"Ream and Run" Shoulder Arthroplasty Pre-Operative Packet

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A Message from Your Surgeon:

ATLANTIC ORTHOPAEDIC SPECIALISTS
Leaders in Orthopaedic Health

Bradley C. Carofino, M.D.

Shoulder & Upper Extremity Specialist
230 Clearfield Avenue, Suite 124
Virginia Beach, VA 23462-1832
Phone 757-321-3300

We are here to help throughout your recovery!

Dr. Brad Carofino specializes in shoulder and upper extremity surgery. He is one of the only surgeons in Virginia who has completed a Shoulder Surgery Fellowship. He performs hundreds of complex shoulder surgeries each year, and *we pride ourselves on delivering exceptional care to each of our patients*.

Recovering from Ream and Run Shoulder Replacement surgery is a long process. We are here to help you throughout the entire process, not just on the day of surgery. *If you are having a problem or concern, we want to hear from you. If you have a question, we want to hear from you.* Contact information for my team is listed below; please contact us if we can help in any way!

Most Sincerely,

Brad C. Carofino, MD, FAAOS
Shoulder Specialist
Team Physician: Norfolk Tides

- Tammy English: Secretary to Dr. Carofino
  - Phone Number: 757-321-3300 ext. 3397
  - Email: EnglishT@atlanticortho.com
  - We find it best to utilize the Patient portal for communication. Please register at: http://www.atlanticortho.com/portal/
- Jennifer Rascoe, NP-C
  - Nurse Practitioner to Dr. Carofino
- Brice Snyder, MSAT, LAT, ATC, OTC
  - Athletic Trainer to Dr. Carofino
  - Work Cell: 757-679-3407
  - Work Email: SnyderB@atlanticortho.com
    - Brice is available to answer your questions related to surgery and the post-operative rehabilitation plan.
- Dr. Brad C. Carofino, M.D., FAAOS: Shoulder Specialist
  - Email: CarofinoB@atlanticortho.com
    - Dr. Carofino is available for contact on non-surgery days via email.
    - If you need immediate communication with someone for questions or concerns about your surgery or rehabilitation, contact Brice Snyder.

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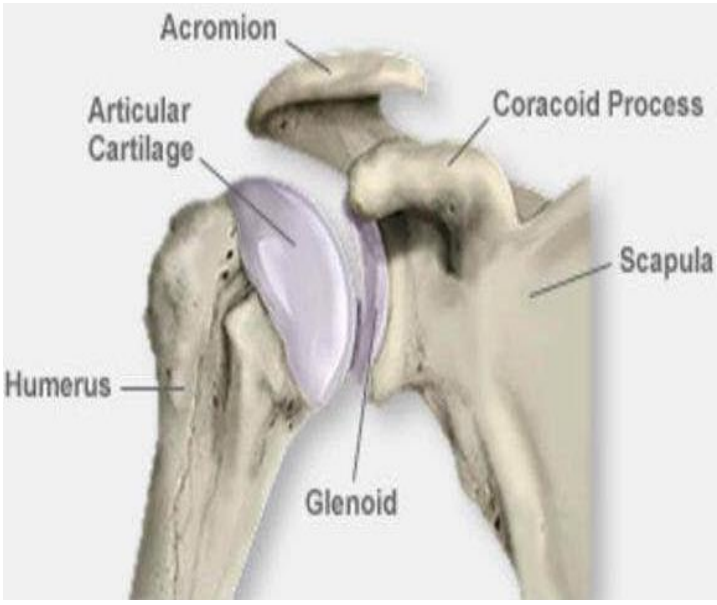
All About the Shoulder

What is the Shoulder Joint?

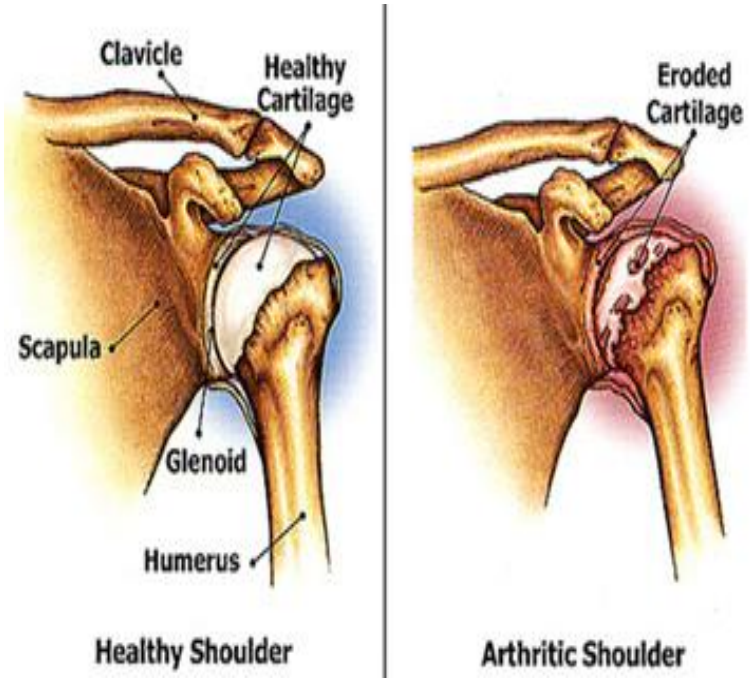
- The shoulder joint is a "ball and socket" joint. Imagine it as a golf ball resting on a golf tee. The "ball" is called the humerus and the "tee" or socket is called the glenoid. The glenoid happens to be part of the scapula or shoulder blade. Between the ball and socket joint is hyaline cartilage. This cartilage covers the ends of the bones. These coverings are extremely smooth and allow for the bones to glide on each other. Imagine it as ice on ice, gliding very smoothly over one another. These two bones form the main articulation and are referred to as the true shoulder joint.



What is Arthritis?

- Shoulder Arthritis, or Osteoarthritis (OA) is a chronic degenerative joint disease (DJD) of the cartilage. More specially, the hyaline cartilage covering the humeral head and glenoid surfaces. This is a chronic disease that worsens with time. As of now, science has no way of halting or reversing degenerative joint disease (OA) through stem cell therapies or simple injections. Also there are no specific findings that detail the cause of OA. Some causes are post-traumatic injury, repetitive use or heavy lifting manual labor work.

- Science and surgical procedures (TSA) to replace these diseased surfaces with a titanium ball and plastic socket have advanced greatly and yield great outcomes for patients who experience decreases in their daily living due to pain and dysfunction of the shoulder joint.



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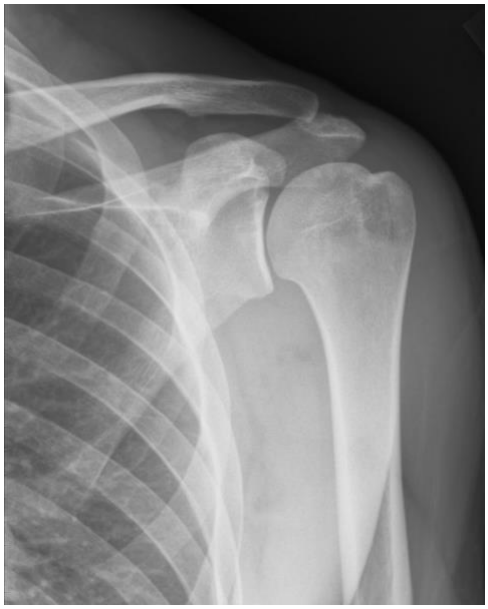
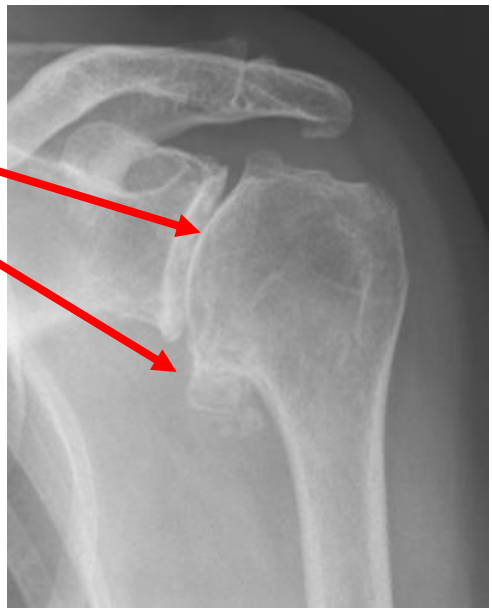
Diagnosing an Arthritic Shoulder:



- Typically, a great history gathering by a clinician can diagnose the presence of shoulder joint arthritis without the need of an x-ray.
- Patients complain of shoulder pain diffusely about the joint, it hurts the majority of the day and their shoulder is becoming increasingly stiff with activities.
    - In most cases, patients say it hurts mostly at night and decreases their ability to sleep, sometimes waking them.
    - They will also say it hurts to sleep on the shoulder, increasing their inability to rest normally.
- Once a history is gathered, we typically will always take x-rays. In this case, the proof is in the picture.
- Above, on the right, you will see a normal healthy joint. The humeral head is well positioned within the joint and there is a good space maintained.
    - Below, on the right, you will see a joint that has DJD present.
    - Noted are:
        - Joint space loss and sclerotic bone (bright white).
        - Large bone spurs called a goats-beard sign.



- After X-rays and a history are taken, a physical exam is performed
    - Patients demonstrate a loss in range of motion (ROM) both actively and passively.
    - They usually have pain and crepitation (grinding/cracking) with ROM in all directions.
- Once all the information is compiled and DJD is diagnosed, a few options are made available:
    - Physical therapy.
    - Cortisone injections:
        - > 3/year is not recommended.
    - Surgery.
        - When cortisone injections are no longer helpful, and the shoulder is feeling bad enough to do something about it, surgery is offered.
- Risks, benefits and outcomes are mapped out for every patient and the contact information to schedule a surgical date is provided.

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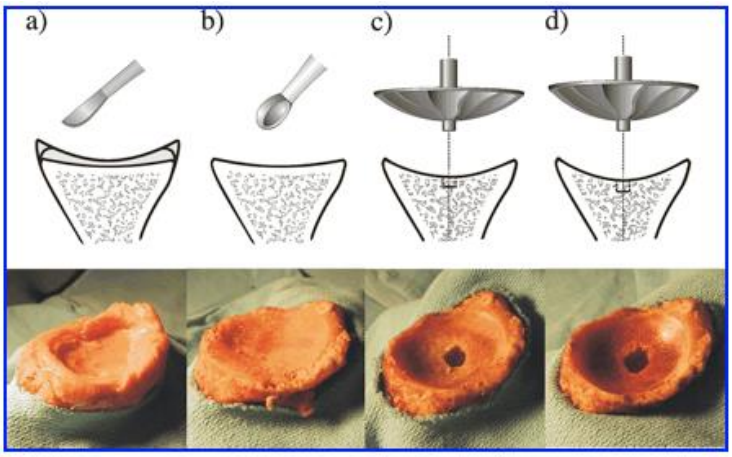
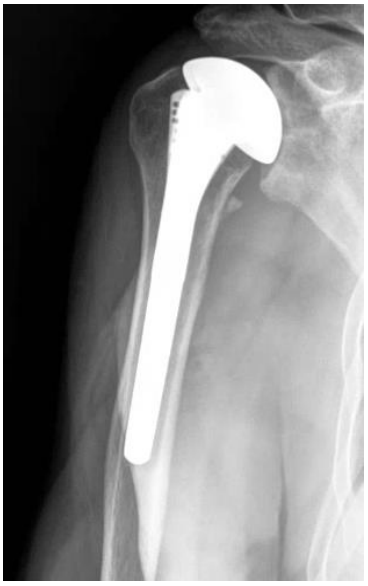
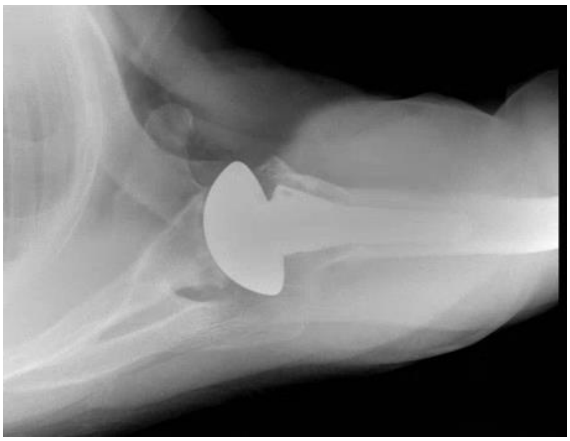
"Ream and Run" Arthroplasty



- Surgeries are performed at a main hospital operating room for insurance purposes.
- Shoulder replacements are currently **not** same day **out-patient** surgeries.
    - At a **minimum**, your hospital stay will be from a 1-night stay to as many nights as it takes you to feel comfortable. Typically, 2-3 nights at most.
- When surgery to remove the diseased cartilage is performed via a shoulder replacement, an incision is made along the front of the shoulder joint.
    - The incision is approximately 5-7 inches in length and grants us access to the shoulder joint.



- Once the bones are exposed following dissection of muscle and the capsule, the worn out head of the humerus is removed.
- The surface of the socket is debrided and resurfaced to restore its natural contour to fit your new metal ball.
    - Shown above is the process of resurfacing the glenoid socket.
- The Humeral shaft is then prepared to receive a metal stem and ball. The stem and ball are "press fit" making a very snug fit within the bones hollow shaft.
- Once the implant is in place, the shoulder is mobilized to make sure there is adequate space between the humeral head and the new surfaced socket.
- This is done to insure that the shoulder moves normally and that the shoulder has had an increase in ROM from pre-operative to post-operative.
- The incisions are closed with sutures and the outer layer is closed with staples.
    - You will also be placed into a sling that will remain on for 6-weeks.
- Dr. Carofino will show you stretching exercises of the shoulder so that you do not lose the ROM we gained during surgery.
- Your dressing that covers the incision will remain on until you follow back in office. The inner most bandages are water-proof and ok to shower with. No bathing until further notice.



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Recap of the "Ream and Run":

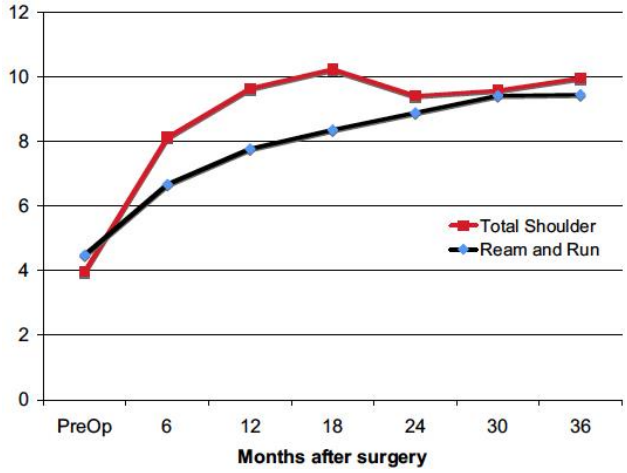
- We've replaced the car's tires (ball) and paved the road (socket). Also, with time the body regrows a scar cartilage layer on top of the socket which makes that surface even smoother.
- This explains why the results of the operation improve with time. Regrowth of this cartilage layer has been demonstrated in research studies and on X-rays.

What is the history of the Ream & Run?

- The Ream and Run procedure was originated by Dr. Frederick Matsen at the University of Washington in Seattle.
- Dr. Matsen has performed over 8,000 shoulder replacements and is one of the most experienced shoulder surgeons in the United States. He has been doing this operation for over fifteen years and was the mentor for Dr. Carofino while he completed a shoulder Fellowship at UW.

Why choose the Ream & Run Arthroplasty?

- The advantage of the ream and run is that a plastic socket is not required. This is important because the plastic socket is the main cause of failure of a standard total shoulder replacement; it is essentially the "weak link". With time the plastic socket often wears out and becomes loose which may require a revision surgery.
- Furthermore, most shoulder surgeons do not recommend a total shoulder replacement for young patients or individuals who are very active and lift heavy weights because these individuals will wear out a plastic socket very quickly.
- The Ream and Run arthroplasty offers an advantage for these specific patients because there is no plastic socket to worry about and patients may perform all activities such as weight lifting, chopping wood, pull-ups, etc.
- Also, young patients do not have to worry about the plastic socket wearing out as they age.



What are the disadvantages of the Ream & Run Arthroplasty?

- The main disadvantage to this operation compared to a standard total shoulder replacement is that the recovery takes longer, and there is more discomfort during the first several months.

What are the results of the Ream & Run?

- This is a relatively new operation. However, research studies have shown that by two years after surgery the Ream & Run is as good as a total shoulder replacement. Also, the results appear durable, meaning there is no indication that patients shoulders will get worse with time after the procedure.

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Scheduling your Surgery

Scheduling Surgery

- Tammy English (Dr. Carofino's secretary) should contact you within 2-3 days of your office appointment. She will help you to select a date for surgery.
- If you do not hear from Tammy after a couple of days, please call her at 321-3397.
- *If you are having difficulty scheduling your appointment you may contact Tammy, Brice or Dr. Carofino at the email addresses listed on page 2.*
- Many patients will need pre-surgical physicals by their primary care physician. Some patients will also need to obtain a physical from other specialists such as a cardiologist, pulmonologist, etc.
    - Physicals may include lab work and EKG.
- These appointments must be within no greater than 30 days prior to your surgery date.
    - ❖ Tammy will help coordinate these appointments with your other doctors.
    - ❖ She will assist with scheduling lab work.

Preparing for Surgery

Preparing for the Day of Surgery

- **The surgery center or hospital will notify you of your scheduled surgery time the day before surgery.**
    - They will call and give you the exact time of surgery.
    - Don't expect to know the anticipated time of surgery until this phone call.
        - Make the day of surgery available for the entire day regardless of time.
    - Many patients prefer to have their surgery performed early in the day. Please keep in mind that the order of surgical cases is based on medical conditions and need.
- Schedule Transportation to and from the location of surgery.
    - You will need someone to be available to drive you to your location of surgery and transport you home following.
    - Per Hospital/Surgery Center rules, you will also need to have someone stay with you for the first 24hrs post-surgery. Please have that arraigned
- **Do not** eat or drink after midnight the night of your surgery date!
- Relax and get 8 hours of sleep.
- Take preemptive plans around your home to address comfort post-surgery for sleeping and easy access to commonly used things for eating and daily hygiene.
    - Many patients find it more comfortable to sleep in a recliner for a few weeks after shoulder surgery. However, that isn't true for everyone.
    - You may also want to stock up on shirts that will be easy to take on and off after your surgery.
    - Shirts that button or zip in the front tend to be the easiest to put on and take off following shoulder surgery.

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Do I Need to Stop Any Medications Before Surgery?

- **Prescription blood thinners** should be stopped before surgery.
  - Aspirin and Plavix are stopped 10 days before surgery.
  - If these medications or other blood thinners are prescribed by your cardiologist or Primary Care Physician (PCP), you should discuss with them if you are OK to discontinue the medicines, and if other precautions need to be taken.
- **Other medications** that should be stopped 2 weeks before surgery: Over the counter anti-inflammatory medications, fish oil, herbal supplements.

The Day of Surgery:

SENTARA HEALTHCARE

- **Be on time**. The surgery center will let you know how far in advanced to show up when they give you your time of surgery.
- Map your route in advanced.
- We typically operate at one (1) of two (2) locations:

Sentara Princess Anne Hospital 2025 Glenn Mitchell Drive Virginia Beach, VA 23456	*Princess Anne Ambulatory Surgery Center* (PAASC) 1975 Glenn Mitchell Drive Suite 300 Virginia Beach, VA 23456

- When you arrive at your location, check in at the front registration desk and fill out any associated paperwork.
- Bring or wear comfortable clothing that you can easily get dressed into with post-surgery. **Shirts and jackets that zip or button up the front are easiest to manage.**
- Bring pillows for the car ride home for support under arm and general comfort.

Nerve Blocks on the Day of Surgery:

- Having post-op pain, and the procedure is outpatient? Consideration to a nerve block will be discussed.
  - The anesthesiologist will perform this post-surgery.
  - This will make the shoulder and arm numb so that you experience less pain after the operation. This will last 12-18 hours post block.

Driving:

- Generally, we recommend that you not drive for at least the first one-to-two weeks after surgery. You should not drive if you are still taking narcotic pain medication.
- You will be wearing a sling for six weeks. Wearing a sling impairs your ability to drive. It is ultimately your responsibility to determine if you can safely operate a vehicle with a sling on.

Follow-up Appointment Schedule:

- Typically, we like to see patients based on the healing process.
  - 2weeks, 6wks, 12wks (3 months), 6 months, 1year, and then once yearly following that. "Annual check-up" to confirm the replacement is behaving.

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The First 3 Days Following Surgery:

- After surgery your shoulder will be covered with waterproof bandages and you will have a sling on. We recommend that when you get home you find a comfortable place to rest.
    - The sling must remain on aside from showering, dressing, and doing rehab.
- Your arm may be numb from the nerve block if you received one, or numb from local anesthetic, and you will probably be feeling drowsy for a few hours to a day.
- We recommend icing the shoulder, but limit the icing to, 20-25 minutes on, 40 minutes off.
    - Reusable ice packs should be wrapped in a towel and avoid being placed directly on the skin to avoid skin injury.
- The first sign your nerve block is wearing off will be the feeling returning to the fingers.
    - We recommend that you start taking your pain medication prior to this point, to avoid falling behind the pain.
- You will have a long bandage covering your incisions. This is waterproof, so you may shower with it on.
- Do not shower until your nerve block has worn off.
    - When showering rest your hand on across the stomach to limit shoulder movement.
    - No bathtubs, pool, hot tubs, ocean/bay.
    - Don't submerge the shoulder below water.
- The bandage does not need to be removed until your first follow-up appointment, however, after the **3rd day from surgery**, you are **OK** to remove the waterproof bandage if it appears overly soiled.
- You have staples that close up the outer layer of your skin.
- After removing the bandage, you are ok to shower the incision sites following the **3rd day from surgery**.
    - Don't scrub hard over the staples. Gently pat wash with warm, soapy water, rinse, and pat dry thoroughly; letting air dry for about 5-10mins as well.
- **Prior to bandage removal**, have your backup bandage available or at least confirm the hospital sent you home with a spare…as they normally do.
    - If not, go to your local pharmacy and discuss with the pharmacist to find a similar bandage. Waterproof is preferred, if not, you'll have to change the bandage daily.

Medications:

- **Narcotic Pain Medication (Percocet, Norco, Vicodin**): You should plan to take this medication as needed. Many patients find that they need it regularly for the first two days and then less often afterwards.
    - We like for our patients to be completely off of narcotic pain medication 2-3weeks post-surgery.
    - We encourage our patients to switch to over-the-counter Tylenol during this time point, taking it during the day hours in place of narcotics as
    - Max dosage of Tylenol is 4,000mg/day. There is 325mg of Tylenol in each pill of Percocet and Norco. 300mg in Vicodin. If you switch to Tylenol during the day, and still take pain medication at night or the morning, keep track of the amount.

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- **Non-Steroidal Anti-Inflammatory Drugs:** If a physician (typically Cardiologist or PCP) HAS NOT prohibited you from taking NSAIDs like, Advil, Aleve, Motrin, Ibuprofen, you can take these medications post-op to help decrease swelling and pain.
    - You should not take them at the same time as your pain medication.
        - For example: Take them 2hrs after your dose of pain medication.
    - Only take NSAIDs for a brief duration (2-3days) post-surgery
    - Take as directed on bottle.
    - Taking NSAIDs regularly after surgery for a long duration can slow the healing process and delay your overall recovery time.
- **Anti-Nausea:** If you typically get nausea post-anesthesia or from pain medication, make Dr. Carofino and the OR staff aware of this. He can prescribe Zofran to help your nausea
- **Stool softener:** You will be given a prescription for Colace, a stool softener, if you request.
- **Vitamin-C:** Increased levels of Vit-C consumption post-surgery has been shown to alter pain perception, and helps to keep your immune system strong.
    - Find 1,000mg packets of Vit-C powder supplement at a local pharmacy.
    - You can take one with breakfast, lunch, and dinner. Drink plenty of water

The First Six Weeks

The first few weeks are the hardest. You should be making steady progress during this time; feeling more comfortable each day, having less pain, and getting stronger.

Activity:

- You should be wearing your sling at all times except when removing to shower/dress and to do your therapy exercises and stretches. You can use your hand and wrist to write/type. You can pick up light objects but nothing heavier than a coffee cup. You may work on bending your elbow so that it does not get stiff. You should not be lifting the arm in the air or using your shoulder muscles actively.

Returning to Work:

- *Return to work time depends on each patient and their particular situation.*
- In general, patients who have a **desk job** can return to work when they feel comfortable (within 2 weeks). We ask you to research and make sure that your job is accommodating in knowing you must wear your sling, will require frequent breaks for comfort, and might work slower than normal. You also will not be allowed to lift anything with the operated arm.
- Patients who work manual labor (**heavy lifting**) jobs should be advised that you will most likely not be able to return to work full duty for **4-6 months**.
    - You may be able to return sooner if your job is able to accommodate modified light duty. Below is a general guide to anticipated modified duty limitations following a "Ream and Run" Total Shoulder Replacement.

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0-2 weeks: no work
2-6 weeks: must wear sling at all times, no lifting with the operated arm; may be able to perform light desk work; will require breaks for therapy.
6-12 weeks: no longer wearing the sling; may perform work at waist level; no work above shoulder level; no lifting more than five pounds.
3-4 months: no lifting more than ten pounds at waist level; no lifting more than five pounds above shoulder level.
4-6 months: no lifting more than twenty-five pounds over head; Increase function as tolerated, possible return to full duty at 4 months.
5-6 months: return to full duty.

Physical Therapy (PT) and the Recovery Process

- Day 1 through 2-weeks post op you will perform Passive Range of Motion (PROM). These exercises are:
  - Waist bent, pendulum swings.
  - Supine assisted arm raises
    - Lay on your back, use your other arm to help lift your surgery arm.
  - Table Slides
- 2-week follow-up: You will begin formal PT.
- You will continue to **aggressively** stretch and keep the shoulder mobile over the next 4-10 weeks
- In formal PT you will begin increasing your PROM:
  - Pendulums, table slides, doorway pulleys, Supine assisted arm raises.
- 6-week follow-up: We will allow you to begin Active Assisted ROM (AAROM) and Active ROM (AROM).
  - Your therapist will begin demonstrating exercises that will allow you to actively contract the muscles around the shoulder to begin strengthening them and moving under your own power with just your body weight.
  - You will also begin very mild strengthening of individual muscles but will not move them through a ROM but do them isometrically.
  - After a few weeks of strengthening (6-10 weeks post-op), you will then begin aggressive strengthening such as performing free-weight flat and incline bench strengthening.
  - This begins at 0 degrees incline and light weight, increasing to heavier weight and eventually 70-80 degrees incline of the weight bench.
    - All weight increases should be considered progressive and as though you've never lifted weights before.
- 3-month follow-up: We will reassess your improvement and most likely will continue to have you strengthen and use the shoulder for everyday activates.
  - At this point we expect you to have full PROM and AROM. Reminder that you will never have a "normal" ROM but it should be significantly improved from prior to surgery a close to full normal ROM.

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- 6-month follow-up: We will again reassess your function.
  - If all checks out, we will release you to use your shoulder as tolerated and return to any and all activates as tolerated.
- Yearly: We would like to see you back once yearly to x-ray the shoulder and check in.
  - You should continue to strengthen your shoulder and do your PT home exercise program daily over the next 6-months, and in all reality, for life.

In general, to preserve your joint health, avoid any exercises that place weight and strain behind your frontal plane through the shoulder (weight-bench dips, military presses directly at 90-degrees behind your head, etc.).

You will continue to improve for 18-24 months post-surgery

~This packet of information is intended to keep you the patient informed and up-to-date about what to expect from beginning to end. These guidelines are always impacted by your recovery and progression and void of any post-surgical complications. This packet, though detailed, is not intended to be fully inclusive and all-encompassing and could change on a case-by-case basis.~

~For further information, please visit my website and Facebook page

Dr. Carofino Website: www.drcarofino.com

AOS Website: http://www.atlanticortho.com/center-for-hand-to-shoulder-surgery/

Facebook: https://www.facebook.com/virginiabeachshoulder/posts/1585338508442471

Visit my YouTube page! https://www.youtube.com, search Dr. Brad Carofino, and locate my pre-operative talk about the Ream and Run Replacement.