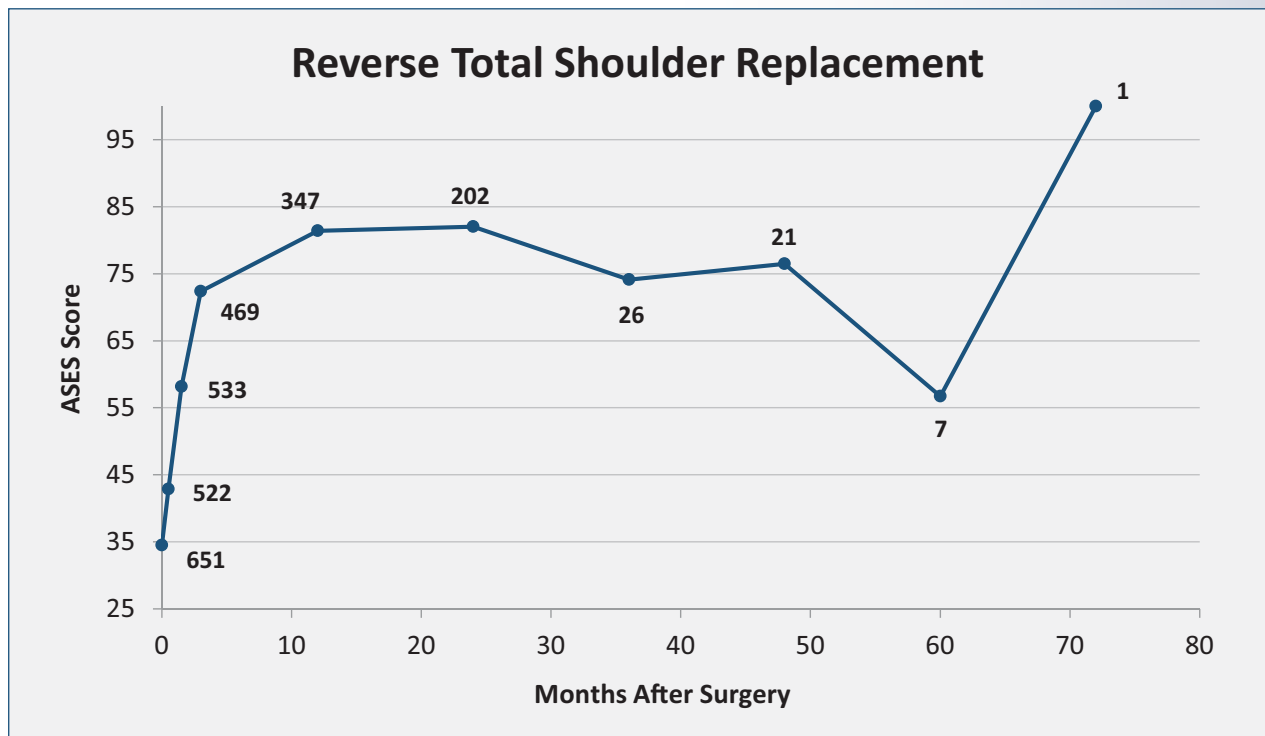
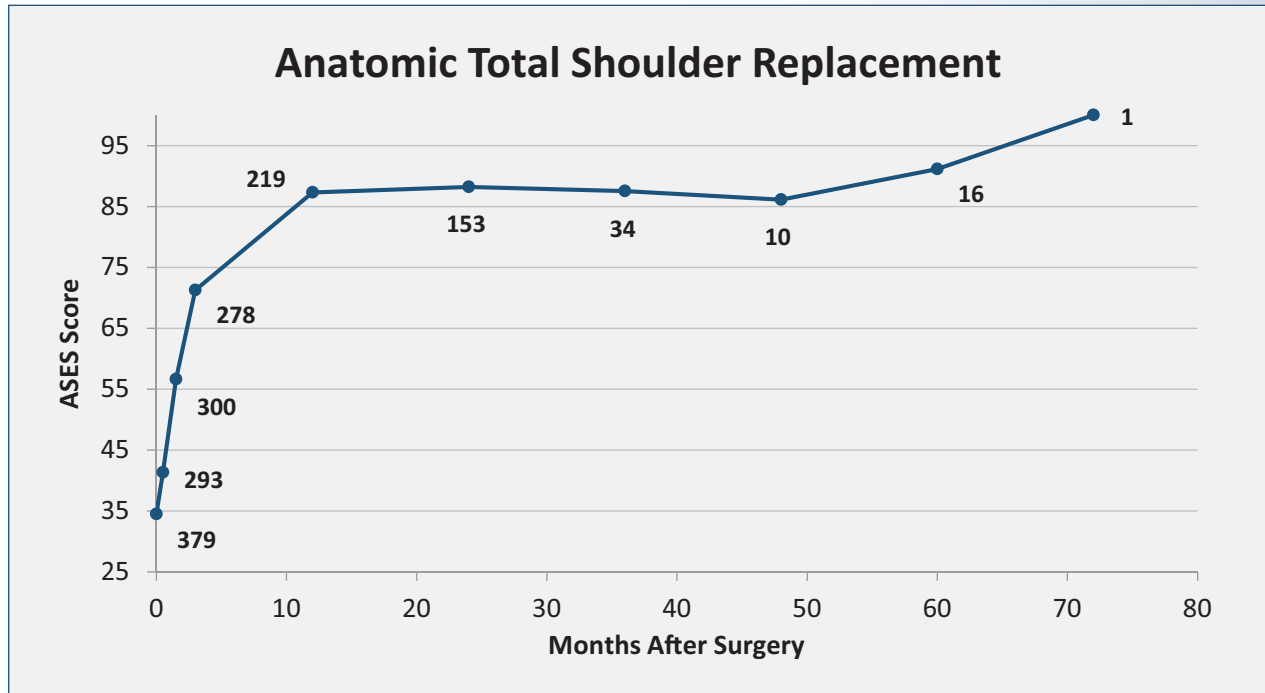
Revision Shoulder Replacement Complications 2018



Shoulder Recovery Over Time After Replacement

(0 = worst; 100 = Best)

Number of patients with follow up listed at each point

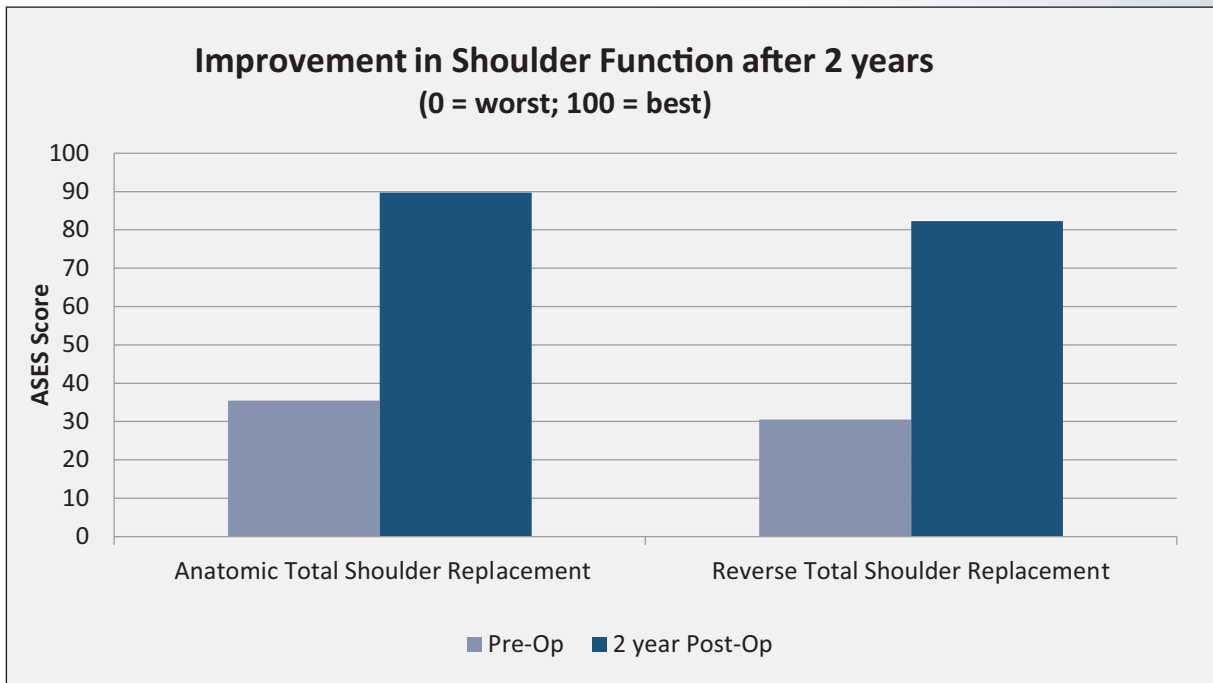
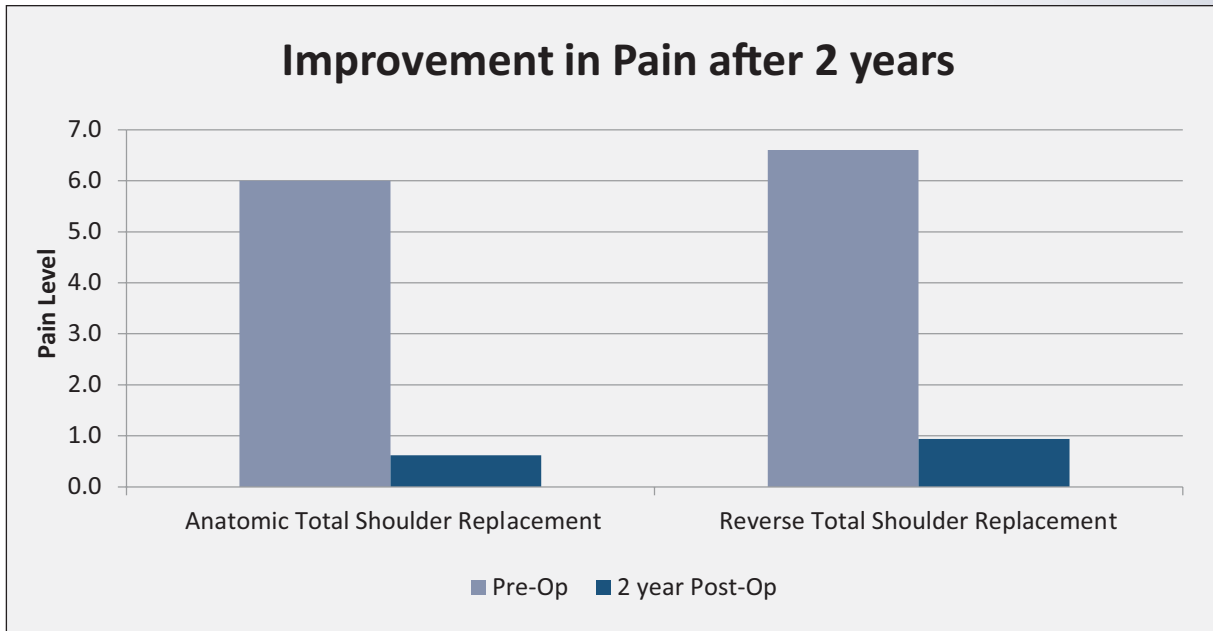


2017 Complete Surgical Overview

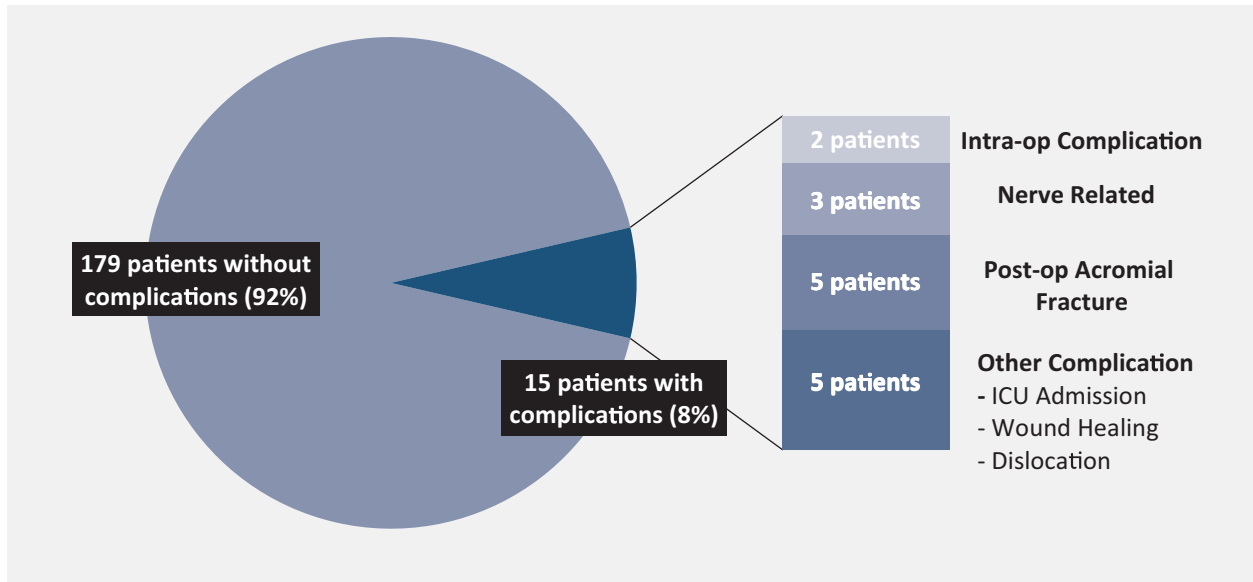
Dr. Andrew Jawa

Procedure	Number Performed
Primary Total Shoulder Replacement (Anatomic and Reverse)	245
Revision Total Shoulder Replacement	24
Latarjet	11
Hand/Wrist Surgeries (Carpal Tunnel/Trigger Finger Release)	27
Elbow Surgeries (Distal Biceps Repair, Epicondylectomy)	6
Open Reduction Internal Fixation	1
TOTAL	314

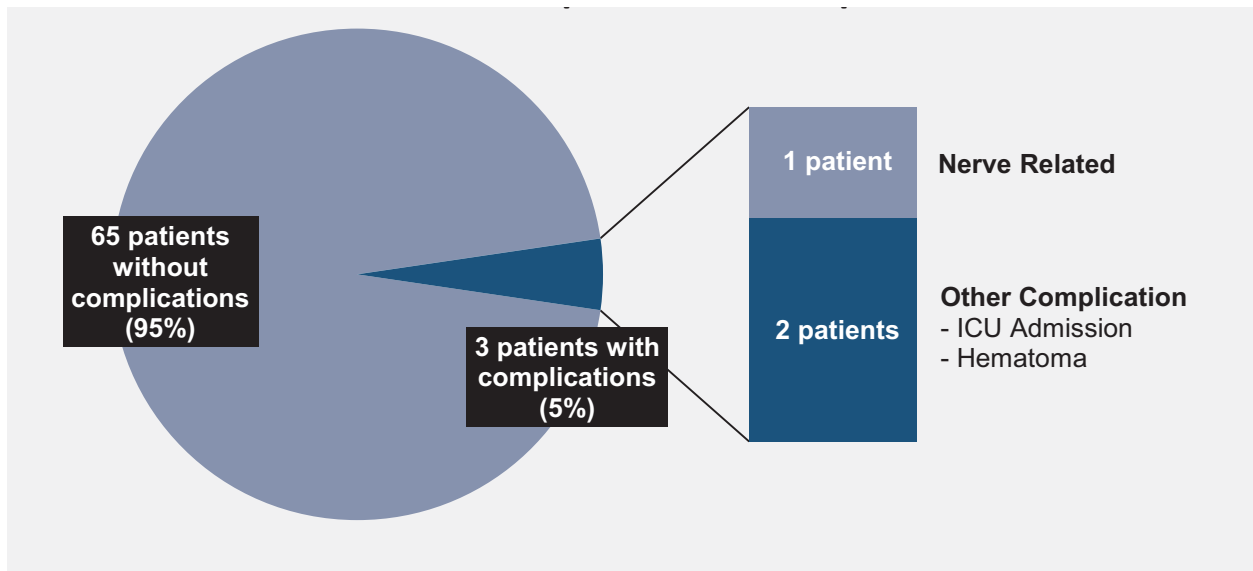
Dr. Andrew Jawa's Total Shoulder Replacement Outcomes (Surgeries Performed 2016)



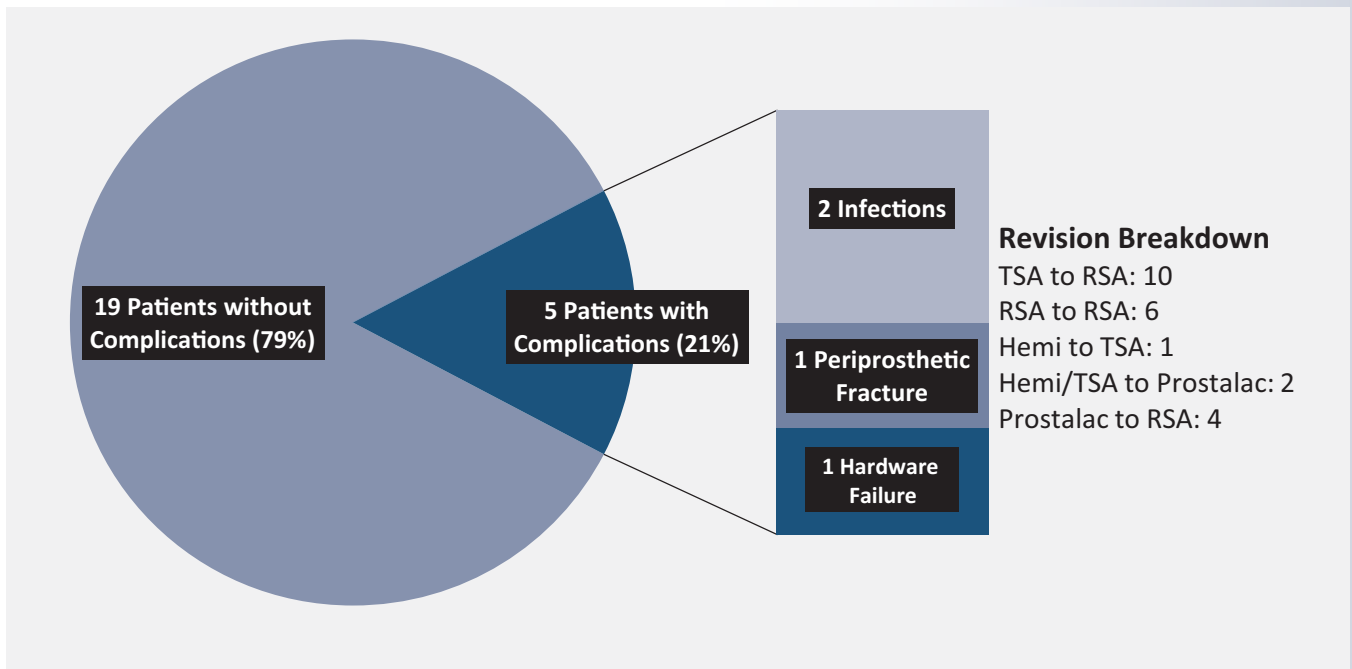
Reverse Total Shoulder Replacement Complications 2017-2018



Anatomic Total Shoulder Replacement Complications 2017-2018



Revision Shoulder Replacement Complications 2017-2018

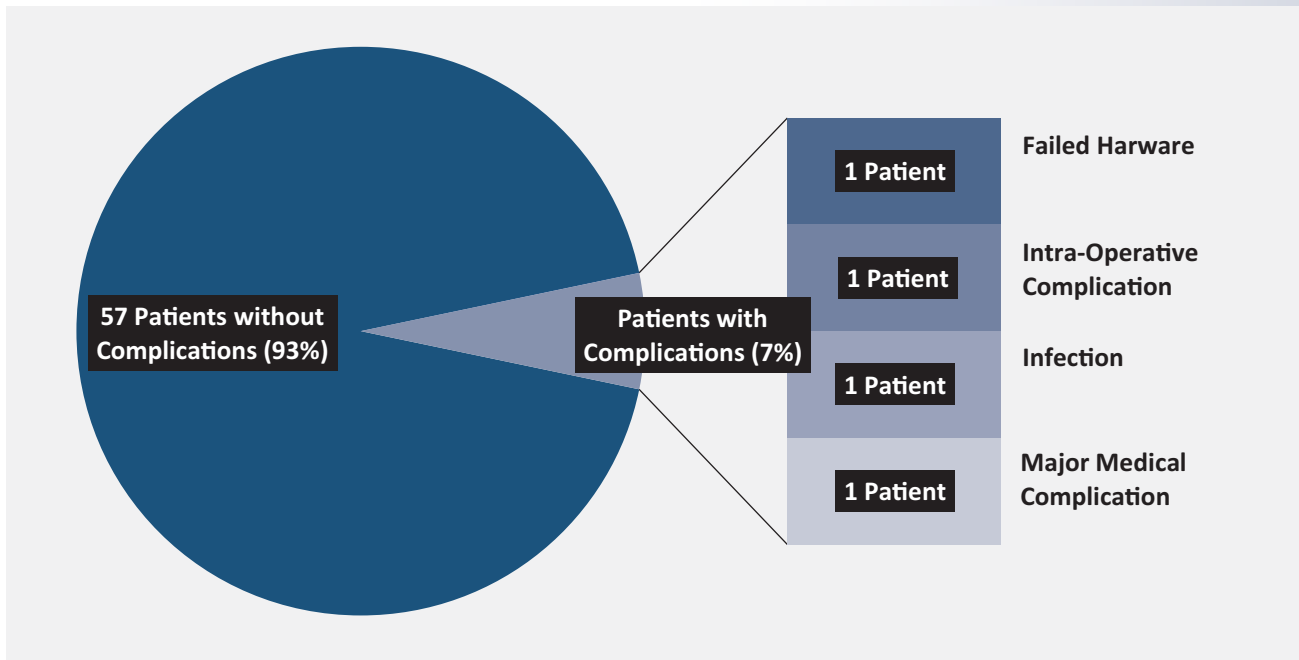


2016 Complete Surgical Overview

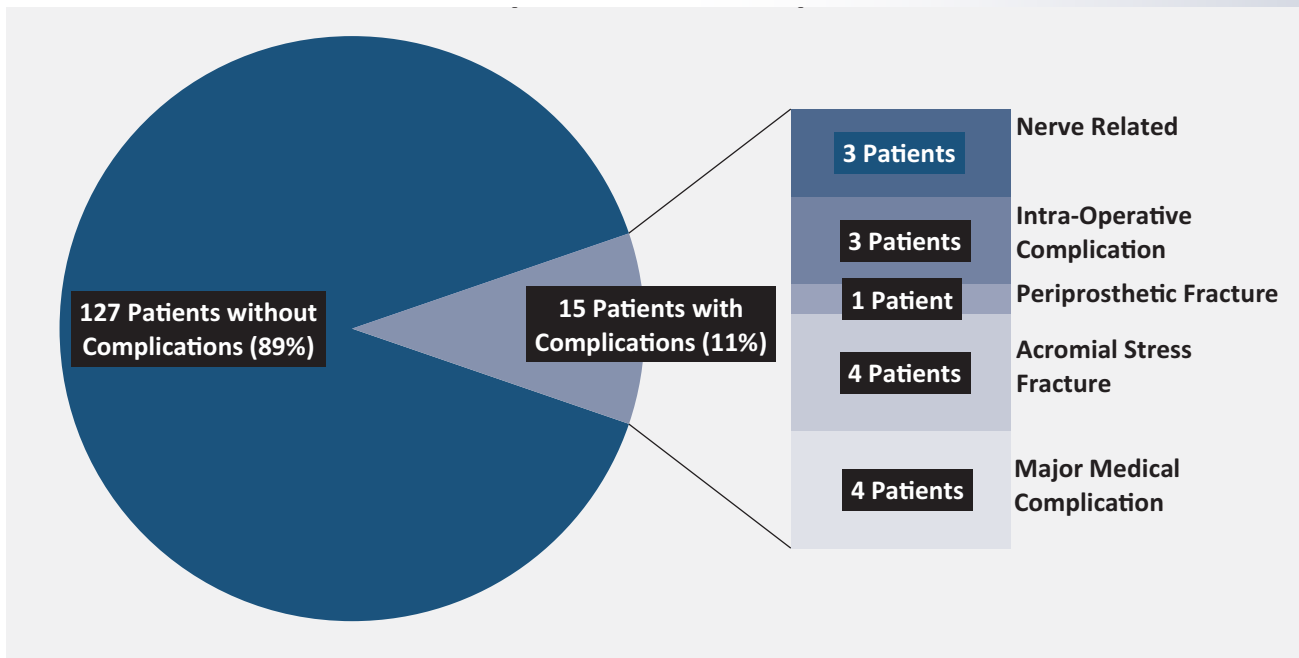
Dr. Andrew Jawa

Procedure Type	Number of Procedures Performed
Primary Total Shoulder Replacement (Reverse and Anatomical)	203
Revision Total Shoulder Replacement	10
Latarjet	13
Hand and Wrist Surgeries (Carpal Tunnel Release, Trigger Finger Release, etc.)	46
Elbow Surgeries (Cubital Tunnel Release, Distal Biceps Repair, Debridement for Epicondylitis, etc.)	16
Open Reduction Internal Fixation	5
TOTAL	293

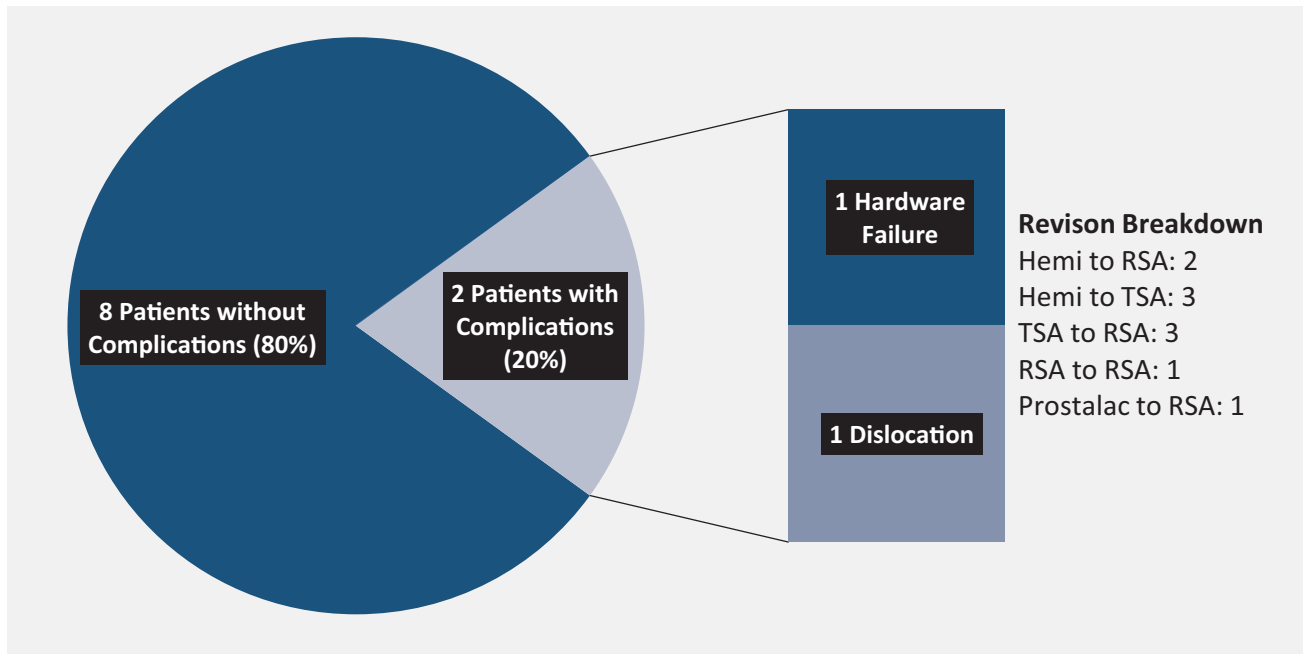
Anatomic Shoulder Replacement Complications 2016-2018



Reverse Shoulder Replacement Complications 2016-2018



Revision Shoulder Replacement Complications 2016-2018



ANDREW JAWA, MD
CURRICULUM VITAE

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E-MAIL: andrewjawa@gmail.com

CITIZENSHIP: United States

EDUCATION:

1994 - 1998 Williams College
Williamstown, MA
Degree: BA, *Summa Cum Laude*, 1998
Major: Economics and Biology
Awards: Phi Beta Kappa, 1997, 1998

1998 - 2002 University of Pennsylvania, School of Medicine
Philadelphia, PA
Degree: MD, 2002
Award: Alpha Omega Alpha

2002 - 2003 Brigham and Women's Hospital
Boston, MA
Intern - Surgery

2003 - 2007 Harvard Combined Orthopaedics Residency Program
Boston, MA
Resident - Orthopaedic Surgery

2007 - 2008 Massachusetts General Hospital
Jesse Jupiter, MD
Boston, MA
Fellow – Hand and Microvascular Surgery

2008 - 2009 Massachusetts General Hospital
Jon J.P. Warner, MD
Boston, MA
Fellow – Shoulder and Elbow Surgery

LICENSURES: Medical, Massachusetts, 2007 #231192

CERTIFICATIONS: Diplomate of the American Board of Orthopaedic Surgery, 2011
Subspecialty Certificate in Surgery of the Hand
American Board of Orthopaedic Surgery, 2012

Employment

03/2009 - 05/2014 Boston University Medical Center

03/2011 - present Boston Sports and Shoulder Center,
New England Baptist Hospital

Academic

Boston University
03/2009 – 05/2014 Assistant Professor
02/2009 – 05/2014 Boston University Residency Training Program

Tufts University
03/2011 - present New England Baptist Sports Fellowship Training Program
06/2014 - present Assistant Professor
05/2015 - present Tufts Residency Training Program

Awards and Honors

- **Best Podium Presentation**
 - New England Shoulder and Elbow Meeting, February 2016
 - Critical Shoulder Angle Correlates with Rotator Cuff Tears in Patient with Osteoarthritis
 - New England Shoulder and Elbow Meeting, February 2015
 - Nerve Injury in Reverse and Total Shoulder Arthroplasty: A Neuromonitoring Study
- **Robert E. Leach Resident Teaching Award**
 - Boston University School of Medicine, Boston, June 2011
- Highlight Paper at American Society of Surgery of the Hand Meeting, Boston, MA 2010
 - Open Fractures of the Distal Radius: The Effects of Delayed Debridement and Immediate Fixation
- **Orthopaedics Overseas/Orthopaedics Research Education Fund Traveling Fellowship**
 - Mulago Hospital, Uganda 2007
- Highlight Paper at the Orthopaedic Trauma Association Meeting, Ontario, Canada, 2005

- Extra-articular Distal-third Diaphyseal Fractures of the Humerus: a Comparison of Bracing versus Plating

Society Memberships

- New England Shoulder and Elbow Society 2011 - present
- American Academy of Orthopaedic Surgeons 2012 - present
- American Society for Surgery of the Hand 2013 - present
- Orthopaedic Trauma Association 2014 - present
- Association of Clinical Elbow and Shoulder Surgeons (ACCESS) 2016 - present
- American Shoulder and Elbow Society 2016 - present

Committee Memberships

- ASSH Education Committee 2011-2012
- AAOS Shoulder and Elbow Program Committee 2015-2018

Instructional Courses/CME

AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS

1. Instructional Course: Operative Treatment of Hand Fractures: San Diego, CA, 2011.
Moderator
2. Instructional Course: Operative Treatment of Hand Fractures: San Francisco, CA, 2012.
Moderator
3. Instructional Course: Operative Treatment of Hand Fractures: Chicago, IL 2013.
Moderator
4. Symposia: Treatment of Proximal Humerus Fractures: New Orleans, LA, 2014.
Faculty

ORTHOPAEDIC TRAUMA ASSOCIATION

1. OTA/ASSH Debate: Reduction of Distal Radius Fractures: New Orleans, LA, 2014.

INTERNATIONAL SOCIETY FOR TECHNOLOGY AND ARTHROPLASTY

1. Shoulder and Elbow Section: Boston, MA, 2016.
Moderator

NEW ENGLAND SHOULDER AND ELBOW SOCIETY

1. Shoulder Section: Jay, VT 2016
Vice-president
2. Shoulder Section: Jay, VT 2018
Vice-president
3. Panel: Shoulder Reconstruction: Jay, VT 2018
Moderator

4. Panel: Managing the B2 Glenoid. Augment, High-side Ream, Reverse – We’re Still Talking About This?: Jay, VT 2018
Moderator

INDEPENDENT COURSES / GRAND ROUNDS / VISITING PROFESSOR

1. Boston University Grand Rounds. Reverse Total Shoulder Arthroplasty. Boston, MA, 2009.
2. New England Shoulder and Elbow Society. The Variability in the Management of Proximal Humerus Fractures. Jay Peak, VT, 2011.
3. Brigham and Women’s Hospital Grand Rounds. The Variability in the Management of Proximal Humerus Fractures. Boston, MA, 2011.
4. Lahey Clinic Grand Rounds. The Variability in the Management of Proximal Humerus Fractures. Burlington, MA, 2011.
5. New England Baptist Sports and Shoulder Course. Infections in Total Shoulder Arthroplasty. Waltham, MA, 2011.
6. New England Shoulder and Elbow Society. Infections in Total Shoulder Arthroplasty. Jay Peak, VT, 2012.
7. New England Baptist Hospital Sports and Shoulder Course. The Variability in the Management of Proximal Humerus Fractures. Waltham, MA, 2012.
8. New England Baptist Hospital Sports and Shoulder Course. Reverse Total Shoulder Arthroplasty for the Management of Proximal Humerus Fractures in the Elderly. Waltham, MA, 2013.
9. New England Shoulder and Elbow Society. Non-operative Treatment of Proximal Humerus Fractures. Jay Peak, VT, 2014.
10. Lahey Clinic Grand Rounds. The Current Treatment of Proximal Humerus Fractures. Burlington, MA, 2014.
11. Tibby Day, Tufts University. Are We Evidence Based? The Effects of Level-1 Evidence on Surgical Decision Making. Boston, MA, 2014.
12. New England Baptist Hospital Sports and Shoulder Course. Management of the Painful Shoulder Arthroplasty. Waltham, MA, 2014.
13. New England Baptist Hospital Sports and Shoulder Course. Physical Therapy after Shoulder Arthroplasty. Waltham, MA, 2014.
14. New England Shoulder and Elbow Society. Treatment of Proximal Humerus Fractures. Jay Peak, VT, 2015.
15. Tibby Day, Tufts University. Nerve Injury in Reverse and Total Shoulder Arthroplasty: A Neuromonitoring Study. Boston, MA, 2015.
16. DJO Revision Shoulder Arthroplasty Course. Revision Instrumentation and Back-table Setup. Tampa, FL 2015.
17. DJO Revision Shoulder Arthroplasty Course. Anatomic Revision to Reverse Total Shoulder. Tampa, FL 2015.
18. DJO Revision Shoulder Arthroplasty Course. Debate: How Best to Manage Proximal Humeral Bone Loss. Tampa, FL 2015.
19. DJO Revision Shoulder Arthroplasty Course. Lab Instruction. Tampa, FL 2015.
20. DJO Shoulder Arthroplasty Course. Design and Technique for RSA. Boston, MA, 2015.
21. DJO Shoulder Arthroplasty Course. Technique and Tips for RSA. Boston, MA, 2015.
22. DJO Shoulder Arthroplasty Course. Lab Instruction. Boston, MA, 2015.
23. New England Baptist Hospital Physical Therapy Grand Rounds. Rehabilitation of Shoulder Arthroplasty. Boston, MA 2016

24. Tibby Day, Tufts University. The Affect of Age and Gender on the Outcomes of Total Shoulder Arthroplasty. Boston, MA, 2016.
25. DJO Revision Shoulder Arthroplasty Course. Lectures and Lab Instruction. Tampa, FL 2016.
26. DJO Shoulder Arthroplasty Course. Design and Technique for RSA. Boston, MA, 2016.
27. DJO Shoulder Arthroplasty Course. Technique and Tips for RSA. Boston, MA, 2016.

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PEER REVIEWED PUBLICATIONS

1. Erickson JT, Mayer C, **Jawa A**, Ling L, Olson EB Jr., Vidruk EH, Mitchell GS, Katz DM. Chemoafferent degeneration and carotid body hypoplasia following chronic hyperoxia in newborn rats. *Journal of Physiology*. 1998 Jun;(509): 519-26.
2. **Jawa A**, Hanna BG, Hubbard A., Russo P, Dormans JP. Enlarging thigh mass in a 13-month-old boy. *Clinical Orthopaedics & Related Research*. 2003 Sep;(414): 329-35.
3. Lynch HA, Johannessen W, Wu JP, **Jawa A**, Elliott DM. Effect of Fiber Orientation and Strain-Rate on the Uniaxial Tensile Material Properties of Tendon. *Journal of Biomechanical Engineering*. 2003 Oct;(125): 726-31.
4. **Jawa A**, Mehta S, Grupp S, Kramer SS, Carpentieri DF, Dormans JP. Face and thigh swelling in a 6-year-old girl. *Clinical Orthopaedics & Related Research*. 2003 Oct;(415): 309-18.
5. **Jawa A**, McCarty P, Doornberg J, Harris M, Ring D. Extra-articular distal-third diaphyseal fractures of the humerus: a comparison of functional bracing and plate fixation. *The Journal of Bone and Joint Surgery-Am*. 2006 Nov;(88): 2348-2355.
6. **Jawa A**, Avidov L, Jupiter J. Primary intraarticular lymphoma of the elbow: a case report. *The Journal of Bone and Joint Surgery-Am*. 2006 Dec;(88): 2730-2734.
7. Shi L, **Jawa A**, Jupiter J. Vascularized fibula graft for humeral reconstruction. *Techniques in Shoulder and Elbow Surgery*. 2008 Sep;(9): 168-173.
8. Kong BS, Kim YJ, Suh YS, **Jawa A**, Nazzal A, Lee S. Finger soft tissue reconstruction using arterialized venous free flaps having 2 parallel veins. *The Journal of Hand Surgery-Am*. 2008 Dec;(33): 1802-1806.
9. **Jawa A**, Jupiter J. Modified step-cut osteotomy for metacarpal and phalanx malunions. *The Journal of Hand Surgery-Am*. 2009, Feb;(34): 335-340.
10. Herndon JG, Allan BJ, Dyer G, **Jawa A**, Zurakowski D. Predictors of success on the American Board of Orthopaedic Surgery examination. *Clinical Orthopaedics & Related Research*. 2009 Jun;(467): 2436-45.

11. Kleweno CP, **Jawa A**, Wells JH, O'Brien TG, Higgins LD, Harris MB, Warner JJ. Midshaft clavicular fractures: comparison of intramedullary pin and plate fixation. *The Journal of Shoulder and Elbow Surgery*. 2011 Jul;20(7):1114-7.
12. Boykin RE, **Jawa A**, O'Brien T, Higgins LD, Warner JJP. Variability in operative management of proximal humerus fractures. *Shoulder & Elbow*. 2011 Sep;3:197-201.
13. Sekimpi, P, Okike, K, Zirkle, L, **Jawa, A**. Femoral Fracture Fixation in developing countries: an evaluation of the surgical implant generation Network (SIGN) intramedullary nail. *The Journal of Bone Joint Surgery-Am*. 2011 Oct;93(19):1811-1818.
14. **Jawa A**, Shi L, O'Brien T, Macy J, Higgins L, Warner JP. Prosthesis of antibiotic-loaded acrylic cement (PROSTALAC) for the treatment of infection after shoulder arthroplasty. *The Journal of Bone and Joint Surgery-Am*. 2011 Nov;93(21): 2001-2009.
15. Kurylo J, Axelrad W, Tornetta III, P, **Jawa A**. Open fractures of the distal radius: the effects of delayed debridement and immediate internal fixation on infection rates and the need for secondary procedures. *The Journal of Hand Surgery-Am*. 2011 Jul;36(7): 1131-4.
16. Bishop GB, Born T, Kakar S, **Jawa A**. The diagnostic accuracy of inflammatory blood markers for purulent flexor tenosynovitis. *The Journal of Hand Surgery-Am*. 2013 Nov; 38(11): 2208-11.
17. Yi PH, Ganta A, Hussein KI, Frank RM, **Jawa A**. Readability of arthroscopy-related patient education materials from the American Academy of Orthopaedic Surgeons and Arthroscopy Association of North America Web sites. *Arthroscopy*. 2013 Jun; 29(6): 1108-12.
18. Yi PH, Weening AA, Shin SR, Hussein KI, Tornetta P 3rd, **Jawa A**. Injury patterns and outcomes of open fractures of the proximal ulna do not differ from closed fractures. *Clinical Orthopaedics and Related Research*. 2014 Jul;472(7):2100-4.
19. Neuhaus V, Menendez M, Kurylo JC, Dyer GS, **Jawa A**, Ring D. Risk factors for fracture mobility six weeks after initiation of brace treatment of mid-diaphyseal humeral fractures. *The Journal of Bone and Joint Surgery-Am*. 2014 Mar 5; 96(5): 403-7.
20. Yi PH, Chang MM, Haughom BD, **Jawa A**. Readability of patient education materials from the AAHS. *Hand*. 2014 Sep;9(3):393-4
21. **Jawa A**, Yi PH, Boykin RE, Gardner MJ, Gerber C, Lorich DG, Walch G, Warner JP. Treatment of proximal humeral fractures: comparison of shoulder and trauma surgeons. *The American Journal of Orthopedics*. 2015 Feb;44(2):77-81.
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25. Parisien, R., Yi, P., Li, X., **Jawa, A.** The risk of nerve injury during anatomical and reverse total shoulder arthroplasty: an intraoperative neuromonitoring study. *The Journal of Shoulder and Elbow Surgery* 2016 Jul; 25(7):1122-7.
26. **Jawa A**, Dasti U, Brown A, Grannatt K, Miller S. Gender differences in expectations and outcomes for total shoulder arthroplasty: a prospective cohort study. *The Journal of Shoulder and Elbow Surgery* 2016 Aug; 25(8): 1323-7.
27. Menendez ME, Ring D, **Jawa A**. Inpatient falls after shoulder arthroplasty. *The Journal of Shoulder and Elbow Surgery*. 2017 Jan; 26(1): 14-19.
27. Lowe JT, Li X, Fasulo SM, Testa EJ, **Jawa A**. Patients recall worse preoperative pain after shoulder arthroplasty than originally reported: a study of recall accuracy using the American Shoulder and Elbow Surgeons score. *The Journal of Shoulder and Elbow Surgery*. 2017 Mar; 26(3): 506-511.
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1. **Jawa, A.**, McCarty, P., Doornberg, J., Harris, M., Ring, D. Extra-articular distal-third diaphyseal fractures of the humerus: a comparison of functional bracing and plate fixation. Presented at the OTA Annual Meeting, Ontario, Canada, 2005.
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5. Lamartina, J., Stucken, C., **Jawa, A.**, Tornetta, III, P. Alignment in Nonoperatively Treated Distal Radius Fractures: Are Our Current Predictors Predictive? Presented at ASSH Annual Meeting, Chicago, IL, 2012.
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10. Yi, P., Shin, S., Weening, A., Tornetta III, P., Ring, D., **Jawa, A.** Injury Characteristics and Outcomes of Open Fractures of the Proximal Ulna. Presented at the AAOS Annual Meeting, New Orleans, LA, 2014.
11. Meis, R., **Jawa, A.**, Tornetta III, P. Do Distal Radius Fractures Shift after External Fixation? Presented at the Annual Richard Smith Day, Boston, MA, 2014.

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14. Parisien, R., Yi, P., Li, X., **Jawa, A.** Nerve Injury in Reverse and Total Shoulder Arthroplasty: A Neuromonitoring Study. Presented at the New England Shoulder and Elbow Society, Jay Peak VT, 2015.
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20. **Jawa A.** Surgical Techniques: How and Why from the Pros – Proximal Humeral Allograft. Presented at the New England Shoulder and Elbow Society Annual Meeting, Jay, VT 2018.
21. **Jawa A.** NESES to ASES: An Update on the Opportunities at the Next Level. Presented at the New England Shoulder and Elbow Society Annual Meeting, Jay, VT 2018.

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1. **Jawa, A.**, McCarty, P., Doornberg, J., Harris, M., Ring, D. Extra-articular distal-third diaphyseal fractures of the humerus: a comparison of functional bracing and plate fixation. Presented at the ASSH Annual Meeting, San Antonio, TX, 2005.
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10. Meis R, J., Tornetta III, P., **Jawa, A.** Do Distal Radius Fractures Shift after External Fixation. Presented at the AAOS Annual Meeting, Orlando, FL 2016.
11. Lowe J.T., Fitzgerald M., **Jawa A.** Lateralization of the Glenosphere in Reverse Shoulder Arthroplasty Decreases Arm Lengthening and Demonstrates Comparable Risk of Nerve Injury Compared to Anatomic Arthroplasty: a Prospective Cohort Study. Presented at the AAOS Annual Meeting, New Orleans, LA 2018.
12. Nelson R, Lowe J.T., Lawler S.M., Fitzgerald M, Mantell M, **Jawa A.** Lateralized Center of Rotation and Lower Neck-shaft Angle are Associated with Lower Rates of Scapular Notching, Heterotopic Ossification, and Improved Pain for Reverse Shoulder Arthroplasty at One Year. Presented at the AAOS Annual Meeting, New Orleans, LA 2018.

EDITORIAL POSTS

1. Editorial Board: *Journal of Orthopaedic Trauma*
2. Reviewer: *Clinical Orthopedics and Related Research*
3. Reviewer: *Journal of Hand Surgery*
4. Reviewer: *Journal of Shoulder and Elbow Surgery*
5. Reviewer: *Journal of Bone and Joint Surgery*

