

Anterior Shoulder Stabilization Post-Operative Protocol

This protocol should be used as a guide during rehabilitation following shoulder surgery. A physiotherapist should be consulted throughout to teach and individually modify the exercises. The surgeon will advise when physiotherapy should be started following surgery. The timelines for each phase are a general guideline and it is important that progression be based on each individual's presentation. Criteria for progression are presented at the end of each phase and it may be beneficial to continue exercises from previous phases. It is also recommended to consult the operative report for further information on the surgical procedure. This protocol serves as a **prescription for physiotherapy**.

PATIENT NAME: _____ **SURGERY DATE:** _____

SURGEON: Dr. Ian Lo

SURGICAL PROCEDURES AND POST-OPERATIVE RESTRICTIONS – wear sling for _____ weeks.

Labral Repair - See post-operative range of motion restrictions below.

Remplissage - No rotator cuff strengthening for 14 weeks.

SLAP Repair - No biceps strengthening for 12 weeks.

Distal Tibial Allograft / **Latarjet**

See post-operative range of motion restrictions below.

No strengthening/Phase 3 for _____ weeks, then gradual progressive strengthening.

No weightbearing exercises for 4-5 months.

Additional Surgical Procedures: _____

Protection of Biceps?

YES, no elbow flexion strengthening for 12 weeks

NO, this is not required

Range of Motion Restrictions (gradually progress in pain free ROM to full unless specified below)

Elevation restricted to:	External rotation restricted to:	Internal rotation restricted to:
_____ degrees until _____ weeks	_____ degrees until _____ weeks	_____ degrees until _____ weeks
_____ degrees until _____ weeks	_____ degrees until _____ weeks	_____ degrees until _____ weeks

Please contact our office if there are any questions or concerns.

ACCESS ORTHOPAEDICS and GATEWAY SURGERY
3916 Macleod Trail SE – Suite 300, Calgary, AB T2G 2C5
P: (403) 284-4062 F: (587) 387-3158
www.accessorthopaedics.ca | www.gatewaysurgery.ca

General Information on Surgical Procedures and Rehabilitation Timelines

This table can be used as a guideline for the rehabilitation timelines associated with each of the different surgical procedures. Please refer to the specific timelines listed on the first page for detailed instructions from the surgeon.

	Flexion Restrictions	External Rotation Restrictions	Internal Rotation Restrictions	Biceps Protection	Strengthening Restrictions	Weightbearing Restrictions
Labral Repair	Generally not required	<i>Varies, generally:</i> 0-30° for 4-6 weeks 30-45° for 6-8 weeks	No hand behind back until 10 weeks, then gradual progression	No	Start at 8-10 weeks	Start at 12-14 weeks
SLAP Repair		Depends on labral repair,		Yes – strength starts at 12 weeks		
Remplissage				No	No posterior cuff for 14 weeks	
DTA	Start at 6 weeks	0° for 6-8 weeks 30° for 8-12 weeks	No hand behind back until 14 weeks, then gradual progression	Yes – no strengthening until 12 to 14 weeks		No weightbearing exercises until 4-5 months
Latarjet						

GENERAL PRECAUTIONS

- No passive or aggressive end range stretching
- No stretching or movement into combined external rotation and abducted positions (i.e. pectoral stretching on doorway/corner/foam roller)

INFORMATION ON SURGICAL PROCEDURES

- **LABRAL REPAIR** – A labral repair involves the placement of anchors in the glenoid and attachment of the labrum back down to the bone using sutures. Initial range of motion restrictions are in place to avoid excessive load on the repaired tissue.
- **SLAP (Superior Labral from Anterior to Posterior) REPAIR** – This surgical procedure involves repair of the superior aspect of the labrum in the area in which the long head of biceps anchor attaches. Therefore, biceps strengthening is restricted until 12 weeks in order to allow for adequate healing of the labrum and biceps anchor prior to loading.
- **REMPLISSAGE** – This surgical procedure involves sutures that are passed through the infraspinatus and posterior capsule in order to fill in the Hill-Sachs lesion in the posterior aspect of the humeral head. In order to protect the posterior cuff, external rotation/cuff strengthening is restricted until 14 weeks post-operative.
- **DISTAL TIBIAL ALLOGRAFT/LATARJET** – This surgical procedure involves the insertion of a bone graft (source differs depending on Distal Tibial Allograft versus Latarjet) at the anterior aspect of the glenoid to help to restore the contour of the glenoid and provide further stabilization in patients with glenoid bone loss. Loading timelines are delayed in order to allow for adequate bony healing.

PHASE 1 – Immediate Post Operative

This phase involves the initial recovery period after surgery and generally lasts until 4-6 weeks post operative.

GOALS

Control Pain and Inflammation
Early Protected Shoulder Range of Motion as per restrictions
Maintain Mobility of Joints Surrounding Shoulder

PATIENT EDUCATION

ANATOMY OF THE SHOULDER: The shoulder is made up a ball and socket joint and the articulation of the shoulder blade on the rib cage. The ball and socket joint is a mobile joint supported by ligaments and the labrum (a ring like cartilage structure on the socket that acts like a suction cup). The muscles around the shoulder and shoulder blade, including the rotator cuff, help control the movement of the shoulder.

SLING USE: The sling is for comfort and protection and should be worn for 4-6 weeks after surgery (see front page or booklet). It can be removed when sitting comfortably at home with arm supported, for showering and exercises.

DRIVING: Patients should not drive until surgeon allows them to stop using their sling and when they are no longer on narcotic medications.

SLEEPING: It is recommended that the sling is worn while sleeping. Some find it easier to sleep in a reclining chair or propped up with pillows in bed. The weight of the arm can also be supported on a pillow.

PAIN CONTROL

- **Icing:** use cryocuff or ice pack/bag of frozen peas. Do not get dressings wet (use plastic bag/wrap between shoulder & ice pack) and a fabric layer between to prevent frostbite. For the first 48 hours following surgery ice for 30 minutes every hour when awake. After this, reduce icing to every 2-3 hours or as needed.
- **Medication:** follow instructions from surgeon. Family physicians can also be consulted regarding pain control.

RETURN TO WORK: Timelines depend on the type of work and the surgery performed. Sedentary desk work duties can often be tolerated by 3-6 weeks. Returning to work when it is deemed safe to do so by the surgeon has been shown to be beneficial in overall recovery.

EXERCISES

*(Recommended Parameters = 10 reps, 5 times/day unless specified) **All shoulder range of motion exercises are to be done in pain free range of motion. No end range or therapist assisted stretching.*

Neck, Wrist and Hand Range of Motion

To maintain range of motion look up/down, turn to each side and bring ear to each shoulder, actively flex and extend wrist, make a fist and extend fingers. Can also do gentle ball squeezes/grip exercises while in ball. Do often throughout the day.



Elbow Range of Motion (*see cover page for any restrictions)

Actively bend and straighten elbow while properly positioning shoulder blades and keeping shoulder stationary. Can use other arm to help you move the operative arm.

Postural Awareness/Correction

Gently bring shoulder blades back together towards spine. *(Hold each repetition for 5-10 seconds, repeat 10 times)*

Frequently throughout the day when sitting or standing, make sure to check posture. Imagine a string pulling at the top of the head to ensure a tall erect posture, bring shoulder blades back together gently and tuck chin down gently.



If having difficulty with upper back stiffness, a towel/ball can be placed behind the back when seated and then gently back over the roll/ball.



Pendulum (on large physio ball)

Place both hands on a large physio ball on the floor or on a table. Gently use the non-operative arm to move the ball in a small circular motion or to gently stretch forward into the flexion plane. Maintain good shoulder blade positioning.

Passive/Assisted External Rotation (based on ROM restrictions on cover sheet)

In a seated position, hold a pole with elbows bent to 90° and elbows close to body. With non-operative arm using gently push the operative arm to 0° or 30° as outlined on the cover page. Stop once a gentle stretch or pain is felt.



Passive Table Slides

Sitting on a stool or chair, rest operative arm on the table. While keeping operative arm relaxed push chair/stool back until a comfortable stretch is felt in the shoulder. Can also do this standing at a counter and gently walk back away from the counter



OTHER CONSIDERATIONS

Manual Therapy - for Physiotherapist Consideration

- Soft Tissue Massage (e.g. Lat Dorsi, Pecs, Deltoid, UFT)
- Address Cervical/Thoracic Spine Issues (Joint Mobilization and Soft Tissue Massage)
- **No glenohumeral joint mobilization or therapist assisted stretching**

CRITERIA FOR PROGRESSION TO PHASE 2

- Pain adequately controlled at rest
- Good postural awareness and ability to properly set scapula with arms at side
- Sling discharge (as dictated by surgeon, outlined on first page)

PHASE 2 – Range of Motion

This phase starts at sling discharge (approximately 4-6 weeks post operatively) and can last up to 14 weeks in Latarjet/DTA.

GOALS

Progressive Pain-Free Range of Motion (PROM → AAROM → AROM)
Improve Static and Dynamic Scapular Control
Begin Proprioceptive Exercises

PATIENT EDUCATION and POST OPERATIVE PRECAUTIONS

MOVEMENT RESTRICTIONS

- **No heavy lifting, pushing and pulling and avoid long lever positions.**
- **No movement into combined external rotation and abduction, and isolated abduction.**
- Range of motion exercises should be completed in **pain free** range of motion and **no forced or passive stretching.**

HEAT/ICE: A heating pad for 15-20 minutes can be used to loosen up the shoulder before working on exercises. Ice can be used for 15-20 minutes after completing exercises and as required for pain relief.

RETURN TO WORK: It is possible to return to sedentary work that involves no lifting or overhead work in this phase of recovery. Specific restrictions and return to work plan for heavier occupations should be discussed with the surgeon.

GENERAL FITNESS/ACTIVITY: It is important to keep active despite the post-operative restrictions. Activities such as walking, treadmill or stationary bike are great options to keep active and not stress the shoulder.

EXERCISES

EXERCISE PARAMETERS

- Exercises should be performed within **pain-free range** and with **proper technique** (e.g. proper shoulder blade position, no shoulder hiking). It is best to complete exercises often throughout the day (3-5 times/day), especially for range of motion exercises, doing 2 sets of 10 repetitions and progressing to 3 sets of 10-15.
- This phase is focused on progressive active assisted range and establishing good scapular control and scapulohumeral rhythm with active range of motion.

Continue Passive Table Slides

Continue gentle stretching into flexion plane on a table or counter to regain overhead motion. Go until a gentle stretch is felt and do not push into pain.

Standing AAROM Flexion with a Stick → AROM *(as per front page of booklet)*

Gradually progress through pain free ROM to 120-140° and then to full ROM. Use stick for gentle active assisted range of motion and then progress to active range of motion. Don't push into pain, go until a gentle stretch is felt.



Pulleys

While facing the door, can use pulleys to do a gentle stretch into flexion plane. Don't push into pain, go until a gentle stretch is felt. Perform in flexion initially only. Can gradually move into 30 degree scaption plane by slight turning away from the wall. *Do not use the pulleys in an abduction plane.*

Continue External Rotation Range with Stick

Continue gentle stretch into external rotation following the restrictions as listed by the surgeon on the first page of this booklet.

Proprioceptive Exercises

Begin with ball on the table and then gradually process into greater ranges of motion (i.e. ball on the wall) as pain, scapular control and AROM permit.



OTHER CONSIDERATIONS

Manual Therapy - for Physiotherapist Consideration

- Soft Tissue/Scar Massage (As per Phase 1, can begin gentle release of repaired rotator cuff)
- Address Cervical/Thoracic Spine Issues (Joint Mobilization and Soft Tissue Massage)
- **No glenohumeral joint mobilization or therapist assisted shoulder range of motion**

CRITERIA FOR PROGRESSION TO PHASE 3

- Sufficient AROM and AAROM with no pain and compensation (No shoulder hiking, scapular winging or trunk side flexion/extension)
- Ability to perform 3 sets of at least AROM 140° flexion or scaption with proper scapulohumeral rhythm
- For the different surgical procedures the following timelines apply for progression in addition to the above criteria:

ANTERIOR STABILIZATION: 8-10 weeks

REMPLISSAGE: can progress to Phase 4 except no ER strength until 14 weeks

DISTAL TIBIAL ALLOGRAFT/LATARJET: ~12-14 weeks

PHASE 3 – Shoulder and Rotator Cuff Strengthening

This phase involves the start of shoulder strengthening and the start date depends on the surgical procedure:

ANTERIOR STABILIZATION/BANKART REPAIR: 8-10 weeks

REMPLISSAGE: No rotator cuff strengthening for 14 weeks

LATARJET/DISTAL TIBIAL ALLOGRAFT: 12-14 weeks (see front page)

GOALS

Continued Protection of Healing/Repaired Tissues
Achievement of Full Functional Range of Motion
Initiate Rotator Cuff Strength and Neuromuscular Control

PATIENT EDUCATION and POST OPERATIVE PRECAUTIONS

MOVEMENT RESTRICTIONS AND PRECAUTIONS

- **No overhead lifting** and **restrict lifting to light objects** (< 20lbs)
- **Avoid Long Lever/Outstretched Arm Positions** (e.g. reaching for pot at back of stove and away from the body, especially out to the side into external rotation and abduction)
- **Avoid Quick Movements** (e.g. reaching to catch a falling object)
- **No stretching into combined abduction and external rotation, or isolated abduction.**

GENERAL FITNESS: Continue cardiovascular endurance exercise and consider incorporating lower extremity, core and back strength into exercise regime.

EXERCISES

RANGE OF MOTION

If full active and passive range of motion have not been achieved it is important to continue to work on range of motion exercises listed in Phase 2 daily. No passive or therapist assisted stretching is performed. Range of motion can be progressed by doing active assisted range of motion with gentle stretching into end ranges.

STRENGTHENING

Exercise Parameters

- Strength exercises should be done every other day or once per day. Parameters should focus on gradually building endurance (e.g. begin with 2-3 sets of 10 and work up to 4 sets of 15). Avoid exercising to the point of full fatigue.
- Begin with **light resistance** or **weight** initially. It is acceptable to progress to the next level of resistance once able to correctly perform exercise with 3-4 sets of 15 reps.
- Goal of Phase 2 is to improve neuromuscular control and establish proper technique with exercises at waist level and then build up muscular strength and hypertrophy with these exercises.

Rows (to midline) -> Bent Over Row

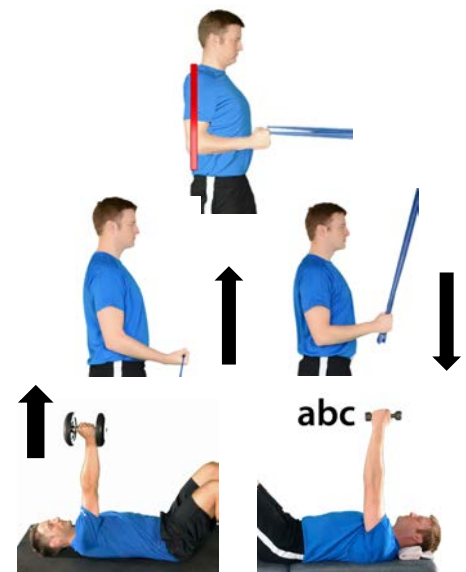
Ensure correct scapular positioning prior to initiating rowing motion and maintain this scapular positioning while arms are moving forward and back. Stop once you reach midline of the body. Use a light resistance (yellow or red band).

Biceps/Triceps

With proper scapula and neutral shoulder position, can begin biceps/triceps strengthening with light resistance. See cover page for any restrictions for biceps tenodesis procedures.

Shoulder Press

Can progress to Alphabet with band or weight - In supine with arm at 90° flexion, add slight scapular protraction and spell 3-5 letters of the alphabet in the air, repeat 10 times. Start with light weight (1lb) or band.



ER/IR with Band

(no ER strengthening until 14 weeks for remplissage procedures)

Ensure good scapular positioning, perform resisted ER/IR in standing with small towel roll under elbow. Initially perform to neutral then progress into ROM as tolerated.



Side Lying External Rotation with weight

*(**no ER strengthening until 14 weeks for remplissage procedures)*

In side lying, arm should be on the side with elbow supported by a towel. Ensure good scapular position. Arm is lifted to neutral, progress into ROM as tolerated. Start with light weight (2-3lb).



OTHER CONSIDERATIONS

Hydrotherapy: can consider performing range of motion exercises in the pool can be helpful in improving range of motion. Swimming motions/strokes should not be performed at this time.

Manual Therapy - for Physiotherapist Consideration

- Continue as per Phase 2 (No glenohumeral joint mobilization)
- Can begin supine Rhythmic Stabilization for Proprioception

CRITERIA FOR PROGRESSION TO PHASE 4

- Full functional range of motion without pain and compensation
- Demonstrates adequate endurance and correct technique with strengthening exercises (e.g. 4 sets of 15 reps with medium resistance)
- Improvement in strength demonstrated with resisted isometric testing in neutral
- For the different surgical procedures the following timelines apply for progression in addition to the above criteria:

ANTERIOR STABILIZATION: 12 weeks

REMPLISSAGE: ~16-18 weeks

DISTAL TIBIAL ALLOGRAFT/LATARJET: ~20 weeks

PHASE 4 – Progressive Shoulder Strengthening

This phase involves the progression of shoulder strengthening into above waist and shoulder positions.

ANTERIOR STABILIZATION/BANKART REPAIR: 10-12 weeks

REPLISSAGE: >16-18 weeks

LATARJET/DISTAL TIBIAL ALLOGRAFT: >20 weeks

GOALS

Improve Strength, Endurance and Neuromuscular Control of the Shoulder Girdle

Progress Strengthening into Above Waist and Shoulder Positions

Gradual Return to Light Activities of Daily Living and Recreational Activities

PATIENT EDUCATION and POST OPERATIVE PRECAUTIONS

MOVEMENT RESTRICTIONS AND PRECAUTIONS

- **Avoid Long Lever/Outstretched Arm Positions** (e.g. reaching for pot at back of stove and away from the body, especially out to the side into external rotation and abduction)
- **Caution with Quick, Dynamic Movements in Overhead positions** (i.e. throwing)
- **No stretching into combined abduction and external rotation, or isolated abduction** (i.e. pec stretching on doorway/corner)
- Avoid exercises that place the shoulder in a hyperextended position (triceps dips) or bring the arm behind the plane of the body (bench, incline or military press with elbows coming behind the plane of the body). These positions place unnecessary stress on the anterior capsule. Use the **Elbow Rule**, which outlines that ‘you should always be able to see the elbows’.

GENERAL FITNESS: Continue cardiovascular endurance exercise and consider incorporating lower extremity, core and back strength into exercise regime.

RECREATIONAL ACTIVITIES: With clearance from surgeon, may begin return to light recreational activities in a controlled format and below shoulder level (i.e. skating, stick handling, etc).

EXERCISES

RANGE OF MOTION

Continue as per Phase 3 if full range of motion has not been achieved. Note that the shoulder range of motion is likely to be limited into external rotation following the surgery. Passive / gentle end range stretching may be performed if recommended by the surgeon.

STRENGTHENING

Exercise Parameters

- Strength exercises should be done every other day or once per day. Parameters should focus on gradually building endurance (e.g. begin with 2-3 sets of 10 and work up to 4 sets of 15). Avoid exercising to the point of full fatigue.
- Begin with **light resistance** or **weight** initially. It is acceptable to progress to the next level of resistance once able to correctly perform exercise with 3-4 sets of 15 reps.

Resisted Flexion with Band on Wall

Standing with good posture and band around back, move arms up into Flexion with ulnar side of hand into the wall and encouraging scapular upward rotation. Can progress to using band in a loop around wrists, keeping forearms parallel while moving up into flexion.

Side Lying External Rotation with Weight

In side lying with elbow supported (same than in Phase 2), externally rotate arm while holding a weight (progress weight to ~5-10lb).



Resisted Internal/External Rotation in 30-45° Scaption Plane

Progress ER/IR into 30-45° scaption plane if cuff is strong in neutral and good scapular control is maintained. Ensure exercise is pain-free, start with partial arc of movement and progress to full ROM as tolerated. Can start in seated position with elbow supported using band or dumbbell and progress into standing.



Resisted PNF Patterns

Perform PNF patterns with light band resistance with descending patterns first. Then can progress to ascending patterns below shoulder height, then above shoulder height and gradually progress resistance.



Weightbearing Exercises

Gradually progress into weightbearing exercises ensuring good core control and serratus anterior activation (gently press up through shoulders to lift breast bone away from floor, don't round thoracic spine). Gradually work through the following progressions:

- Wall Push Ups → Table Push Ups
- 4 Point Kneeling (+/- Arm Raise, Leg Raise, Opposite Arm/Leg)
- Front Plank (Knees → Toes)



OTHER CONSIDERATIONS

Hydrotherapy: can consider performing range of motion exercises in the pool can be helpful in improving range of motion. Swimming motions/strokes should not be performed at this time.

Manual Therapy - for Physiotherapist Consideration

- Continue soft tissue release and manual therapy for cervical and thoracic spine as required
- Can consider Grade 2-3 glenohumeral joint range of motion if patient has not achieved full range of motion
- Continue Rhythmic Stabilization for proprioception

CRITERIA FOR PROGRESSION TO PHASE 5

- Full functional range of motion without compensation
- Demonstrates adequate endurance and correct technique with overhead and advanced strengthening exercises (e.g. 4 sets of 15 reps with medium resistance)
- Able to perform light activities of daily living and exercises with minimal pain and no compensatory patterns

PHASE 5 – Advanced Strength/Graduated Return to Activity

This phase involves functional and activity specific strengthening and can start as early as 14-16 weeks.

GOALS

The goals of this phase will be specific to each patient and will relate to the specific work and recreational activities that the patient is looking to return to as well as the surgical procedures performed on their shoulder.

PATIENT EDUCATION

GYM ROUTINES

- Patients can begin to return to a gym program focusing on low load, hypertrophy drills.
- Exercises should be modified or avoided if they place the shoulder in a hyperextended position and the “Elbow Rule” (see Phase 4) should be considered throughout.
- **Avoid lifting in long lever positions** (e.g. front and lateral raises) and perform short lever motions instead.

INJURY PREVENTION AND MAINTENANCE

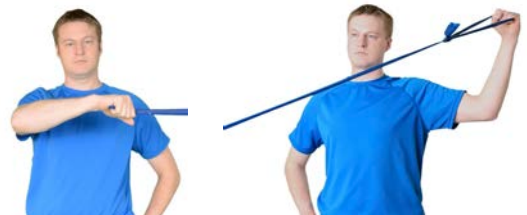
- Incorporating rotator cuff strengthening exercises into a regular workout regime in the long term, in particular as a warm up for gym and recreational activities, is important to maintain the strength and dynamic stability of the shoulder. Patients are encouraged to continue to work on strength and dynamic stability program long term following their surgery a few times per week to stay strong and protect the shoulder.

EXERCISES

Exercises should be performed with exercise parameters focusing on developing muscular endurance with adequate recovery between exercise sessions depending on the specifics of the program. All exercises should continue to be performed in pain-free range and with proper technique. Exercises from Phase 4 can be progressed to functional positions relevant to each patient’s occupation and recreational activities. Physiotherapists will be able to assist patients with appropriate exercise prescription and the surgeon will provide guidance on timelines for return to occupational and recreational activities.

Internal/External Rotation at 90° Flexion and 90° Scaption

Ensure good scapular position is maintained. Can start with arm supported on table or large physio ball and move to unsupported. With eccentric portion, ensure good control is maintained and ensure movement is controlled moving in and out of end range.



Throwing Program

- **External Rotation Toss/Catch:** toss the ball up from the start Position and catch as it falls. Can progress from light ball to Weight toning ball (3-5lb).
- **Ball Tossing on Wall:** start at waist to shoulder level, progress Into overhead positions.
- **Throwing/Catching:** start with light underhand toss/catch with a partner. Progress gradually into overhead and increased speed.



Proprioceptive Weight Bearing Exercises

Provide progressive exercises in weight bearing positions to advance proprioceptive function and strength

- Front Plank: Knees -> Toes -> Leg Lifts -> Shoulder Taps



Functional/Sport Specific Drills/Gym Routines

It is important for patients to practice the specific drills and functional tasks they will need to perform prior to returning to game play, occupational activities, heavier ADL tasks, etc. These will be unique to each patient and can include skills such as throwing, stick/puck handling or lifting mechanics. Patients can also begin to return to the gym with low load exercises with slow progression of weights and with the considerations discussed above in mind.

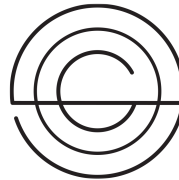
CRITERIA FOR RETURN TO SPORT/WORK/ACTIVITY

- Timelines for return to sport and recreational activities involving the use of the surgical arm as well as contact sports should be discussed with the surgeon.
- Returning to occupations that involve medium to heavy lifting (30+ lbs) and overhead work/lifting should also be discussed with the surgeon.

Please feel free to contact our office if there are any questions or concerns.



ACCESS
ORTHOPAEDICS
PHYSIOTHERAPY
SPINE



GATEWAY
SURGERY

ACCESS ORTHOPAEDICS and GATEWAY SURGERY
3916 Macleod Trail SE – Suite 300, Calgary, AB T2G 2C5
P: (403) 284-4062 F: (587) 387-3158
www.accessorthopaedics.ca | www.gatewaysurgery.ca

Copyright © 2020, C. Kuntze, B. Morrison, L. Hamrlik and surgeons within the University of Calgary Division of Elbow and Shoulder Surgery. Exercise photos courtesy of SimpleSet, used with permission.