GENDER CONFIRMATION CENTER

CIRQUE PHYSIO

POST-OPERATIVE

# TOP SURGERY

## *REHAB PROTOCOL*

CIRQUE PHYSIO

INFORMATION

# INTRODUCTION

This protocol is a collaborative project between Dr. Jennifer Crane of Cirque Physio, INC and Dr. Scott Mosser of the Gender Confirmation Center, with the primary goal of improving the standard of post-operative care for transgender and gender nonconforming people worldwide.

Cirque Physio, Inc and the Gender Confirmation Center both strive to provide exceptional care for individuals navigating their gender journey. Accessible through the QR codes below, their respective websites offer a wealth of resources and information tailored to the needs of the gender nonconforming community.

## FOR MORE INFORMATION:

Cirque Physio

Gender Confirmation Center

CIRQUE PHYSIO

INFORMATION

## HOW TO USE THIS PROTOCOL

You can think of this document as your practical guide to navigating surgery, from pre-op to post-op. Here's a quick summary of what you can find in the following pages, and how to utilize it for the best outcomes:

- The first section discusses general information and each of the three post-operative phases in more detail, including the timeframes and goals of each phase, as well as the criteria for progression.
- The second section contains all of the exercises that are included in each phase of your recovery. *We strongly recommend reviewing and practicing these exercises before surgery,* so that you understand the basics of each drill and what it should feel like.
- The final section contains additional background information and FAQ's for you to review before surgery. It can be beneficial to go through this information in advance with the person/ people who will be assisting you during your recovery.

## "PRE-HAB"

If you receive this protocol at least a few weeks prior to surgery, we suggest that you use these exercises as "pre-hab." Leading up to your surgery, aim for 2 to 4 exercise sessions per week, spending 10-20 minutes cycling through these drills. Strengthening and improving mobility beforehand makes post-surgery recovery smoother.

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# TOOLS NEEDED

For this rehab protocol, you will need a few staple physio tools-- homemade substitutes are also okay!  Below are links to examples for ease of reference; or you can also find them by typing in their name as listed below on any sporting goods store website or on amazon.

## MOBILITY PEANUT

## MINI BANDS

## FOAM ROLLER

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# DISCLAIMER

## GENERAL INFORMATION

This is a three-phase protocol that serves strictly as a guideline. Goals and suggested criteria for progression are outlined in each phase, but progression should be person-specific and guided by a physical therapist in consultation with the surgical team. Progression of the rehabilitation program is based on surgical findings, complications, and success in attaining the goals established by the team, and this protocol is not meant to be used outside of guidance from medical professionals.

## MEDICAL DISCLAIMER

The content and information offered in this product is strictly educational and is not meant to replace formal physical therapy. Your rehabilitation follow top surgery should be customized to your specific case by your surgeon and your physical therapist.

The authors of this product are in no way responsible or liable for any negative health consequences that may occur as a result of applying the suggested exercises and drills. The decision to apply the suggested material and possible consequences that follow are solely the choice of the reader. At any point should pain or discomfort be felt, immediately stop the activity and seek out formal care.

## LEGAL CONTENT DISCLAIMER

All concepts, thoughts, and ideas both written in text and demonstrated in videos are the sole property of the authors. Any information reproduction of the content or intellectual plagiarism without the consent of the authors is strictly prohibited and will result in legal repercussion.

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INSTRUCTIONS

## PHASE 1: DAY OF SURGERY

Begins on the day of surgery and continues until you begin physical therapy, suggested between weeks 3 and 4, depending on pain and function.

GOALS:

- Control swelling and pain
- Encourage gentle scapular and thoracic mobility within limits of pain
- Encourage gentle and slowly progressed active range of motion of shoulder below 90 degrees of flexion/abduction (don't lift your arms over shoulder height).
- Decrease upper back and shoulder muscle tension as a result of guarding
- Begin gentle isometric scapular activation below 90 degrees
- Schedule initial physical therapy appointment for 3-4 weeks post-op. If you would like to schedule a telehealth appointment with Dr. Jen Crane, you can do so at her website here (also accessible via the QR code in the beginning of this document).

CRITERIA FOR PROGRESSION:

- Able to lift arms to shoulder height without pain in incisions
- Have been evaluated by a physical therapist in-person or via telehealth; OR if unable to see a physical therapist, has been cleared by surgical team for progression to phase two.

## PHASE 2: STARTING THERAPY

Begins after your initial physical therapy visit and continues until you are cleared by your physical therapist or surgical team to begin progressive overhead resistance training. Typical timeframe: post op week 4 through week 8.

CIRQUE PHYSIO

INSTRUCTIONS

GOALS:

- Increase shoulder range of motion beyond 90 degrees without increased pain or discomfort in incisions
- Continue to address and improve thoracic and scapular mobility
- Improve motor control and activation of scapular and shoulder muscles in mid-ranges of movement.
- Decrease nerve tension that can occur as a result of prolonged relative immobilization and swelling
- Begin gentle active pec stretching within the limits of discomfort
- Begin scar mobilization/ massage (your physical therapist will assess your scar mobility and tell you what to for scar mobilization).

CRITERIA FOR PROGRESSION:

- Able to lift arms beyond 90 degrees before feeling stretch/discomfort in incision
- Able to partially weight bear through arms without increased pain or discomfort (example - tabletop/ hands and knees position)
- No discomfort with pec stretching on foam roller

## PHASE 3: APPROX. 8 WEEKS POST-OP

GOALS:

- Incorporate and progress range of motion for upper extremity weight bearing
- Improve end-range shoulder and scapular muscle activation and strengthening
- Regain full active overhead range of motion without increased pain or discomfort
- Return to all activities of daily living without pain or limited function

NEXT STEPS:

If you are returning to sports, set another appointment with a physical therapist once you are close to your full range of motion and are able to do your activities of daily living without any increased pain or discomfort. They will guide your return to sport progression after a thorough evaluation.

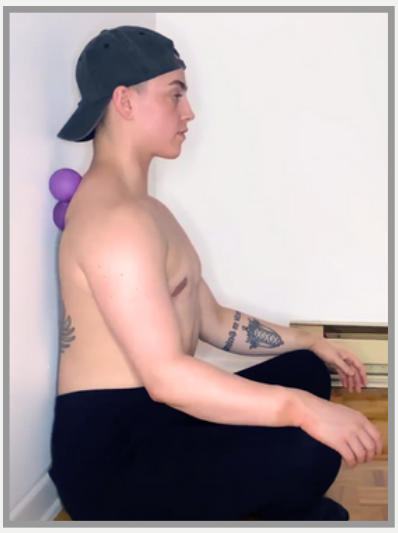
# PHASE 1

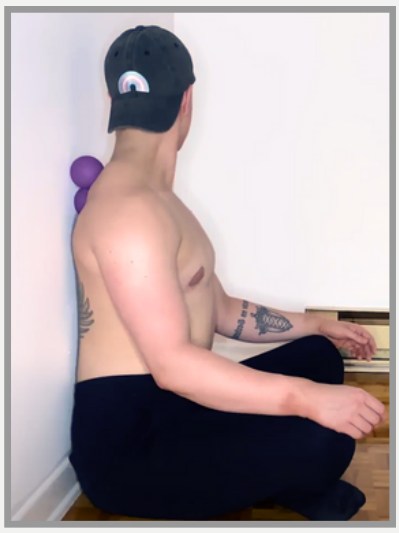
CIRQUE PHYSIO

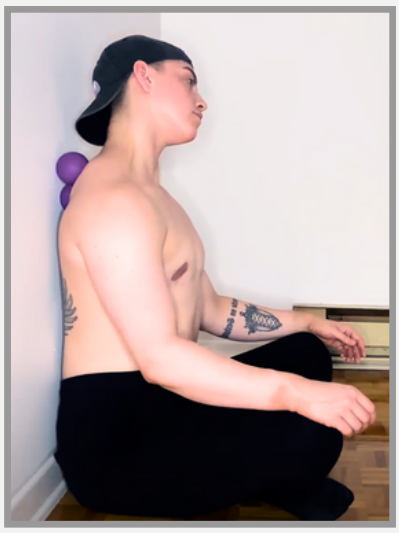
# UPPER TRAPEZIUS RELEASE

## PURPOSE

To massage and release tension in your upper trap muscles.







## TECHNIQUE

Start sitting in front of a wall with a peanut placed vertically or a lacrosse/mobility ball placed at your upper trap.

If you sit with your bottom a bit away from the wall you can put more pressure into the ball/peanut.

Resting your arms on your knees in front of you, move your head from side to side and rotate it side to side to give an active release or an active massage to your upper traps.

## MODIFICATIONS

To increase pressure, perform this drill lying on your back with your knees bent and hips slightly lifted off the floor.

## SETS & REPS

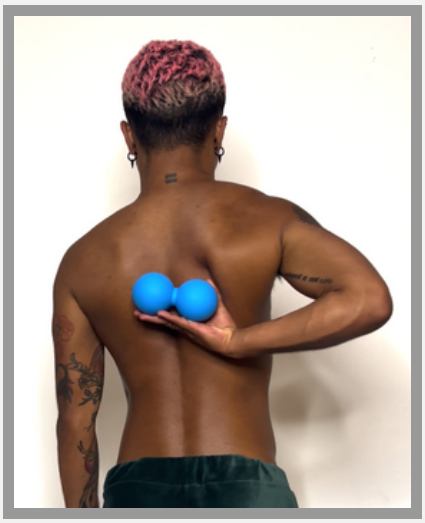
1-2 sets of 10-15 reps

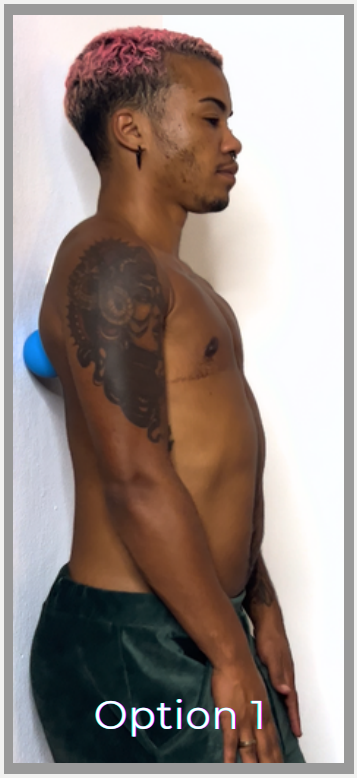
# PHASE 1

# THORACIC MOBILIZATION

## PURPOSE

To release tension in the upper back.







## TECHNIQUE

Option 1: Place the mobility peanut between your mid back and the wall, with feet slightly in front of you. Perform slow mini-squats to move the peanut up and down your back, as you apply as much or little pressure as is comfortable.

Option 2: Instead of rolling the peanut up and down, cross your arms over your chest while slowly bringing your chin to your chest and then back to neutral. Perform these repetitions with the peanut at several different locations along your upper back.

## MODIFICATIONS

To increase pressure, or if you cannot place the peanut high enough, perform the same movement lying on your back with either the peanut or a foam roller.

## SETS & REPS

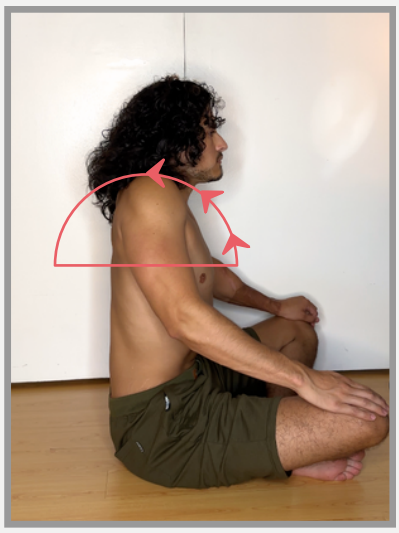
1-2 sets for 30-60 seconds

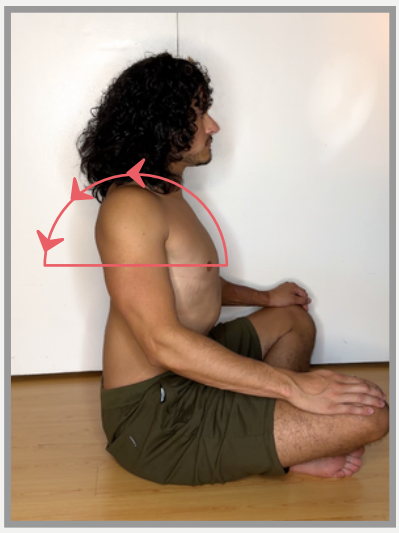
# PHASE 1

# SCAPULAR CIRCLES

## PURPOSE

To improve post-operative mobility of your shoulder blade.





## TECHNIQUE

Begin by sitting up straight, aligning your head with your shoulders (avoid jutting your head forward).

Initiate shoulder circles by rounding them forward, then shrugging upward toward your ears, and finally pulling your shoulder blades together (gently) and returning to the initial position.

Repeat these shoulder circles in both directions.

## SETS & REPS

Perform 1-2 sets, doing 10-15 circles in each direction

# PHASE 1

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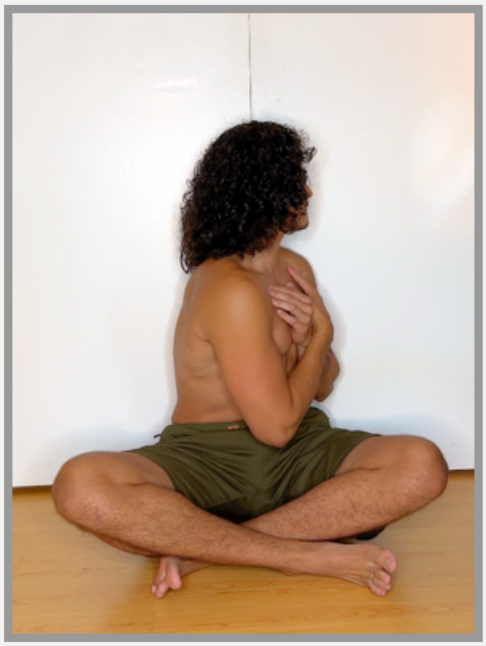
# SEATED TWISTS

## PURPOSE

To regain upper back mobility and reset postural muscles.



## TECHNIQUE

Begin by sitting up tall with equal weight on both sits bones. Cross your arms over your chest and gently rotate your shoulders, head, and torso to one side as far as comfortable. Avoid shifting to the side when twisting.

Maintain this position for 3-5 seconds, then return to the center. Repeat the twist in the opposite direction, ensuring your hips stay grounded.

## SETS & REPS

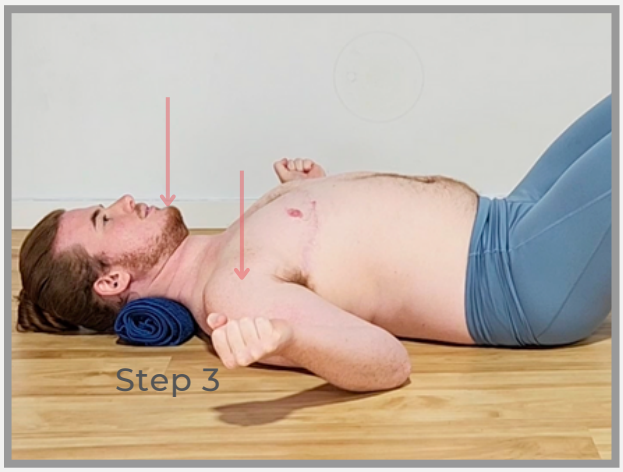
Perform 1-2 sets, doing 8-12 twists in each direction

# PHASE 1

# POSTURE RESET

## PURPOSE

To help reset your postural muscles and reduce neck/mid back pain.


## TECHNIQUE

Start by laying on the floor with a small towel rolled up and placed below the base of your skull. There are 3 different steps of muscular engagements to hold:

1. Neck Stabilizer Activation: Attempt to “squish” the towel roll by gently pressing your neck into the towel by making a double chin. Maintain this engagement throughout the drill.
2. Scapular Muscle Activation: With your elbows bent to 90 degrees at your sides, gently squeeze your shoulder blades together to “open” your chest. This should bring the backs of your shoulders towards the ground. Hold this position with the towel squish, and only move on to step 3 when you can easily maintain this for 10 seconds.
3. Shoulder Rotation: While holding both of the previous muscle engagements, gently rotate both forearms out to the side and down towards the ground.

## MODIFICATIONS

An alternative position for this drill is to sit against the wall with the knees pulled into the chest.

## SETS & REPS

3-6 sets of 5-10 second holds

# PHASE 1

# MEDIAN NERVE GLIDE

## PURPOSE

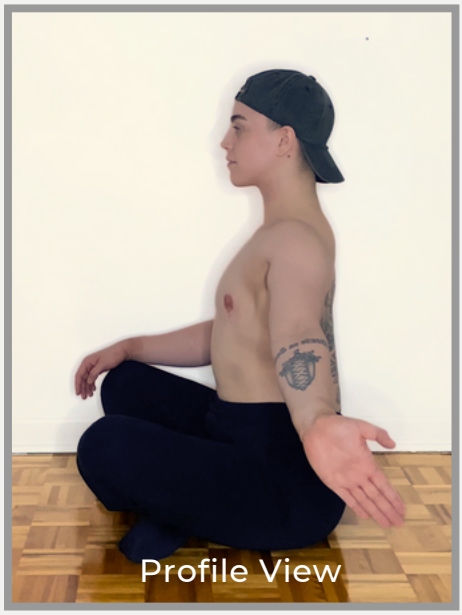
To decrease median nerve tension after surgery.

## TECHNIQUE

Start with your elbow bent and wrist back as if holding a tray. Straighten your elbow, moving your hand slightly down and behind you, then return to the starting position. Repeat this motion.

The goal of this nerve-focused drill is to feel a mild to moderate stretching sensation in your hand, forearm, or upper arm.

This stretching sensation will increase as your arm straightens, but only extend your elbow as far as it takes to feel that slight stretch - don't push beyond that.




## SETS & REPS

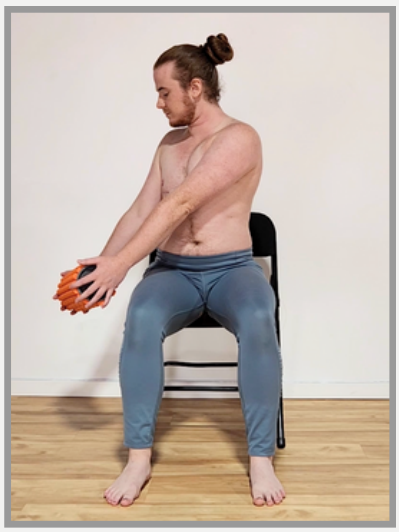
1-2 sets of 8-15 repetitions per side

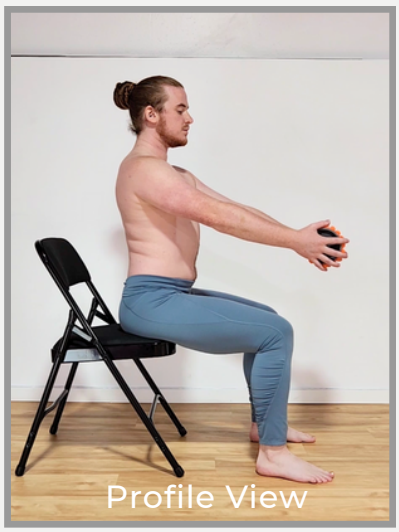
# PHASE 2

# SHOULDER RANGE OF MOTION

## PURPOSE

To slowly regain shoulder range of motion while gently strengthening your shoulders.






## TECHNIQUE

Holding either a foam roller or a dowel (swiffers work great!), reach your arms up as far as you comfortably can without feeling tugging in your incisions.

Once you've lifted your arms to this level, then slightly rotate the other way to bring the roller down to the other side. The goal of this drill is to slowly increase your reach height, improving your range of motion as your post-op restrictions allow.

## MODIFICATIONS

If sitting is uncomfortable, an alternative position for this drill is to lay with your back on the floor.

## SETS & REPS

1-2 sets of 8-15 repetitions per side

# PHASE 2

# SERRATUS PUSHES

## PURPOSE

To improve scapular protraction and retraction range of motion.

## TECHNIQUE

Start by laying on your back holding a foam roller or dowel above you, in line with your shoulders.

Press the roller up towards the ceiling by lifting the back of your shoulders off the ground. Then slowly lower your shoulders back towards the ground with control, ending with the backs of your shoulders against the floor.

## SETS & REPS

Perform 1-2 sets of 10-15 repetitions

# PHASE 2

# ULNAR NERVE GLIDE

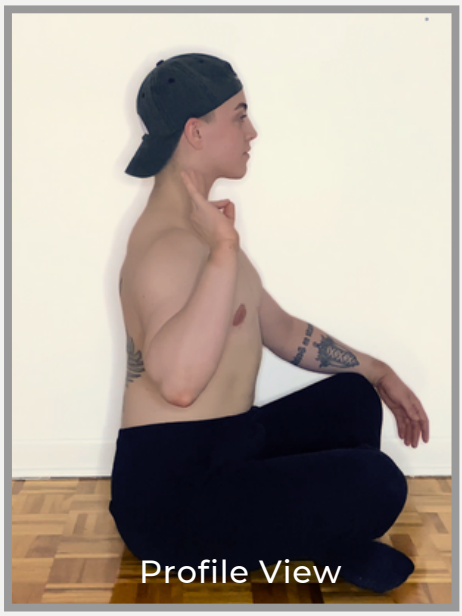
## PURPOSE

To release tension from the ulnar nerve.

## TECHNIQUE

Start with your elbow straight and wrist neutral, with your hand making an “okay” sign. Bend your elbow and your wrist back towards your face with your palm facing away from you, as if you were aiming to place the palm of your hand on your face. Reverse the movement back to the starting position.

The goal of this nerve-focused drill is to feel a mild to moderate stretching sensation in your hand, forearm, or upper arm. This stretching sensation will increase as your arm bends, so only bend your elbow as far as it takes to feel that slight stretch - don’t push beyond that.




## SETS & REPS

1-2 sets of 8-15 repetitions per side

# PHASE 2

# BAND PULL-APARTS

## PURPOSE

To strengthen scapular muscles in the upper back (Mid trap, Rhomboid, Low trap)

## TECHNIQUE

Hold a long theraband in both hands with the band in front of you, palms facing down.

Pull your hands apart until the band is taught without any slack. Then attempt to bring your hands father out to the side while squeezing through your shoulder blades.

Next, slowly allow your hands to come back together while releasing your shoulder blades.

Profile View

## SETS & REPS

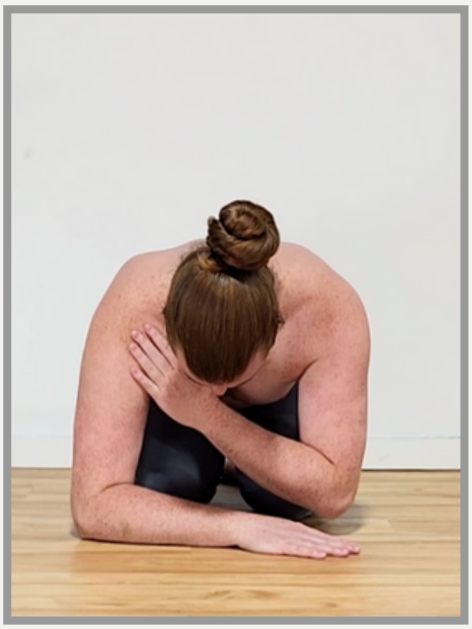
1-2 sets of 8-15 repetitions per side

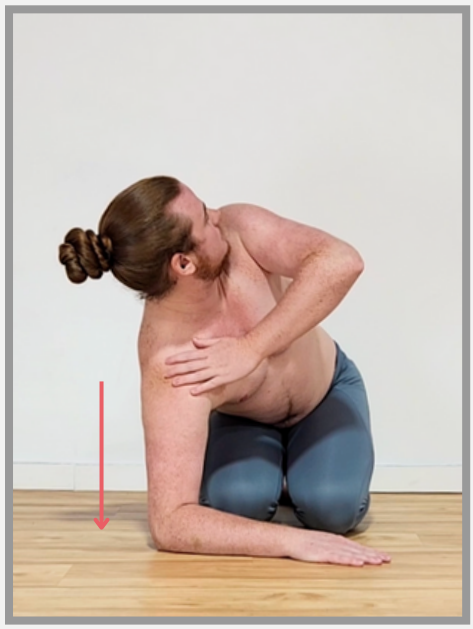
# PHASE 2

# THORACIC ROTATION

## PURPOSE

To improve upper back rotation and postural control; as well as incorporate gentle weight bearing through your shoulders.





## TECHNIQUE

Start in a child's pose, sitting back on your heels. Keep equal weight on each sits bone throughout the entire exercise to avoid shifting to one side.

Place one forearm on the ground in front of you and gently push into the ground to create length through the stabilizing shoulder. Maintaining this press, gently twist to the side by engaging the muscles between your shoulder blade and your spine.

Don't let your bottom come off of your heels. Hold the end position for 2-3 seconds before returning to the starting position.

### SETS & REPS

1-2 sets of 8-15 repetitions per side

# PHASE 2

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# FOAM ROLLER PEC STRETCH

## PURPOSE

Gently stretch pec muscles while working on shoulder motion.

## TECHNIQUE

Lie on a foam roller with the roller supporting you from head to tailbone. If your roller is not long enough you can put a yoga block under your head and place the roller from neck to tailbone or vice versa.

With bent elbows, gently squeeze your shoulder blade muscles together to bring your forearms towards the ground (it is ok if they do not touch the floor!) and “open” your chest.

Maintaining that engagement, slowly bring your arms overhead as far as comfortable, as if you were making a snow angel.

## SETS & REPS

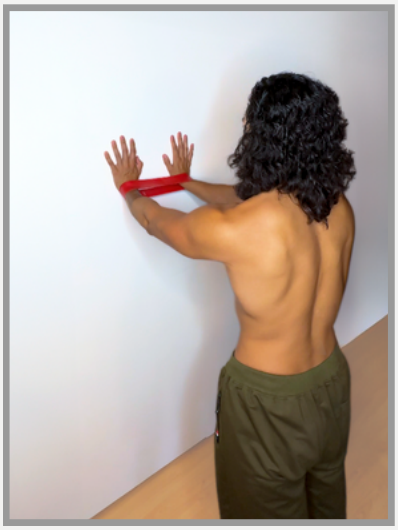
Perform 1-2 sets of 6-12 repetitions

# PHASE 3

# BANDED WALL WALKS

## PURPOSE

To strengthen the shoulder stabilizers, improve proprioception (joint position sense), and increase range of motion.



## TECHNIQUE

Start standing in front of a wall with a light resistance theraband around your wrists and your palms flat on the wall. Press your arms into the wall to “puff” your upper back, like the top part of a scapular push up. Your shoulder blades should be reaching away from each other, not squeezing towards your spine.

While maintaining this scapular position, slowly side step your hands right to left, while maintaining tension on the band the whole time. You can also step your hands diagonally up and to the side.

As your range of motion improves, perform this drill with your arms higher up the wall and elbows still remaining straight.

### SETS & REPS

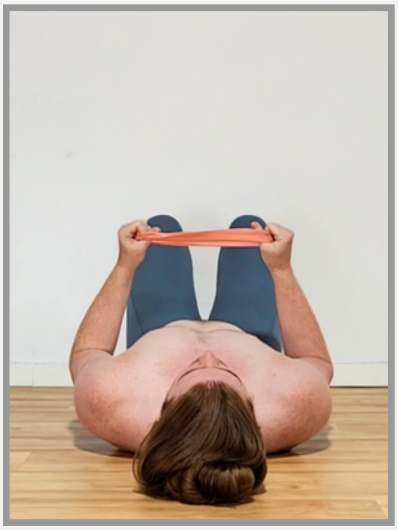
1-2 sets of 6-12 steps per side

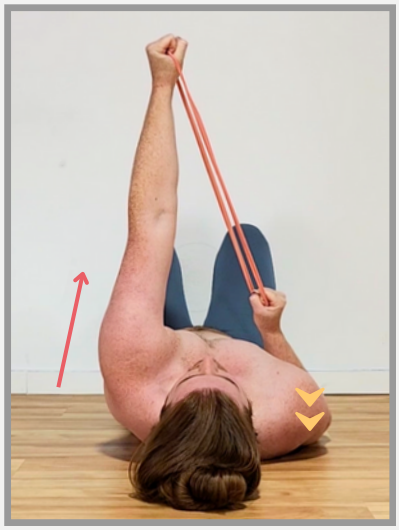
# PHASE 3

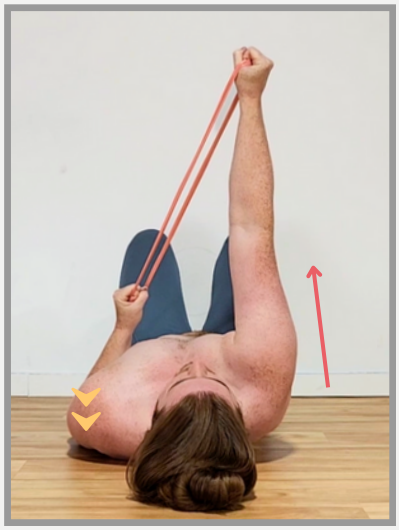
# PROTRACTION & RETRACTION

## PURPOSE

To strengthen your scapular protractors and retractors to improve postural control.







## TECHNIQUE

Start with elbows tucked in at your side. Hold a medium resistance band in each hand and punch one arm up towards the ceiling, lifting that arm as high as possible by allowing the back of the shoulder to lift off the ground.

As you do this, stabilize with the opposite arm by pressing the back of that shoulder and upper arm into the ground. You should feel the muscles between your shoulder blade and your spine working on the stabilizing side. Then, repeat on the other side.

## SETS & REPS

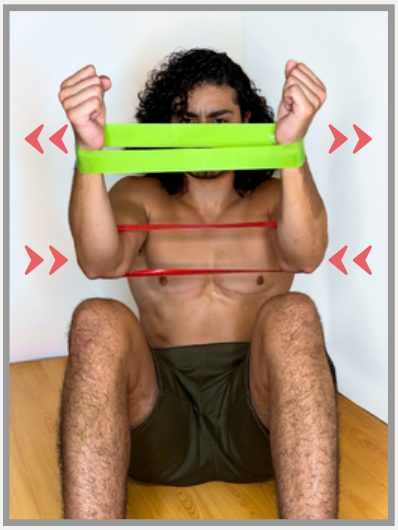
Perform 1-2 sets of 6-12 repetitions

# PHASE 3

# DOUBLE BAND ARM-LIFT

## PURPOSE

To strengthen your shoulder blade muscles as you improve active shoulder motion.



## TECHNIQUE

Start by sitting against a wall with your knees tucked towards your chest. Place a light circular theraband around your wrists and another heavier band one around your elbows.

With your shoulders and elbows both bent to 90 degrees, slowly lift your arms overhead as far as you can without pain or discomfort. As you lift your arms, try to keep forearms parallel by gently squeezing your elbows in towards each other as you gently press your wrists into the light resistance band. Don't let your elbows flare as your arms reach overhead.

Once your fingertips can touch the wall without your elbows flaring out, do this drill away from the wall to progress your range of motion and strength.

## SETS & REPS

1-2 sets of 8-15 repetitions

# PHASE 3

# CROSS BODY CHOPS

## PURPOSE

Improve shoulder strength and trunk stability with resisted diagonal shoulder movement.

## TECHNIQUE

Anchor the theraband high overhead. Start by holding the free end of the theraband with your arm overhead to the side, and then pull the band across your body towards your opposite hip.

Try not to rotate anything in your trunk; allow your shoulder do the work. Keep your arm straight the entire time and engage your core.

## SETS & REPS

Perform 1-2 sets, doing 8-15 repetitions on each side

# PHASE 3

# LAT PULL-DOWNS

## PURPOSE

Improves latissimus dorsi strength while improving active range of motion.

## TECHNIQUE

With the theraband anchored overhead in the center of the band, hold onto the free ends with both hands. Keep your arms straight and your spine tall while bringing your arms down towards your hips.

If you cannot do this without bending your elbows, use a lighter resistance theraband. Engage your core throughout the exercise to avoid arching your back.

## SETS & REPS

Perform 1-2 sets, doing 8-15 repetitions on each side

# FREQUENTLY ASKED QUESTIONS: NAVIGATING THE PROTOCOL

QUESTIONS

**How will I know if I'm doing the exercises correctly?**
Each exercise in the protocol explains what you should feel while doing it. This helps you know if you're doing it right.

**Should these exercises hurt?**
No, these exercises should not hurt or cause pain above your baseline. It's normal to feel a bit sore afterward, but that soreness should go away in 1-2 hours. If you have more pain or swelling lasting longer than 1-2 hours, it means you did too much. Next time, do fewer reps, limit your movement, or skip the exercise and try it again in 3-5 days.

**How many repetitions (reps) and sets should I do for each exercise?**
Start with the low end of the rep range. For example, if it suggests 1-2 sets of 6-8 repetitions, start with just one set of 6 reps during the first few days of each phase.

**Can I do all the exercises at once, or should I space them out?**
It's best to spread the exercises throughout the day. If you have 5 exercises, try doing two in the morning, one in the afternoon, and two in the evening. This helps with a smoother recovery process.

**How soon after surgery should I start my rehab exercises?**
Your surgical team will guide you on when it's safe to begin; typically on day 2-3 post-op.

**How do I know when it's time to progress to the next phase of exercises?**
Your physical therapist or surgical team will assess your progress and determine when you're ready for the next phase. Typical time frames are provided at the start of each phase, but these are only guidelines.

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INFORMATION

# CONTACT YOUR MEDICAL TEAM IF:

THE FOLLOWING ARE RED FLAG SYMPTOMS THAT SHOULD PROMPT YOU TO REACH OUT TO YOUR SURGICAL TEAM:

## SIGNS OF INFECTION

- Redness of the skin
- Warmth or pain to the touch
- Thick white or yellow/greenish discharge from wounds
- Fevers

## WOUND SEPARATION OR “DEHISCENCE”

- Openings along the incision of varying sizes
- May or may not be leaking discharge or blood

## HEMATOMA

- Painful swollen and bruised chest, usually only on one side
- May be rapidly expanding (within 15-60 minutes) or emergent

## SEROMA

- Pockets of fluid under the skin, usually causing minimal discomfort only
- Unlike a hematoma, skin will not appear bruised

**For the above or other healing concerns, please contact your surgeon for medical advice. Addressing these issues may be a priority and may delay the ability to return to full physical activity.**

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CONSIDERATIONS

# SPECIAL CONSIDERATIONS FOR PHYSICAL THERAPY:

Prolonged nerve pain, or post-mastectomy pain syndrome, is characterized as chronic pain in the chest wall, armpit and/or arm lasting greater than six weeks. This pain is usually tingling, burning, sharp or shooting in nature and may or may not be exacerbated by shoulder movements.

This condition can often be effectively treated with medication, however, physical therapy and nerve desensitization may be important to implement as well. Physical therapy can help patients work around the pain to also prioritize minimizing shoulder range of motion deficits.

For patients with existing shoulder problems such as a torn rotator cuff, frozen shoulder syndrome, arthritis, tendonitis or traumatic shoulder injuries including a history of fractures, separations or dislocations, there is a higher risk of lost range of motion if physical therapy is not started by the 4 week mark after top surgery.

Ehlers Danlos Syndrome and joint hypermobility are conditions that can predispose patients to joint instability, meaning the ligaments surrounding joints can stretch past their protective levels and lead the affected joint to have extra movement, which can make it unstable. This does not preclude patients from being able to have surgery, but postoperative physical therapy to maintain shoulder muscle strength will be beneficial.

In some forms of Ehlers Danlos Syndrome, the skin and connective tissues are affected. At our practice, we do not see an increase in postoperative complications for patients with Ehlers Danlos Syndrome. If unfavorable scarring does occur, revision surgeries are possible.

We urge patients to prioritize their return to full shoulder mobility over a more conservative activity approach, as mobility issues are much harder to treat in the long-term than scarring issues. Therefore, patients with Ehlers Danlos Syndrome are recommended for physical therapy.

CIRQUE PHYSIO

CONSIDERATIONS

# SPECIAL CONSIDERATIONS FOR PHYSICAL THERAPY CONTINUED:

Similarly, for any patients experiencing hypertrophic scarring, which are firm, raised, oftentimes red and maybe “ropelike” scars caused by an excess production of collagen during the healing phase, we do not urge patients to limit shoulder movements, as much as they can tolerate, since sometimes hypertrophic scars can cause some discomfort and feelings of pulling or tightness across the chest. The treatments for hypertrophic or other unfavorable scarring include corticosteroid injections, laser treatments, or scar revision surgeries. These can all be pursued as needed.


While patient age does not directly correlate with shoulder health, there is an increased risk of occult shoulder pathologies and a slower ability for muscle and joint recovery. Therefore, physical therapy is recommended for all patients over the age of 50 undergoing top surgery.

Patients who are high-performing athletes, including but not limited to sports athletes, powerlifters, acrobats and gymnasts are also recommended to pursue physical therapy after surgery in order to minimize lost range of motion and facilitate a quick return to normal function.

Please inform your care team of any of the above conditions or other specific concerns. We want to help ensure patients are prioritizing their shoulder health to minimize any long-term pain, weakness or limited movement abilities. Our team can provide patients with referrals to take to a physical therapist of their choosing, should it be appropriate.

# WE WOULD LIKE TO EXTEND A SPECIAL THANK YOU TO THE MODELS IN THIS PROTOCOL:

Emmett Preciado (he/him) is an American transgender actor and singer-songwriter.

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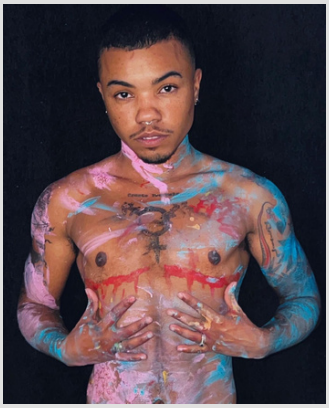

Sage Rosenberg (they/he) is an educator, speaker, performance artist, and co-president of the Nicolas Gogan Foundation.

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Jessie Rard (he/they) is a circus artist and a strength & flexibility coach with a specialized focus on hypermobile humans.

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