



# Dr. Stephen Thon

## Surgery Guide: Total Shoulder Replacement (Arthroplasty)

*Your guide to Surgery and Recovery*

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## SHOULDER REPLACEMENT: RESTORING FUNCTION AND MOBILITY



### **WHAT IS A SHOULDER REPLACEMENT?**

A shoulder replacement, also known as shoulder arthroplasty, is a surgical procedure that involves replacing the damaged or diseased parts of the shoulder joint with artificial components. This procedure aims to relieve pain, restore joint function, and improve mobility. The decision to undergo a total shoulder replacement (TSA) or a reverse total shoulder arthroplasty (rTSA) is individualized and should be made in consultation with an experienced orthopedic surgeon who will evaluate your specific condition and goals. Don't hesitate to seek professional medical advice for personalized recommendations.

### **WHO IS A SHOULDER REPLACEMENT FOR?**

A shoulder replacement is typically recommended for individuals with severe shoulder pain and dysfunction caused by conditions such as osteoarthritis, rheumatoid arthritis, avascular necrosis, rotator cuff tear arthropathy, or severe fractures of the shoulder joint. It is often considered when conservative treatments have failed to provide adequate relief.

### **WHAT IS AN ANATOMIC TOTAL SHOULDER ARTHROPLASTY (TSA)?**

An anatomic shoulder replacement, also known as a Total Shoulder Arthroplasty (TSA), involves replacing the damaged humeral head (ball) and glenoid (socket) with artificial components that mimic the natural anatomy of the shoulder joint. The best candidates for an anatomic shoulder replacement are individuals with **intact rotator cuff tendons**, good bone quality, and reasonably preserved joint function. Intact rotator cuff tendons are what differentiate the need for a TSA and reverse TSA.

### **WHAT IS A REVERSE TOTAL SHOULDER ARTHROPLASTY (rTSA)?**

A reverse Total Shoulder Arthroplasty (rTSA) is a specialized type of shoulder replacement procedure where the positions of the ball and socket components are reversed. In an anatomic TSA the shoulder is composed of a stationary socket with a moving ball. The design of a rTSA is switched where there is a stationary ball with a moving socket. The artificial socket is placed on the humerus (upper arm bone), while the artificial ball is placed on the glenoid (shoulder socket). This design change alters the biomechanics of the shoulder joint, relying on different muscles to provide stability and function. A rTSA is recommended in cases of severe osteoarthritis and damaged rotator cuff tendons. It is particularly beneficial for individuals who have large rotator cuff tears, irreparable rotator cuff tendons, or have had previous failed shoulder surgeries. The reverse design allows the deltoid muscle to compensate for the lost function of the rotator cuff, providing improved shoulder stability and function.

### **WHY DO WE ORDER A CT SCAN BEFORE A TOTAL SHOULDER ARTHROPLASTY?**

We will have you obtain a CT scan of your shoulder before your surgery in order to help plan your surgery. Once the CT scan is obtained, it is uploaded into the shoulder replacement planning system. This allows us to accurately plan your surgery for your precise anatomy and use implants customized to your anatomy. We will usually schedule your surgery for 3-4 weeks after your CT scan to have enough time to adequately plan the surgery appropriately.

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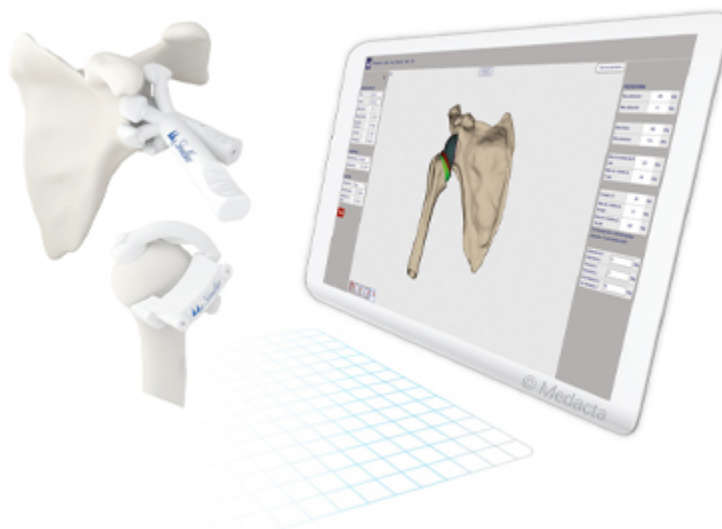
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## ADVANTAGES OF CT SCAN AND 3D PLANNING FOR TOTAL SHOULDER ARTHROPLASTY:



- 1. Accurate Preoperative Assessment:** CT scans provide detailed three-dimensional images of the shoulder joint, allowing for a comprehensive evaluation of the bone structures, joint alignment, and any deformities or bone loss. This information is crucial for precise preoperative planning and implant selection in total shoulder arthroplasty.
- 2. Enhanced Surgical Precision:** By utilizing 3D planning based on CT scan data, surgeons can precisely analyze and simulate the procedure before entering the operating room. This enables them to anticipate challenges, optimize implant positioning, and create a tailored surgical plan, leading to improved accuracy and better outcomes during surgery.
- 3. Customized Implant Placement/Guides:** CT scan-based 3D planning allows for the creation of patient-specific guides and cutting jigs, which assist surgeons in accurately positioning the implants. This personalized approach enhances the fit, stability, and longevity of the shoulder replacement, resulting in improved joint function and patient satisfaction.
- 4. Reduced Operating Time and Complications:** The use of CT scan and 3D planning in total shoulder arthroplasty has the potential to streamline the surgical process. Surgeons can anticipate and address potential complications before the procedure, reducing intraoperative errors and minimizing surgical time. This can lead to shorter anesthesia duration, decreased blood loss, and lower risks of complications, ultimately promoting a smoother recovery for the patient.
- 5. Improved Patient Communication and Education:** CT scans and 3D visualizations provide clear and interactive representations of the patient's shoulder anatomy and the planned surgical approach. This aids in effective communication between the surgeon and patient, facilitating a better understanding of the procedure, potential outcomes, and expectations.

It's important to note that while CT scans and 3D planning offer significant advantages, their implementation may vary based on individual patient factors and the expertise of the surgical team. Consultation with your surgeon is essential to determine the suitability and benefits of these techniques in the context of total shoulder arthroplasty for each patient.

## MEDICATIONS

You will take multiple medications as part of our opioid sparing protocol. This protocol is designed to have fewer side effects, better, pain relief, and reduced opioid use/addiction rates. There are multiple medicines we provide but none are addictive or habit forming. You will be given a small prescription of oxycodone to take ONLY AS NEEDED. Start taking your medications the day of your surgery. It is important to have started the pain medications before your block wears off and the pain returns. You should also set an alarm for the middle of the night to take your medications.

*Sample Medication Schedule below starting first medicines at 8am*

### First 4 days

8am: Acetaminophen 1000mg  
Ketorolac 10mg  
Methocarbamol 750mg  
Omeprazole 20mg  
Aspirin 81mg  
2pm: Ketorolac 10mg  
Methocarbamol 750mg  
4pm: Acetaminophen 1000mg  
8pm: Ketorolac 10mg  
Methocarbamol 750mg  
2am: Acetaminophen 1000mg  
Ketorolac 10mg  
Methocarbamol 750mg

### Next 11 days

8am: Acetaminophen 1000mg\*  
Meloxicam 7.5mg\*  
Methocarbamol 750mg  
Omeprazole 20mg  
Aspirin 81mg  
2pm: Acetaminophen 1000mg\*  
Meloxicam 7.5mg\*  
~8pm: (or before bed)  
Acetaminophen 1000mg\*  
Meloxicam 7.5mg\*  
Methocarbamol 750mg

\*Can also alternate every 4 hours\*

## SLING WEAR

Your sling must be worn at all times **including while you sleep**. There are only four situations in which you may remove your sling: 1) during physical therapy, 2) to shower, 3) to change clothing, and 4) while awake and at complete rest (I.e. sitting on couch watching TV, etc...). If up and walking about the sling must be worn, this is to protect your newly repaired shoulder from re-injury. Click the link to the right for instructions on how to apply your sling.



Length of time in sling is generally 6 weeks after a shoulder stabilization procedure.

## DRESSINGS

Your outer dressings may be removed after 48 hours (or the morning of the second day). Leave the steri-strips (little band-aids) over each incision until they fall off naturally. It is normal for your incisions to drain water like fluid that may be tinged red some time after your surgery. If you have some drainage, reapply some clean gauze with tape until the drainage stops. Do NOT apply any lotions, ointments, or other liquids (besides running water) to your incisions until they have completely closed and there are no scabs over the incisions. This usually takes at least 3-4 weeks.

## SHOWERING/HYGIENE

You may shower once your dressings are removed on the second day after your surgery. Running water is ok over the incisions, but you may not soak or submerge your incisions in water for a minimum of 3 weeks after your surgery. Soaking/Submerging your incisions too soon can increase your risk of getting an infection.

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### **MOVEMENT/ACTIVITY/SPORTS**

You are encouraged and allowed to move your arm from the elbow down including your forearm, wrist, hand, and fingers as much as you can tolerate once your nerve block wears off. Any movement in the box from the top of your shoulders to your hip bones is safe to do as much as you'd like. It is OK to use your arm/hand for simple and light activities such as reading, writing, texting, typing, and working on the computer. Do not lift anything heavier than a "coffee cup" with your surgical arm. The motions you **absolutely want to avoid without proper supervision are:** reaching behind you, reaching out to the side away from your body, and reaching above your head. Going for light walks multiple times per day is encouraged to keep your blood flow up. Also when at rest make sure to perform ankle pumps multiple times per day to help reduce the risk of blood clots.

### **SLEEP**

Sleeping is difficult after most shoulder surgery. It is often very difficult to sleep in the first few weeks after surgery. The surgery/anesthesia itself may interfere with your sleep-wake cycle. In addition, many patients have increased shoulder pain lying flat on their back. We recommend that you try sleeping in a recliner or in a reclined position in bed. This is often much more comfortable. You may place a pillow between your body and your arm and also behind your elbow in order to move your arm away from your body slightly. This often helps with the pain. You need to wear your sling when you sleep.

### **DRIVING**

Returning back to driving is different for everyone but for most is sometime between 2-6 weeks after surgery. Some requirements to resume driving are: you **MUST** no longer be taking opioid pain medications, you must be able control the steering wheel on your own while adhering to your restrictions with your shoulder, and your reaction time and stamina must have returned to normal. Discuss driving with your therapist to see if you are ready to return to the road on your own.

### **RETURN TO WORK**

Going back to work is dependent on the type of job you perform. Most people take at least 1-2 weeks off from work after surgery. If you have a "desk" job", you may return to work whenever you feel comfortable to do so as long as you are able to wear your brace and adhere to the restrictions for your shoulder. Jobs that require heavy lifting/pushing/pulling/etc... may not be performed until much later in your recovery and may require 3+ months off of work before it is safe to return. Please discuss with your employer what (if any) light duty you may be able to perform during this time. Any paperwork required for missing time off work including FMLA should be directed to [ThonCareTeam@occ-ortho.com](mailto:ThonCareTeam@occ-ortho.com)

### **PHYSICAL THERAPY**

Physical Therapy (PT) will start 4 weeks of your surgery. You should go to PT at least once per week for the first 6 weeks of therapy (once it starts). PT may increase after this time point. In addition, they should provide you with exercises to perform on your own at home. You may notice some increase in pain after your PT sessions, this is normal to experience. It should go back down with rest. PT is slow by design during the early phase and then ramps up. This is necessary to give your tissues the proper time to heal as strong as possible.

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### **EXPECTED RECOVERY**

Full recovery is expected to be 4 - 6 months. Your recovery is slow at first, accelerates in the mid-point, and then levels out as you reach full recovery. In general, we would expect you to complete 20% of your recovery after the first two months, get up to 80% recovery between 2 - 4 months, and the final 20% of your recovery past 4 - 6 months. You should expect to have stiffness (especially with rotation) for at least 6 months after surgery. As long as it is steadily improving, this is normal.

*\*Note: This is approximate. Your recovery may be different depending on the extent of your tear\**

### **FOLLOW UP APPOINTMENTS**

You will be seen a total of 6 times after your surgery to ensure your recovery is going smoothly. Full recovery from Shoulder Stabilization Surgery is dependent on how severe your injury was to begin with, but is expected to be at least 4 to 6 months in total with gradually increasing times between each visit. The recovery is long, but stick with it to get the best result possible!

You will be seen at the following intervals after surgery:

- 2 weeks (X-Rays)
- 2 months (X-Rays)
- 4 months
- 6 months (X-Rays)
- 9 months\*
- 12 months\*
- Yearly after that (X-Rays yearly)

*\*If necessary\**

### **THINGS TO LOOK OUT FOR AFTER SURGERY?**

Continue to look out for any fevers greater than 100.4 degrees F (38.0 degrees C) or if your incisions/shoulder becomes increasingly swollen, red, warm to the touch, or having drainage that is thick or chalky. In addition, your pain should continue to decrease with time.

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## FAQ'S

*Q: How long with the surgery take?*

A: The surgery will take about ~2-2.5 hours, but expect to be away from your loved ones longer as it takes time to go to sleep, position you for surgery, and give you time to wake up and become alert in the recover area.

*Q: What implant/prosthesis do you use and what is it made of?*

A: Shoulder replacements are made of cobalt-chromium and titanium. The plastic component is made of polyethylene.

*Q: Will I need to stay in the hospital overnight?*

A: Not necessarily. For some patients, a shoulder replacement can be an outpatient procedure and does not require an overnight stay in the hospital. Some patients may need to stay in the hospital one night depending on their other medical problems. Significant issues/problems with your heart or lungs may necessitate the need for monitoring 24 hours after surgery. This is not necessary for everyone.

*Q: Will I need to take any antibiotics after the surgery?*

A: Generally no, antibiotics are not needed. We will give you a dose of antibiotics through your IV within 1 hour prior to your procedure at the surgery center/hospital. Please notify the team if you have an antibiotic allergy. In most cases, you will not go home with a prescription for antibiotics.

*Q: What are the risks associated with surgery?*

A: As with all surgery, there are risks of anesthesia complications, infection, damage to nerves and/or vessels, fracture, failure of the repair and need for further surgery.

*Q: Do I need to be in a sling?*

A: Yes. The sling will be required for minimum 4-6 weeks after surgery. You will be allowed to take it off to shower, get dressed, and for physical therapy, but otherwise you will need to keep this on.

*Q: What medication will I go home with after surgery?*

A: You will be prescribed an opioid sparing multimodal medication protocol. In multiple randomized controlled trials, this regimen provided improved pain control over standard opioid narcotics with improved pain scores, less constipation, and less upset stomach.

*Q: What if I am on chronic pain medication?*

A: We do not manage chronic pain medication. Please set up a plan with your prescribing provider PRIOR to your scheduled surgery date to help manage post---operative pain. We are happy to help execute this plan for both your safety and adequate pain control.

*Q: Will I be offered anything else for pain management after surgery?*

A: Yes. The anesthesiologist will offer you a nerve block to help with post---operative pain. This can provide relief for about 12---24 hours after surgery. In addition, ice will help with pain and swelling after surgery. Please make sure you have started taking your prescribed medications prior to the nerve block wearing off.

*Q: What about sleeping after surgery?*

A: Sleeping is the most challenging part of the recovery. Most patients find comfort sleeping in a Lay-Z-Boy or Barcalounger type chair. If you do not have access to these types of chairs, laying in bed with multiple pillows propping you up seems to help.

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*Q: When can I drive?*

A: Recent studies have shown that it is safe to drive for most people after 2-3 weeks after surgery. You **MUST** be off all narcotic or sedating medications prior to any driving and your range of motion must be adequate enough to grip/turn the steering wheel. This is different for everyone.

*Q: What clothing should I have for after surgery?*

A: Most people will prefer button down shirts or jackets with zippers. Women may want to get a bra that clasps in the front.

*Q: When can I go back to work?*

A: It depends on what your job is. If it involves you mainly sitting throughout the day, most patients will go back to work around 1-2 weeks post---op. If you are on your feet throughout the day, expect this to be longer. For work that requires heavy lifting, pushing, or pulling you will not be able to perform this work for a minimum of 8-12 weeks more than likely. The surgical team can provide you with a letter explaining your absence and/or restrictions if needed.

*Q: When to call your doctor?*

A: If you experience any of the following, call your doctor:

- Severe or increasing pain
- Cold, pale, or numb fingers
- Cloudy/Thick Drainage from your surgical site (clear/red drainage is usually normal)
- A fever over 101° for over 4 hours, abnormal redness of your incision, or a bad odor from your dressing. All of these symptoms could indicate an infection.

**Disclaimer:**

Everyone's recovery is different. The above information is merely a guideline and your individual recovery may be different based on your own unique situation and circumstances. It is important to continue to see Dr. Thon at the scheduled intervals. As always, if you have any questions or concerns with any of the above information, please call our office.

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