Exercise and Rehabilitation Program for Gender Affirming Chest Masculinization Surgery

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Introduction

Gender identity is becoming increasingly more acceptable in today's society (Watson et al., 2020). According to the 2021 census, there are over 100,000 genderqueer individuals living in Canada (Statistics Canada, 2022) and approximately 1.6 million in the United States (Herman et al., 2022). Unfortunately, the genderqueer community, which falls under the 2SLGBTQI+ acronym (see Appendix A), faces disproportionally poorer health outcomes; some of these poor health outcomes include higher rates of physical disability, mental health disorders, obesity, chronic conditions, and worse overall health (Fredriksen-Goldsen et al. 2014 & Herrick, 2018). It is well known that modifiable behaviors like physical activity and a healthy diet can help mitigate some of these conditions; however, historical stigma and discrimination has led to multiple barriers for genderqueer participation in physical activity (PA). Transphobia, unsafe environments, gender binarism, access to facilities and economic cost are some of the major PA barriers identified in the literature (Úbeda-Colomer et al., 2020).

It is important to note that being queer or transgender is not a risk factor to poor health; in fact, it is the patriarchal society and cis/heteronormative structures that are a risk factor to queer health. To differentiate these risk factors is important to all queer people with lived experiences in the healthcare system, so we can deconstruct the colonial beliefs within research that is littered with transphobic and homophobic language.

For genderqueer folks that have gone through gender affirming surgery, there can be additional barriers to exercise such as lack of rehabilitation knowledge or exercise guidance postsurgery. Because of the shift away from binary gender norms, more transgender and genderqueer individuals are receiving gender affirming surgery (Merrick et al., 2022); a lifesaving intervention aimed at helping individuals transition to their self-identified gender. The process of receiving gender affirming surgery can be a long and difficult journey; navigating the healthcare system can be traumatizing and many doctors do not receive training to provide safe and equitable care (Kattari et al., 2020). It is crucial for healthcare staff to have the appropriate knowledge to facilitate a healthy transition for genderqueer people, which will ultimately lead to a better quality of life for this population. The aim of this project is to create an exercise and rehabilitation plan specific to individuals that have received gender affirming chest masculinization surgery (GACMS), which includes, but is not limited to transgender men, transmasculine people and non-binary folks. For a population that already has lower physical activity levels, gender affirming surgery can be an opportunity to inform individuals on the importance of rehabilitation and continued regular physical activity. Physiotherapists and kinesiologists should be a part of the healthcare team included in the aftercare of GACMS; however, there is a lack of literature on rehabilitation protocols for GACMS, showcasing the lack of involvement of rehabilitation professionals post-surgery.

Because of the lack of research in this area, it was essential to gather information from queer people who have received GACMS. As a part of the preparation for this training plan, an online survey was filled out by four queer individuals who have received the surgery. The aim of this survey was to identify the current training and rehabilitation protocols recommended by healthcare professionals as well as the ways GACMS could improve their post-surgery recovery protocols.

The training plan will consist of a six-week stabilization and movement program that can commence at the six-week post-surgery date. This training program will be aimed at genderqueer folks themselves, as well as personal trainers and health care professionals that are helping patients through recovery. The training program will include resistance exercises, cardiovascular training, postural training, mobility and flexibility; similar to the components of the American Council on Exercise (ACE) and the National Academy of Sport Medicine (NASM) sports performance training models. Even though the goal of this program is not sports performance or high intensity, the NASM models follow an integrated and comprehensive training approach that is necessary to build functional strength and neuromuscular efficiency (McGill & Montel, 2019). McGill and Montel (2019) identify the importance of training in all planes of motion, training with optimum posture, and training for optimum muscle balance and function, which will be essential to re-gain function and strength post-surgery.

Client Context

Literature Review

The previously mentioned health disparities and physical activity barriers for genderqueer people have been mostly identified by stress and coping models, which focus predominantly on genetic and biological factors (Fredriksen-Goldsen et al., 2014). However, Fredriksen-Goldsen et al. (2014) have created a model to conceptualize queer health disparities that includes social and economic factors, two components identified by the World Health Organization (WHO) as "root causes to health inequities" (Solar & Irwin, 2007, p. 67). *The Health Equity Promotion Model* looks at health across the lifespan of queer individuals and takes into consideration queer resilience as well as risk factors (Fredriksen-Goldsen et al., 2014). An important aspect of the model done by Fredriksen-Goldsen et al. (2014) is that it's a collective responsibility to ensure "that all individuals have the right to good health" (p. 5). This framework will be an essential lens when considering post-operative training for queer people who have received GACMS. Health professionals utilizing this training plan need to understand that the majority of queer health disparities are stemming from structural and environmental factors, not solely individual or community factors (Fredriksen-Goldsen et al., 2014).

Gender affirming surgeries are an essential part of good health for genderqueer people. Not only do they save lives, but they also decrease gender dysphoria, depression and anxiety, and increase quality of life (Coleman et al., 2022). A study by Agarwal et al. (2018) used pre and post operative questionnaires to determine the self-perceived patient outcomes of GACMS. They found large positive changes in psychosocial well-being, sexual satisfaction, and physical wellbeing after surgery (Agarwal et al., 2018). Russo et al. (2017) found there to be significantly high aesthetic satisfaction with patients who received GACMS, which can lead to improved body image and increased self-esteem. People with high self-esteem normally have a higher sense of self efficacy (Joy et al., 2020), which is an extremely important factor when considering adherence to a new exercise plan (McAuley et al., 2000).

There is no lack of literature stating the positive overall well-being outcomes of GACMS; however, there is a lack of literature on the physical and functional outcomes of GACMS. A more commonly researched area for the functional ability of assigned female at birth (AFAB) genderqueer individuals is the negative effects of chest binding, a common practice to reduce the visual appearance of breast tissue before an individual has received GACMS. Chest binding may be the only option for transmasculine and non-binary individuals that don't have access to surgical options; consequently, it can pose physical risks to individuals that bind every day and for long periods at a time (Peitzmeier et al., 2017). Peitzmeier et al. (2017) found that negative side effects impact 97% of people who bind their chest. Literature shows that these side effects include: musculoskeletal pain, poor posture, limits to daily activity, dermatological outcomes, bruising, fractured ribs, and infection (Peitzmeier et al., 2017; Sood et al., 2021 & Jarrett et al.,

2018). Since binding can be used as an interim measure before GACMS (Peitzmeier et al., 2017), there is a likelihood that the effects of prolonged poor posture and musculoskeletal pain can carry over after surgery and make the need for an exercise and rehabilitation program even more crucial.

Surgical Outcomes and Survey Results

GACMS is also called a subcutaneous mastectomy; this procedure removes excess skin and fat and repositions the nipples to create a flat, more masculine looking chest (Cleveland Clinic, 2023). Gender affirming top surgery is an extremely invasive surgery and has a long recovery time. After surgery, patients are unable to lift their arms greater than 90 degrees or lift over five pounds for the first four weeks of recovery (Johns Hopkins Medicine, n.d.). After six weeks, patients are given clearance to lift heavier items and return to regular activity routines. As previously mentioned, the credible information on immediate post-surgery protocols is lacking and the exercise protocols after the 6-week recovery time is non-existent. Therefore, the survey implemented for this project was useful to see what kind of information people were getting regarding exercise advice. The results are disappointing (Appendix B).

None of the participants were given any pre-surgery exercise recommendations or any exercise recommendations outside of the initial 6-week recovery time. The recovery and rehabilitation information given to participants for the immediate six-week recovery time included: limiting upper body movement for two weeks, followed by introducing upper body movement after four weeks; no arms overhead and no lifting over five pounds for four weeks; bending over and doing progressively larger arm circles. There were no specific exercises given to participants by the surgical team or primary care doctor and there was no explanation of upper body movement progression post-surgery. Lastly, there were no resources, physiotherapy,

kinesiology, or personal trainer contacts that were given to participants after surgery. Clearly, there is a major gap in post-surgery care for genderqueer individuals that needs to be addressed. There needs to be significant rehabilitation and direction after the immediate six-week recovery time.

Exercise Techniques

The lack of industry norms for post-GACMS exercise requires the program to rely heavily on recommendations for individuals that have received breast cancer mastectomies or breast reduction surgeries. Kilgour et al. (2008) showcased range of motion (ROM) improvement in patients that completed an 11 day at home rehabilitation program almost immediately after surgery. Other breast cancer organizations such as the Canadian Cancer Society (CCS) and the American Cancer Society (ACS) highlight the importance of ROM exercises in the initial recovery period, some starting as early as three days post-operation. The CCS with help from the Canadian Physiotherapy Association (CPA) have created a document that outlines recovery exercises for the 6-week initial post-surgery recovery time. They include exercises that promote upper limb movement, elbow flexion and extension, shoulder girdle circles, shoulder joint extension and flexion, and passive chest stretching. Gentle walking and breathing exercises are also two important components during the 1-4 weeks post operative phase (Canadian Cancer Society, n.d.; Wilson, 2017); both will increase blood flow and help promote recovery to the surgical site. Wilson (2017) states the negative impact that mastectomies have on posture and shoulder function, "After a mastectomy with or without reconstruction, a patient may develop rounded (pronated) shoulders, a hunched over upper back, and the head in a forward position" (p. 99). Therefore, regaining normal ROM and implementing a mobility program immediately postoperation is key (Wilson, 2017).

Assessments

The exercise program will be easily modifiable to meet all skill levels; however, a thorough assessment is necessary to ensure required individualization throughout the program. For the purpose of this project, there will a combination of tools and assessments gathered from the Canadian Society of Exercise Physiology (CSEP) PATH textbook, the NASM Essentials of Sports Performance Training textbook, and Capilano Universities' School of Kinesiology KINE 241 course. A combination of physiological, lifestyle, functional, and aerobic assessments will be used prior to program implementation, which will help the healthcare professional gain a full picture of the individual's history, goals, and abilities.

First and foremost, a consent form stating the risks and benefits associated with assessment and exercise protocols must be signed by the client (see Appendix C). Additionally, a Physical Activity Readiness Questionnaire (PAR-Q) needs to be completed to inform the client and practitioner if further medical clearance is required (see Appendix D). This should be followed by a thorough conversation of previous medical history and injuries. Blood pressure (BP) and resting heart rate (RHR) are two biological measurements that will be taken prior to exercise or the assessment. If the clients RHR is over 100bpm the practitioner will not be able to continue to the active part of the assessment; additionally, if the clients systolic BP is over 160mmHg or their diastolic BP is over 90mmHG, physical activity cannot commence (CSEP-PATH, 2019). It is important to use motivational interviewing techniques to gain a sense of readiness, goals, lifestyle habits, and barriers to exercise. Motivational interviewing helps people work through exercise hesitancies by using empathetic and reflective listening skills; indeed, the main goal is to enable discussion about the client's desires and needs for change (Hettema et al., 2005). Appendix E shows an example intake form for individuals starting this exercise program. The form asks questions relating to current lifestyle and sleep habits, fitness and health goals, and specific genderqueer related barriers to exercise.

Aerobic, ROM, postural, flexibility and core stability assessments will constitute the second stage of the assessment process. *Table 1* shows the assessment protocol in chronological order, along with a movement description and reason for selection. Because this exercise program starts after the six-week initial recovery phase the individual will likely be underconditioned, therefore a light-moderately vigorous aerobic assessment will be completed to find the client's estimated VO2max. Aerobic fitness assessments are used to evaluate the oxygen transport efficiency of the client's heart, lungs and blood vessels and the efficiency of oxygen use by the working muscles (CSEP, 2019). Since poor cardiorespiratory fitness is a risk factor for many chronic diseases, this test not only assesses aerobic fitness ability, but it can also be used to create conversations around the implications associated with low levels of aerobic fitness.

ROM assessments will focus on the thoracic spine, shoulder girdle and shoulder joint, which are the main structures that will be affected by GACMS. Taking baseline measurements will provide a reference point while the client works through the program to regain normal ROM; therefore, a goniometer will be used to measure shoulder flexion and extension, and thoracic spine rotation (Howe & Read, 2015; Wilson, 2017).

Static and dynamic posture need to be assessed to determine the structural integrity and alignment of the client through multiple positions and movements (McGill & Montel, 2019). Proper posture allows an individual to maintain center of gravity over their base of support, otherwise known as structural efficiency, while also maintaining proper posture during movements, also known as functional efficiency (McGill & Montel, 2019). Some examples of dynamic posture tests include upper body push/pull, overhead squat, single leg squat and plank.

As stated earlier, GACMS patients are at a higher risk of poor posture, which can lead to altered length-tension relationships, altered force-couple relationships and altered joint arthrokinematics, resulting in joint dysfunction and risk for overuse injuries (McGill & Montel, 2019). On account of the history of poor posture, the training program will focus on attaining structural alignment which will allow the client to build functional strength and optimal neuromuscular efficiency (McGill & Montel, 2019).

Table 1

Assessment	Description	Reasoning	Reference
Treadmill walking test	Instruct the client to secure the HR monitor. Calculate 50%, 70% and 85% of HRmax Stage 1 (0-4min): Warm-up. 0% grade at a speed that brings the clients HR between 50-70% of their HRmax. Stage 2 (5-8min): Immediately increase the grade to 5% and do not change the speed. Record HR after every minute. End: complete the test when steady state HR has been attained (when the HR does not vary by 5bpm). Add additional time if needed. Calculation: See Appendix D	To assess the client's aerobic capacity and calculate their estimated VO2max. This test is low risk and accessible to all skill levels and ages. If disability or joint pain prevents the individual from walking, complete a lower impact assessment (Seated cycling machine or arm ergometer).	CSEP- PATH (2019)
Static posture	Have the client stand how they normally would and assess from lateral and posterior view.	To assess the position of the head, cervical spine, scapula, thoracic spine, lumbar spine, pelvis, hip joint and ankle joint. Looking for postural deficiencies and excessive thoracic kyphosis.	(McGill & Montel, 2019)
Shoulder flexion/exte nsion	In a standing position and keeping the elbow extended, the client raises both arms in front of them as high as they can and behind them as far as they can.	To assess shoulder ROM and measure with a goniometer for baseline measures.	(Wilson, 2017)
Segmental intervertebr al motion	In a seated position with arms behind their head (if possible), instruct the client to move slowly from a neutral spine position to flexion followed by extension. Repeat several times.	To assess thoracic spine flexion and extension. Adequate thoracic spine extension is essential for shoulder girdle and shoulder joint function.	(Genz, 2020; Takatalo et al., 2020)
Seated rotation test	In a seated position with a small ball between the knees (to prevent hip movement) the client will hold a dowel in front of them and is instructed to	To assess thoracic spine rotation. A goniometer can be placed at T1-T2 and used as a baseline measurement.	(Howe & Read, 2015)

	rotate as far as they can in both directions.		
Overhead Squat	Instruct the client to stand with both arms overhead and squat to about chair height (use chair if needed). Repeat several times, keeping the arms overhead.	This assesses dynamic flexibility, core strength, balance and neuromuscular control. It also indicates lower body movement patterns and strength deficiencies in hip abductor and external rotation strength.	(McGill & Montel, 2019)
Single leg balance	Instruct the client to cross both arms in front of their chest and raise one foot a few inches off the floor. Record the amount of time they can balance on each leg.	To assess the client's ability to maintain center of gravity with unstable support. Balancing is critical for activities of daily life and a normal gait cycle.	CSEP- PATH (2019)
Single leg squat	Instruct the client to stand with their hands on their hips and staring straight ahead. One foot is lifted off the ground while the client is directed to squat to a comfortable level with one leg. Repeat several times.	Similar assessment reasoning to the overhead squat. Knee valgus, hip drop/hike and torso rotation indicate overactive or underactive muscles.	(McGill & Montel, 2019)
Plank	Instruct the client into a prone position on a mat, while propped up on their elbows and toes. If needed, go from knees. Time the client until they stop, or exercise position deteriorates (excessive low back arch).	To assess abdominal core strength and the muscular endurance of the upper body.	CSEP- PATH (2019)
Seated chest press machine	Use a chest press machine or light band with handles. Instruct the client to stand with one leg forward and handles at either side of their chest. Have the client press forward and complete several reps	To assess movement efficiency and muscle imbalances during an upper body push movement.	(McGill & Montel, 2019)
Cable row	Use a cable machine and instruct the client to row both handles towards their chest. Repeat several times.	To assess movement efficiency and muscle imbalances during an upper body pull movement.	(McGill & Montel, 2019)
Double leg lowering test	In a supine position instruct the client to raise both legs to 80-90 degrees. Instruct the client to slowly lower their legs while maintaining lower back contact	To assess neuromuscular control and core strength. Measure hip angle with a goniometer for baseline measurements.	(McGill & Montel, 2019)

	with the ground. The test stops when the lower back loses contact with the ground.		
Sorensen erector spinae test	Instruct the client to lie prone on a mat and extend the lumber spine to 30 degrees (or to a comfortable position). The client will hold the extended position for time.	To assess neuromuscular control and spinal extensor strength.	(McGill & Montel, 2019)
Sit and reach test	Instruct the client to sit on the floor with both legs extended in front of them. Have them slowly reach forward towards their feet. Use a measuring tape from hip crease to fingertip.	To assess hamstring and lower back flexibility. Poor flexibility in these areas can lead to poor back health.	CSEP- PATH (2019)

Note: fillable assessment form can be found in Appendix F

Training Program

This training plan will use a combination of training models gathered from NASM, ACE, and CSEP as well as GACMS-specific recommendations from sources that have focused on mastectomy rehabilitation. The training plan will be periodized through five phases over an eight and a half month time span which will allow for optimal progression, so the client can advance through the plan safely. Periodization is an important aspect of any structured training regime as it will create a systematic plan that will remove any ambiguity of exercise direction and implementation (McGill & Montel, 2019). With this in mind, the GACMS training plan will consist of a yearly macrocycle to depict the flow of training phases (see Appendix H), a monthly mesocycle to indicate the specific days of each workout (see Appendix H), and a weekly microcycle that will show a detailed workout plan for each workout within a phase. For the purpose of this project, the microcycle will highlight the first phase of this program– a six-week stabilization and movement training phase (see Appendix I). The primary goals of the six-week stabilization and movement training plan are upper body ROM, improving muscle imbalances, core function and stabilization, dynamic balance, and improving posture. Six weeks of stabilization and movement training will allow the client to progress through to the next phase of training, strength endurance, which is followed by hypertrophy, strength, and power (Bryant et al., 2014; McGill & Montel, 2019). After the sixweek stabilization and movement training phase, the client will spend four weeks in each of the subsequent phases; additionally, within the macrocycle there will be several four-week de-load phases consisting of components similar to the stabilization and movement phase. The de-load phase will allow for proper recovery between strength and power phases and ensure optimal levels of stability needed to create adaptations during the different phases (McGill & Montel, 2019).

The five phases follow progression guidelines set forth by the ACE Integrated Fitness Training (IFT) model and the NASM Optimum Performance Training (OPT) model. Both models represent an integrated training approach that focuses on functional capacity, functional strength and neuromuscular efficiency to optimize health, fitness and performance (Bryant et al., 2014; McGill & Montel, 2019). In addition to the general principals of training (overload, specificity, and progression), there are four training principles that will be utilized throughout the five phases which include training for optimum muscle function, optimum muscle balance, optimum posture, and training in all planes of motion (McGill & Montel, 2019). In line with training for optimum functional capacity, exercises will focus on movements that challenge the local muscular system (stabilization system) and the global muscular systems (movement systems). The local muscular system includes core muscles that are directly attached to the spine (ie. pelvic floor muscles, transverse abdominis, multifidus, internal oblique, and diaphragm) as well as muscles that provide join stability (ie. rotator cuff muscles) (McGill & Montel, 2019). In contrast, muscles in the global muscular system connect the pelvis, rib cage and lower limbs and are primarily responsible for movement (ie. erector spinae, hamstrings, latissimus dorsi, gluteus maximus) (McGill & Montel, 2019). The global muscular system is broken down into four subsystems: the deep longitudinal subsystem (DLS), the posterior oblique subsystem (POS), the anterior oblique subsystem (AOS) and the lateral system. These subsystems are comprised of muscles that work in tandem with each other, otherwise known as force-couple relationships, to produce fluid movements (McGill & Montel, 2019). Using these principles will ensure that stabilization, strength and power exercises are utilized to develop efficient neural patterns for all static and dynamic movements (Bryant et al., 2014; McGill & Montel, 2019).

The first phase of the training program, stability and movement, will focus on overall functional ability to be able to perform activities of daily living as well as introduce exercise specific movement patterns and some loaded movements (Bryant et al., 2014). The second phase, strength endurance, aims to continue working on joint stabilization while adding loaded movements to improve capacity for the following hypertrophy and strength phases (McGill & Montel, 2019). Hypertrophy, the third phase of this program, will primarily focus on muscle growth while increasing training volume and the fourth phase, maximal strength, will focus on higher intensities (McGill & Montel, 2019). Lastly, the power phase will aim to increase the rate of force production by implementing plyometric and agility exercises (McGill & Montel, 2019). The start of each phase will be determined by the successful completion of the previous phase; progression to the strength and power face won't continue until the client has optimal stability, core strength and efficient movement patterns.

In alignment with the general exercise recommendations put forward by ACE and CSEP, the training program will include evidence-based frequency, intensity, time and type (FITT) recommendations. This training program utilizes the Borg rating of perceived exertion (RPE) scale and percentage of one rep max (1RM) for intensity measurements (see *Table 2*). Aerobic exercise will be completed three to five days per week of 30-60 minutes at a moderate intensity or three to four days per week of 20-60 minutes at a vigorous intensity or a combination of both moderate and vigorous. Depending on the activity level of the client, aerobic exercise may start at light to moderate intensity. Resistance exercise will be completed at least three days pers week and range in intensity depending on which phase the client is in. Static, dynamic and PNF flexibility training will be completed at least 2 days per week at a mild to moderate intensity. Lastly, mind-body practices such as breathing techniques and yoga will be utilized for physiological and cognitive benefits (Bryant et al., 2014).

Table 2

Rating	Perceived Exertion Level
0	No exertion, at rest
1	Very light
2-3	Light
4-5	Moderate, somewhat hard
6-7	High, vigorous
8-9	Very hard
10	Maximum effort, highest possible

Rating of Perceived Exertion (RPE)

Note: amended from Borg, G. (1998). Borg's perceived exertion and pain scales. Human kinetics.

Client Needs

This training program is designed for anyone who has recently received GACMS,

however it is important for the healthcare professional using this program to do a thorough

assessment to determine unique needs and abilities of the client. The six-week stability and movement training plan will focus on the fundamentals of these two components, while also focusing specifically on posture and upper body mobility. The history of poor posture for genderqueer people due to chest binding or attempts to hide one's chest have been previously mentioned. Mastectomies can exacerbate these postural issues by creating tight pectoral muscles anteriorly and creating a more forward trunk inclination; additionally, it can significantly change scapula and shoulder position, creating shoulder girdle asymmetry and excessive shoulder protraction (Haddad et al., 2013; Rangel et al., 2019; Rostkowska et al., 2006; Wilson 2017). Decreased glenohumeral joint ROM and increased thoracic spine flexion have also been identified as postural issues resulting from mastectomies (Rangel et al., 2019). These postural dysfunctions can lead to muscular imbalances and altered length-tension relationships, reducing the ability generate force or produce efficient movements while exercising (McGill & Montel, 2019).

Initial Six-Week Recovery

Rehabilitation and instruction for the immediate six-week post-surgery recovery time are outside the scope of this project. However, there are important general activity guidelines that individuals should follow during this time. During the first 7-9 days of recovery the individual needs to prioritize rest, a nutritious diet and very light movement or short walks (Gender Confirmation Center, n.d.). Walking at a light pace will help increase blood flow, which can aid in the healing process (Gender Confirmation Center, n.d.). Breathing exercises can also be utilized throughout the entire six-week recovery time to promote stress relief and relaxation (Canadian Cancer Society, 2011; Wilson, 2017). For 9-21 days (about 1-3 weeks) post-operation, it is encouraged that individuals go on longer walks at a strolling pace; additionally, after the initial three weeks, individuals can commence higher intensity cardiovascular activities such as jogging or cycling (Gender Confirmation Center, n.d.). It is extremely important that individuals do not lift over 5lb for the first two weeks, do not lift over 25lb from weeks 3-6, and avoid lifting the arms overhead or stretching the chest (Gender Confirmation Center, n.d.). Once the initial 6-week recovery time is over, individuals can resume regular activities (Liang, 2023). An infographic containing these general guidelines has been prepared and can be seen in Appendix G.

Stabilization and Movement

The stabilization and movement phase will comprise the six-week microcycle found in Appendix I. This phase will be crucial for an individual who has received GACMS because they will most likely be in a detrained state after the six-week initial recovery period. The primary goals of the six-week stabilization and movement training plan are upper body ROM, improving muscle imbalances, core function and stabilization, dynamic balance, and improving posture. Helping the client to find and hold a neutral posture during static and dynamic movements will be the foundation of this phase (Bryant et al., 2014). Low-intensity exercises focused on joint stabilization as well as core and balance exercises that strengthen the local muscular system will also be key. To combat the postural deficiencies mentioned earlier, thoracic spine mobility will be a major focus. Since scapulothoracic and glenohumeral joint function depend on optimal movement through the thoracic spine, thoracic extension and rotation will be implemented to increase upper limb ROM and decrease the risk of shoulder injury (Howe & Read, 2015).

Movement patterns for resistance exercises will also be introduced in this phase, comprising of lower body pull and push movements, upper body pull and push movements, single leg movements and rotational movements (Bryant et al., 2014). An important aspect of any training program is teaching the client proper breathing and bracing techniques. Supine and standing bracing techniques will be implemented in the first two weeks of phase 1 to introduce the client to proper standing posture and teach the client how to effectively breathe and brace during dynamic movements (*Figure 1*). Cardiorespiratory exercise will increase in intensity throughout this six-week phase: weeks 1-2 will be three 20-minute bouts of light to moderate (3-5 RPE) exercise such as walking; weeks 3-4 will include two 30-minute bouts of light to moderate (3-5 RPE) exercise (3-5 RPE) and one 18-minute bout of moderate to vigorous (4-6 RPE) exercise such as brisk walking or jogging; weeks 4-6 will include two 35 minute bouts of moderate exercise (4 RPE) and two 18 minute bouts of moderate to vigorous exercise (4-6 RPE). Mind-body practices for this phase will include box breathing two days per week as part of the resistance training cool down protocol and it is suggested the client attend a yoga or meditation class once per week. The mesocycle plan for this phase can be found in Appendix H and the acute variables for this phase can be seen in *Table 3*.

Figure 1



Standing Posture and Bracing Sequence

Note: Image taken from Starrett & Cordoza (2015) p. 40-41

Table 3

	Reps	Sets	Tempo	% Intensity or RPE (0-10)	Rest Interval	Frequency
Resistance Training	12-20	1-3	slow	50-60% (5-6	0-90s	3-4
			4/2/1	RPE)		days/week
Balance	12-20	1-3	slow	n/a	0-90s	2-4
			4/2/1			days/week
Core	12-20	1-4	slow	n/a	0-90s	2-4
			4/2/1			days/week
Flexibility	1	1-3	30-60s	Mild	n/a	2-3
			hold	discomfort		days/week
Mind-body	Medita	ation/breat	hing/yoga	n/a	n/a	2-
						3days/week
Cardiorespiratory	Aerobic Endurance– Steady			Low-moderate	n/a	2-4
	State			(2-4 RPE)		days/week
	30)-60min/se	ession			

Phase 1 - Stabilization and Movement Acute Variables

Note: Acute variables chart amended from NASM (McGill & Montel, 2019).

Strength Endurance

The client needs to successfully complete phase one before moving onto this phase of the training program. If the client has not had previous exercise experience, then intensity percentages should be kept lower. Successful completion of phase one includes having the ability to control posture during static and dynamic movements, the ability to properly brace their core and be able to perform movements with proper form. External load has already been introduced in phase one, however, phase two will implement more movements with external load as well as increase intensity. Strength endurance will increase the client's muscle force production while continuing to work on joint stabilization (Bryant et al., 2014; McGill & Montel, 2019).

Submaximal resistance for larger repetition ranges will be utilized to improve muscular endurance; furthermore, a superset combining a stable exercise (e.g., barbell deadlift) with a stabilization exercise (e.g., stability ball hamstring curl) will be used to increase strength of the global muscular system and the local muscular system. Flexibility and mind-body activities will remain unchanged and continue throughout this phase. Additionally, cardiorespiratory exercise will decrease in time but increase in intensity to a moderate-vigorous state. The mesocycle plan for this phase can be found in Appendix H and the acute variables for this phase can be seen in *Table 3*.

Table 3

Phase 2 – Strength End	lurance Acute Varia	bles
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	Reps	Sets	Tempo	% Intensity or RPE (0-10)	Rest Interval	Frequency
Resistance Training	12-16	2-4	Str: 2/0/2 Stab: 4/2/1	60-70% (6-7 RPE)	0-90s	3-4 days/week
Balance	8-12	2-3	Medium 3/2/1	n/a	0-90s	2-4 days/week
Core	8-12	2-3	Medium 3/2/1	n/a	0-90s	2-4 days/week
Flexibility	1	1-3	30-60s hold	n/a	n/a	2-3 days/week
Mind-body	Meditation/breathing/yoga			n/a	n/a	2- 3days/week
Cardiorespiratory	Aerobic Endurance– Steady State 30-60min/session			Moderate- vigorous (4-6 RPE)	n/a	2-4 days/week

Note: Acute variables chart amended from the NASM and ACE (Bryant et al., 2014; McGill &

Montel, 2019).

Hypertrophy

The hypertrophy phase is scheduled to commence 16 weeks post GACMS. It is crucial to still be aware of the muscular imbalances that may be present from surgery or previous postural issues. Therefore, the intensity for this phase will have to be closely monitored and may not reach the maximal intensity of the specified hypertrophy range (70-80%). The purpose of hypertrophy training is to increase muscle growth through high training volumes and short rest intervals (Bryant et al., 2014). Building a strong upper body and improving thoracic posture will still be a primary goal at this stage in the training plan; therefore, upper body exercise selection will focus on the trapezius, rhomboids, rotator cuff muscles and serratus anterior (Rao & Pattanshetty, 2022). The flexibility routine in this phase will focus on active stretching and will be included in a dynamic warmup on resistance training days. Mind-body activities will remain the same with breath routines occurring more frequently as the training intensity increases. Cardiorespiratory training will continue to increase in intensity throughout this phase and aerobic-efficiency training will be introduced (Bryant et al., 2014). Components of aerobicefficiency design include low intensity interval training, which includes rest intervals at 3-4 RPE and work intervals at 5 RPE. The work to rest ratio starts at 1:3 and progresses to 1:1 in the final week of this phase. The mesocycle plan for this phase can be found in Appendix H and the acute variables for this phase can be seen in Table 4.

Table 4

	Reps	Sets	Tempo	% Intensity or	Rest	Frequency
				RPE (0-10)	Interval	
Resistance Training	6-12	3-5	2/0/2	70-80% (7-8	0-90s	3-4
				RPE)		days/week
Balance	8-12	2-3	Medium	n/a	0-90s	2-4
			3/2/1			days/week

Phase 3 – Hypertrophy Acute Variables

Core	8-12	2-3	Medium	n/a	0-90s	2-4
			3/2/1			days/week
Flexibility	5-10	1-2	1-2s hold	n/a	n/a	2-3
						days/week
Mind-body	Meditation/breathing/yoga			n/a	n/a	2-
						3days/week
Cardiorespiratory	Aerobic Efficiency – Moderate			Moderate (3-5	n/a	2-4
	Intervals			RPE)		days/week
	20-40min/session					

Note: Acute variables chart amended from NASM and ACE (Bryant et al., 2014; McGill & Montel, 2019).

Strength

After the hypertrophy phase, the client will go into a de-load phase that will consist of four weeks in the stabilization and movement phase, before continuing onto the four-week strength phase. The goal of the muscular strength phase is to improve the rate of force production, motor unit synchronization and increase recruitment of motor units within the clients' muscles (McGill & Montel, 2019). Muscular strength gains are elicited through training at high intensities with lower repetitions. Maximal force is measured using a one rep maximum test (1RM) and represents the individual's muscular strength (Bryant et al., 2014). However, 1RM weights can be predicted using a 3RM or 5RM testing protocol which is more suitable for the general population, novice clients and for rehabilitation clients (Bryant et al., 2014; Dohoney et al., 2002; Niewiadomski, 2008). Due to this fact, training intensities of this plan will not reach over 90% of the individuals 1RM. Speed, agility, and quickness (SAQ) drills will be introduced in this phase with an emphasis on the agility portion. Agility is "the ability to change direction or orientation of the body based on rapid processing of internal or external information quickly and accurately without significant loss of speed" (McGill & Montel, 2019 p. 308). Being able to safely and effectively change the direction of movement while keeping balanced over

one's center of gravity is fundamental to be able to do many activities of daily living; therefore, agility drills will include controlled ladder, cone and hurdle drills. Cardiorespiratory training will continue to progress in intensity and flexibility and mind-body techniques will remain unchanged from the previous phase. There will be another de-load phase following this strength phase. The mesocycle plan for this phase can be found in Appendix H and the acute variables for this phase can be seen in *Table 5*.

Table 5

	Reps	Sets	Tempo	% Intensity or	Rest	Frequency
				RPE (0-10)	Interval	
Resistance	4-6	3-5	1-2sec hold	80-90% (8-9	3-5min	3-4
Training				RPE)		days/week
Balance	8-12	2-3	Medium	n/a	0-90s	2-4
			1/1/1			days/week
Core	8-12	2-3	Medium	n/a	0-90s	2-4
			1/1/1			days/week
Flexibility	5-10	1-2	1-2s hold	n/a	n/a	2-3
						days/week
Mind-body	Meditation/breathing/yoga			n/a	n/a	2-
						3days/week
Cardiorespiratory	Aerobic Efficiency –			Moderate (6-7	n/a	2-4
	Moderate -Vigorous Intervals			RPE)		days/week
	15	-25min/s	session			

Phase 4 - Strength Acute Variables

Note: Acute variables chart amended from the NASM and ACE (Bryant et al., 2014; McGill &

Montel, 2019).

Power

The dynamic warmups and SAQ drills implemented in the previous phases will be great preparation for this phase. Plyometric training techniques are powerful movements that utilize the stretch-shortening cycle by creating an explosive concentric contraction after an eccentric contraction (McGill & Montel, 2019). Traditionally, plyometric and power training exercises have been used for sport specific training. However, plyometric movements help prevent the age-related decline of type two muscle fibers, the primary muscle fibers used for power development (Crawford & Jamnik, 2009). Other benefits of plyometric training techniques include improved bone mineral density, increased joint stability, and increases in muscular strength (Crawford & Jamnik, 2009; De Villarreal et al., 2010). In line with the power phase of this program, cardiorespiratory training will incorporate anaerobic training intervals; additionally, because of the intensity of anaerobic intervals cardiorespiratory training frequency will decrease. Flexibility and mind-body techniques will remain unchanged from the previous phase. The mesocycle plan for this phase can be found in Appendix H and the acute variables for this phase can be seen in *Table 6*.

Table 4

	Reps	Sets	Tempo	% Intensity or RPE (0-10)	Rest Interval	Frequency
Resistance Training	1-5 (S)	3-5	(S) 1/1/1	(S)80-90%	2-3min	3-4
	8-10		(P) AFAP	(P) up to 10%		days/week
	(P)			BW or 30-		
				45% (1RM)		
Balance	8-12	2-3	Controlled	n/a	0-90s	2-4
						days/week
Core	8-12	2-3	As fast as	n/a	0-90s	2-4
			can be			days/week
			controlled			
Flexibility	5-10	1-2	controlled	n/a	n/a	2-3
						days/week
Plyometric	8-12	2-3	AFAP			
Mind-body	Medita	tion/brea	athing/yoga	n/a	n/a	2-
-						3days/week
Cardiorespiratory	Anaerob	ic endura	ance + power	Moderate (3-	n/a	2-4
1 V	- mod-h	igh inten	sity intervals	5 RPE)		days/week

Phase 5 – Pow	er Acute V	Variables
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			20)-60s	s int	erv	als/	1:3	W	ork rest					
3.7	4		1			1	10		1	17/01/	1 CE (D	1	0.01	1 16 0.11 0	

Note: Acute variables chart amended from the NASM and ACE (Bryant et al., 2014; McGill & Montel, 2019).

Proposed Results

The eight and a half month training plan, if adhered to properly, will elicit numerous positive results. The primary goals of the training plan are to effectively recover from GACMS as well as develop efficient neural patterns for all static and dynamic movements, while also increasing muscle size, strength and power. Phase 1, the stabilization and movement phase, aims to improve upper body ROM, improve muscle imbalances, improve posture and develop core function, stabilization, and dynamic balance. The exercises in phase one (see Appendix I) were specifically selected to attain these results. For example, wall angels, prone swimmers, quadruped scapular push-ups, and shoulder controlled articular rotations (CARs) all help with shoulder joint and shoulder girdle movement and strength. Exercises such as bracing techniques, dead bugs and birddogs will help with core stabilization and strength, while balance improvements will include single leg balance, single leg medicine ball chop and step up with knee drive exercises.

Not only will the training program provide physical benefits, but it will also improve physical activity literacy, improve self-esteem and empower genderqueer individuals to feel good in their bodies. Many genderqueer individuals do not feel comfortable exercising prior to GACMS because of gender dysphoria, discrimination, and stigma (Gilani et al., 2021 & Teti et al., 2020). Therefor, the process of GACMS can be an opportunity to encourage genderqueer individuals to participate in regular physical activity. The assessment protocols listed in *Table 1* can be used for reassessment after phase one is completed. Reassessment is important because it will allow the client to see their progress as well as indicate specific training needs for the subsequent phases. Most importantly, shoulder flexion/extension and thoracic rotation need to be measured with a goniometer, which will allow the healthcare professional to see if upper body ROM is progressing the way it should be. Static and dynamic posture is easily assessed during the training program, as the health care provider will be able to see improvements or movement breakdowns during exercise sessions.

A thorough contingency plan will help ensure exercise adherence when unexpected events or circumstances arise. Sticking with a training program can be challenging, but planning for potential barriers to exercises can help with long-term adherence. First, consistency is key, and it is important the client understands the importance of showing up, even if their motivation is low; a short workout is better than no workout. Second, if the client is unable to make it to a session due to unforeseen circumstances, it would be helpful to provide the client with an at-home workout that can be done with minimal equipment. Lastly, if injury or illness should occur the client will be provided with alternative forms of exercise that will keep them moving, but also provide adequate rest.

Discussion

GACMS can greatly improve an individual's mental and physical health, but it can also be challenging and emotionally taxing. It is crucial to have a holistic exercise and rehabilitation program that can help an individual recover physically, mentally, and emotionally. That is why this exercise program contains mind-body techniques along with strength, mobility and cardiorespiratory components. The program also contains tips for immediate post-surgery recovery and a thorough assessment form that is meant to identify all facets of health, which can help determine whether the client needs to be referred to any other healthcare professionals, such as counselors or physiotherapists.

The exercise program consists of five phases that span an eight-and-a-half-month timeline. The primary focus was phase one, the stabilization and movement phase which comprised the microcycle in Appendix F. Based on the survey results collected for this project, it was evident there is no guidance on exercise or rehabilitation protocols post-surgery. Lack of guidance after a major surgery like this has the potential to have a negative effect on immediate surgery recovery as well as future health implications. The purpose of constructing a detailed exercise plan was to provide accessible exercise information for surgery recovery. Even though this program is meant to be guided by an exercise or healthcare professional, many individuals are not able to afford personal trainers, kinesiologists or physiotherapists; in these cases, the exercise program has provided a video for each exercise along with exercise cues and notes.

The importance of regaining shoulder ROM and improving upper body posture cannot be stressed enough. The exercise program focuses on upper body mobility to correct poor posture that may have been due to chest binding or attempts at hiding one's chest, as well as the negative postural effects of GACMS. Posture, upper body strength and overall physical fitness are things that would also be beneficial for the client to begin prior to GACMS. According to the survey results, individuals who have received GACMS do not receive any pre-surgery exercise recommendations either. There are generally long wait times for surgery and this could be an opportune time for individuals to get a head start on upper body strength and mobility.

There are several improvements the survey participants highlighted to improve GACMS recovery. One participant stated the need for "better and more hands on after care," (anonymous participant) they explained that it is difficult to know if an exercise is beneficial or a detriment to

the recovery process after the six-week recovery because the chest tissue is still numb from the procedure. Another participant pointed out the lack of information of post-surgery exercise on the Trans Care B.C. website and that it would be helpful to include postural exercises on their website. Lastly, a participant described the need for individualized recommendations after surgery; because of the lack of information, most people search for online information that may not be credible and could be harmful to the recovery process.

Limitations

In the literature, there are no contraindications to exercise for an individual who has received GACMS; in fact, most individuals are instructed to continue regular activity after the six-week initial recovery period. However, since there is such a lack of information on this subject it is impossible to state that this exercise program can be generalized to all people who have received GACMS. Each person who receives GACMS has unique lived experiences that could impact the effectiveness of the training program. People with disabilities, chronic conditions or mental health disorders may have a more difficult time with surgery recovery and therefore this program might not be appropriate. Additionally, previous exercise experience plays a huge role in the ability to start an exercise program; consequently, individuals with no exercise experience should take caution in completing this exercise program without a trained professional.

Another limitation to this exercise plan is the use of breast cancer rehabilitation information. Both GACMS and breast cancer mastectomies involve the removal of a significant amount of breast tissue; however, GACMS involves more than the treatment for breast cancer and usually includes chest contouring and nipple repositioning (Mayo Clinic, n.d.). Nipple repositioning, usually in the form of nipple grafts, needs adequate time to heal. If exercise or excessive chest movement occurs too soon, there is a possibility of nipple stretching which can be a detriment to nipple graft survival. To conclude, breast cancer rehabilitation may not seamlessly translate to proper GACMS rehabilitation. The most important point is that patients listen to their doctors' recommendations.

Lastly, throughout the research for this project, all resources stated that it was safe to start exercising after the six-week initial recovery period. However, one resource was found stating conflicting information. The Gender Confirmation Center (n.d.) has recently revised their recovery protocol by announcing that individuals should avoid lifting their arms higher than shoulder height for three months post-operation. Minimizing scarring is a very important factor for many people who receive GACMS, and these recommendations for limited shoulder ROM are to prevent the scars from stretching or widening (Gender Confirmation Center, n.d.). Limiting shoulder ROM for that length of time has the potential to create a host of other functional limitations, especially for older individuals or people with previous shoulder injuries. Given these points, research needs to be done on the impact of exercise on GACMS scars, to better understand the ideal time to commence an exercise program.

Conclusion

The transgender and gender queer community face physical activity barriers that stem from historical discrimination and stigma, and these barriers can be exacerbated by gender dysphoria, gendered language and gendered exercise facilities. Many genderqueer individuals receive GACMS to mitigate gender dysphoria or align their physical bodies with their gender identity, or both. GACMS is a life-saving and necessary intervention for genderqueer individuals; however, there is a lack of research on the functional outcomes post-surgery and a lack of healthcare knowledge on GACMS rehabilitation protocols. The primary goal of this project was to fill this gap and create an exercise plan that is specific to GACMS rehabilitation, which could be used by healthcare professionals or GACMS patients themselves. By supporting individuals throughout the recovery process, exercise and rehabilitation programs can help improve overall health and well-being and enhance the positive effects of gender affirming top surgery.

Ethical Considerations

There are various ethical considerations that need to be considered for people wanting to start an exercise program after GACMS. This exercise program is meant to be a generalized exercise program for individuals that have received GACMS, but the previously mentioned scar care management needs to be heavily considered. There are various methods of surgery and locations of scars following GACMS and both need to be examined when developing a training program. To lessen the potential risks of the exercise program, scar care should be prioritized to make sure clients do not experience unnecessary pain or discomfort. Additionally, open communication with the client regarding pain levels will aid in the collaborative effort to adjust the program as needed and mitigate negative effects of training. For these reasons, a generalized exercise approach may not be the best option for this demographic.

Another ethical consideration is the individual experience with GACMS and an associated exercise program may be different due to ethnicity, race, socioeconomic status, and gender identity. Again, having a generalized exercise program may not take these things into consideration, but having a healthcare provider that is taking steps to address these disparities and be sensitive to these differences will be a massive help to increase inclusivity and ensure safety of the client. Providing things like education and resources that are tailored to each person's specific needs would also help promote inclusion and equity of the exercise program. By attending to these ethical considerations, exercise programs for GACMS can promote safe, effective, and compassionate care for all genderqueer individuals.

A thorough assessment of previous medical history, exercise experience, lifestyle habits, and barriers to exercise can help mitigate some of the risks mentioned above. However, not all people can afford to have this type of assessment or have access to facilities with these services. In these cases, individuals completing this exercise program should proceed with caution and do so at their own risk.

Application to KINE Field and Future Directions

This project has highlighted some of the major gaps in transgender and genderqueer research. This type of research is on the rise, however there is currently no research on functional outcomes and exercise protocol after GACMS. There are also no standardized rehabilitation programs that are developed by credible sources; the rehabilitation information is vague or nonexistent. With an increase in genderqueer individuals receiving GACMS it is essential that healthcare professionals such as kinesiologists, physiotherapists and personal trainers are involved in the recovery process and have the knowledge to safely and effectively deliver exercise information to this population. This exercise program provides an invaluable tool for GACMS recovery that can be utilized by healthcare professionals or clients themselves. With that being said, all people working in a health-related field should be aware of more than just the training aspects of an exercise program but should also provide a safe environment free from discrimination, to allow the client to feel safe and be themselves. This includes engaging in education that is specific to transgender care, proper pronoun usage and open dialogue that encourages self-discovery and self-identification. Lastly, the topic of transgender and genderqueer health cannot be discussed without mentioning the state of transgender rights in North America. There is a massive anti-transgender movement currently taking place and it is gaining traction largely due to the American political climate. 417 anti-LGBTQ bills have been introduced since the start of 2023 and sadly, most of them are targeting transgender youth, by taking away gender affirming healthcare and removing LGBTQ information from public-school curriculums (Choi, 2023). The anti-transgender movement has also gained a lot of traction in sports media because American lawmakers have been attempting to ban transgender people from athletics since 2020 (Strangio & Arkles, 2023). The anti-transgender rhetoric is spreading misinformation and extremely harmful language for the genderqueer community. Transgender lives are at risk, and it is now more important than ever to create positive dialogue around transgender and genderqueer healthcare. This exercise program not only provides a necessary tool for genderqueer individuals, but it provides positive information that will help the field of kinesiology provide better care for transgender patients.

Appendix A

Glossary of Terms

Bisexual	"A person emotionally, romantically or sexually attracted to more than one sex, gender or gender identity though not necessarily simultaneously, in the same way or to the same degree. Sometimes used interchangeably with pansexual." (Human Rights Campaign, n.d. Glossary section)
Cis-gender	"A term used to describe a person whose gender identity aligns with those typically associated with the sex assigned to them at birth." (Human Rights Campaign, n.d. Glossary section)
Gay	"A person who is emotionally, romantically or sexually attracted to members of the same gender. Men, women and non-binary people may use this term to describe themselves." (Human Rights Campaign, n.d. Glossary section)
Gender diverse/gender non-conforming	"A broad term referring to people who do not behave in a way that conforms to the traditional expectations of their gender, or whose gender expression does not fit neatly into a category. While many also identify as transgender, not all gender non-conforming people do." (Human Rights Campaign, n.d. Glossary section)
Gender Identity	"One's innermost concept of self as male, female, a blend of both or neither – how individuals perceive themselves and what they call themselves. One's gender identity can be the same or different from their sex assigned at birth." (Human Rights Campaign, n.d. Glossary section)
Gender queer	"Genderqueer people typically reject notions of static categories of gender and embrace a fluidity of gender identity and often, though not always, sexual orientation. People who identify as "genderqueer" may see themselves as being both male and female, neither male nor female or as falling completely outside these categories." (Human Rights Campaign, n.d. Glossary section)
Lesbian	"A woman who is emotionally, romantically or sexually attracted to other women. Women and non-binary people may use this term to describe themselves." (Human Rights Campaign, n.d. Glossary section)
Non-binary	"An adjective describing a person who does not identify exclusively as a man or a woman. Non-binary people may identify as being both a man and a woman, somewhere in between, or as falling completely outside these categories. While many also identify as transgender, not all non- binary people do. Non-binary can also be used as an umbrella term
	encompassing identities such as agender, bigender, genderqueer or gender-fluid." (Human Rights Campaign, n.d. Glossary section)
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Plus (+)	"A sign to recognize the limitless sexual orientations and gender identities used by members of our community." (Human Rights Campaign, n.d. Glossary section)
Queer	"A term people often use to express a spectrum of identities and orientations that are counter to the mainstream. Queer is often used as a catch-all to include many people, including those who do not identify as exclusively straight and/or folks who have non-binary or gender- expansive identities. This term was previously used as a slur, but has been reclaimed by many parts of the LGBTQ+ movement." (Human Rights Campaign, n.d. Glossary section)
Sexual orientation	"An inherent or immutable enduring emotional, romantic or sexual attraction to other people. Note: an individual's sexual orientation is independent of their gender identity." (Human Rights Campaign, n.d. Glossary section)
Transgender	"An umbrella term for people whose gender identity and/or expression is different from cultural expectations based on the sex they were assigned at birth. Being transgender does not imply any specific sexual orientation. Therefore, transgender people may identify as straight, gay, lesbian, bisexual, etc." (Human Rights Campaign, n.d. Glossary section)
Two-Spirit (2S)	"A term used within some Indigenous communities, encompassing sexual, gender, cultural, and/or spiritual identity. This umbrella term was created in the English language to reflect complex Indigenous understandings of gender and sexuality and the long history of sexual and gender diversity in Indigenous cultures. This term may refer to cross, multiple, and/or non-binary gender roles; non-heterosexual identities; and a range of cultural identities, roles, and practices embodied by Two-Spirit peoples." (Trans Care BC, n.d. Glossary section)

Note: Glossary of terms amended from the Human Rights Campaign https://www.hrc.org/resources/glossary-of-terms and Trans Care BC http://www.phsa.ca/transcarebc/gender-basics-education/terms-concepts/glossary#undefined

Appendix **B**

Survey Questions and Results

Question 1:

What was your experience navigating the healthcare system while inquiring/preparing for GACMS? (positive/negative/neutral?)

Answers:

P1: Neutral

P2: Neutral

P3: positive

P4: neutral

Question 2:

Did you experience any adverse reactions or complications after surgery? Answers:

P1: I fainted a couple days post-op and was scared that I had maybe done damage to healing, I hadn't but I couldn't reach anyone for about a week in order to get confirmation and didn't get seen for another 4-5 weeks after that call.

P2: Yes, slightly above average fluid build up in the surgery site, as well as major complications with the JP drains

P3: infected nipple graft, stretch marks, poor posture from post-op binder P4: yes

Questions 3:

Were you given any pre-surgery recommendations for exercise? If yes, what were they?

Answers:

P1: I remember being told that it would be recommended to stay healthy pre-surgery but there was no direct instructions

P2: No, just told to continue exercising as normal

P3: to lose weight, if possible. from my own research, people recommended building chest/upper body muscles to help the surgeon with more natural scar/nipple graft placement P4: no

Question 4:

Were you given any recovery/rehabilitation information for immediate post surgery? (initial 6-weeks) What was it?

Answers:

P1: Initial 6 weeks I was told to do basically nothing, try not to lift arms and try to limit all movement

P2: I was told to heavily limit the movement of my arms for the first 2 weeks, and begin to introduce some movement in the arms/upper body (not exercise) after 2 weeksP3: no raising my arms above my head for at least 4 weeks, no lifting more than 5 lbsP4: yes-bending over and rotating arms at shoulders in increasingly larger circles clockwise and counter-clockwise

Question 5:

After the initial 6-week recovery time, were you given any information about proper exercise technique or rehabilitation?

Answers:

P1: I had my final check up about 5-6 week post surgery and was just told that I could go back to everyday life but was not given any specific rehabilitation information

P2: I was not. I was told I could return to normal exercise- despite that I probably actually needed extra time due to the amount of fluid build up and the JP drain complications P3: no

P3: no P4: no

P4: 110

Question 6:

What (if any) exercises were given by your surgeon or doctor post surgery?

(rehabilitation/postural/strength)

Answers:

P1: None by surgeon or doctor.

P2: None

P3: only to massage my chest/scars to break up the scar tissue

P4: lol

Question 7:

Were you given any resources on how to properly progress through movements post surgery?

Answers:

P1: No I was not P2: None P3: no P4: no

Question 8:

Were you given any contacts or resources for physiotherapy or personal training post-surgery? Answers: P1: No I was not

P2: None

P3: no P4: no

Question 9:

Do you have any suggestions for how the healthcare system could improve GACMS recovery? Answers:

P1: I felt I was left with very little information or resources after my surgery, in fact when I tried to contact my surgeon about a week post-op I was informed he had gone on vacation and would not be back for another 4 weeks. I think having more resources on trans friendly clinics, nurses or physical therapy would be super beneficial.

P2: Better and more hands on after care. It is hard to know wether you are actually doing more bad then good to your body when you begin exercising after the 6 weeks is up. The numbness in my chest lasted for over 6 months, leaving my unaware when I had strained my pectoral/chest muscles or stretched scar tissue. I even accidentally stretched one of my nipples in the 7-8th week after surgery.

P3: a lot of the top surgery process was done through transcare bc and i don't remember seeing anything about post-surgery exercise recommendations anywhere on their website or mentioned at all during the process, aside from mentioning that one would have to wait at least 6 weeks to heal before heavy lifting. i'd love to see more info out there to help folks with their posture post-surgery since a lot of pre-op people hunch to hide their chest, and during surgery recovery the stitches and compression vest enforce bad posture as well.

P4: Giving patients information on how to recover post-surgically for their body. The only information is online for us and that can be dangerous.

Appendix C

Informed Consent and Liability Release

Client Contact Information:
Name :
Phone Number:
Address:
Emergency contact:
General Statement of Program Objectives and Procedures
 I understand that this Coaching Program includes the following: Exercises to build the cardiorespiratory system (heart and lungs), the musculoskeletal system (muscle endurance and strength and flexibility), and to improve body composition (decrease body fat in individuals needing to lose fat, with an increase in weight of muscle and bone). Exercises that may include aerobic activities (treadmill, walking, running, cycling, rowing machine exercises, group aerobic activity, swimming, hiking and other aerobic activities), calisthenic exercises, and weightlifting to improve muscular strength and endurance and flexibility, and to improve joint range of motion. I understand that the reaction of the heart, lung and blood vessel system to exercise cannot always be predicted with accuracy. I know there is a risk of certain abnormal changes occurring during or following exercise which may include abnormalities of blood pressure or heart attacks. Use of the weight lifting equipment and engaging in heavy body
calisthenics may lead to musculoskeletal strains, pain and injury if adequate warm-up, gradual progression and safety procedures are not followed. I understand that personal trainer () shall not be liable for any damages arising from personal injuries sustained by client while and during the personal training program. Client using the exercising equipment during the personal training program does so at her own risk. The client assumes full responsibility for any injuries or damages which may occur during the training
 I understand and acknowledge that the services provided are at all times restricted to consultation on the subject of health matters intended for well-being, and are not meant

- consultation on the subject of health matters intended for well-being, and are not meant for the purposes of medical diagnosis, treatment or prescribing of medication for any disease, or any licensed controlled act which may constitute the practice of medicine.
 I understand that I will be participating in this program in a physical setting around other individuals, which may expose me to virulent diseases such as COVID-19. Although my safety will remain top priority by my trainer. I will take responsibility for my health and
- safety will remain top priority by my trainer, I will take responsibility for my health and wellbeing by using precaution while exercising, social distancing where possible and stay home if I am feeling unwell.

• I understand that I am a top priority. I understand that although simple changes may make the biggest difference, it does not mean that it will be easy. I acknowledge that the effort I put forth into my program is worth gaining more energy, vitally, confidence and leading a more fulfilling life. I will commit to reaching my own version of vitality and optimal health and I believe wholly that this is possible. I am ready to shift my perspective around each area in my life in order to shift and grow. By committing to myself I improve my family, friends and community.

I hereby fully and forever release and discharge the Coach (Alysha Monk), its assigns and agents from all claims, demands, damages, rights of action, present and future therein.

I understand and warrant, release and agree that I am in good physical condition and that I have no disability, impairment or ailment preventing me from engaging in active or passive exercise that will be detrimental to heart safety or comfort, or physical condition if I engage or participate (other than those items fully discussed on health history form).

I state that I have had a recent physical checkup and have my personal physicians permission to engage in aerobic and/or anaerobic conditioning.

Initials: _____

Payment Contract/Agreement:

The payment of _______, starting on ______ This payment will include ______ sessions commencing on the payment date stated above.

Personal training sessions that are not rescheduled or canceled 24 hours in advance will result in forfeiture of the session and a loss of the financial investment at the rate of one session. Clients arriving late will receive the remaining scheduled session time, unless other arrangements have been previously made with the trainer. The expiration policy requires completion of all personal training sessions within <u>130</u> days from the date of the contract. Personal training sessions are void after this time period. No personal training refunds will be issued for any reason, including but not limited to relocation, illness, and unused sessions.

Description of Potential Benefits:

I understand that a program of regular exercise for the heart, lungs, muscles and joints has many benefits associated with it. These may include a decrease in body fat, improvement in blood fats and blood pressure, improved sleep, decreased stress, improvement in other physiological functions and decrease in health-related risks. I recognize that my results are greatly based on my adherence and participation within this program.

I have read the foregoing information and understand it. Any questions which may have occurred to me have been answered to my satisfaction.

Name	(printed):	

Si	gn	at	m	·e:	
~	<u></u> -				_

Appendix D

Physical Activity Readiness Questionnaire

2021 PAR-Q+

The Physical Activity Readiness Questionnaire for Everyone

The health benefits of regular physical activity are clear; more people should engage in physical activity every day of the week. Participating in physical activity is very safe for MOST people. This questionnaire will tell you whether it is necessary for you to seek further advice from your doctor OR a qualified exercise professional before becoming more physically active.

GENERAL HEALTH QUESTIONS					
Please read the 7 questions below carefully and answer each one honestly: check YES or NO.	YES	NO			
1) Has your doctor ever said that you have a heart condition \square OR high blood pressure \square ?					
 Do you feel pain in your chest at rest, during your daily activities of living, OR when you do physical activity? 					
3) Do you lose balance because of dizziness OR have you lost consciousness in the last 12 months? Please answer NO if your dizziness was associated with over-breathing (including during vigorous exercise).					
4) Have you ever been diagnosed with another chronic medical condition (other than heart disease or high blood pressure)? PLEASE UST CONDITION(S) HERE					
5) Are you currently taking prescribed medications for a chronic medical condition?					
PLEASE LIST CONDITION(S) AND MEDICATIONS HERE:					
6) Do you currently have (or have had within the past 12 months) a bone, joint, or soft tissue (muscle, ligament, or tendon) problem that could be made worse by becoming more physically active? Please answer NO if you had a problem in the past, but it does not limit your current ability to be physically active.					
PLEASE LIST CONDITION(S) HERE:					
7) Has your doctor ever said that you should only do medically supervised physical activity?	<u> </u>	11			
Precise sign the PARTICIPANT DECLARATION. To use on on need to complete rages 2 and 3. Start becoming much more physically active - start slowly and build up gradually. Follow Global Physical Activity Guidelines for your age (https://www.who.int/publications/i/item/9789240015128). You may take part in a health and fitness appraisal. If you are over the age of 45 us and NOT accustomed to regular vigorous to maximal effort exercise, consult a qualified exercise professional before engaging in this intensity of exercise. If you are over the age required for consent or require the assent of a care provider, your parent, guardian or care provider must also sign this form. I, the undersigned, have read, understood to my full satisfaction and completed this questionnaire. I acknowledge that this physical activity clearance is valid for a maximum of 12 months from the date it is completed and becomes invalid if my condition changes. I also acknowledge that the community/fitness center may retain a copy of this form for its records. In these instances, it will maintain the confidentiality of the same, complying with applicable law. NAME:					
IT YOU ANSWERED YES TO ONE OF MORE OF THE QUESTIONS ADOVE, COMPLETE PAGES 2 AND 3.					
 Delay becoming more active if: You have a temporary illness such as a cold or fever; it is best to wait until you feel better. You are pregnant - talk to your health care practitioner, your physician, a qualified exercise professional, and/or complete exclusions 2* at www.eparmeex.com before becoming more physically active. Your health changes - answer the questions on Pages 2 and 3 of this document and/or talk to your doctor or a qualified expressional before continuing with any physical activity program. 	the kercise				

Note: Full version available at http://eparmedx.com/?page_id=79

Appendix E

New Client Intake Form



Intake Form



Lifestyle habits, Goals, Barriers

Answer the following questions to the best of your ability

CLIENT INFO			
Name and Birthday:			
Pronouns:			
Address:			
Telephone Number:			
Occupation:			
How did you hear about us?			
Emergency contact name and number:			
Current height and weight (if you know!)			
Current medications and/or supplements:			
Current injuries or ailments (if any):			
Previous injuries (breaks, sprains, tears):			
Do you currently smoke? If yes, how often?			
Do you drink? How often?			
Anything else I should know?			

Sleep Habits

1. What time do you normally go to bed/wake up?_____

2. How many hours of sleep do you get per night on average?_____

3. How would you rate your quality of sleep?						
Very Bad 🔲	Fairly Bad 🔲	Fairly Good 🔲	Very Good 🔲			

Lifestyle Habits

4. What motivated you to start exercising?

5. What would you like to get out of the exercise program?

6. What do you do for fun? ie. hiking, reading, watching movies, cooking

7. What does being "healthy" / "health" mean to you?

8. What are some healthy fitness/exercise/movement habits you have now? What are some exercises, fitness classes, gyms, or other fitness programs you enjoy?

9. What would you like to change about the way you exercise, move, or workout? Why?

10. When is your stress at its lowest? Its worst?

11. What works best for you when it comes to managing stress? What have you tried in the past to manage stress that has worked for you?

12. How would you describe your current mental health/wellness? What do you use/do to manage it?

From the following list of commonly cited barriers to physic	al activity, indicate the level of importance to your situation on a scale of 1 to 10 by circling the									
Not	Impor	tant							Very I	mportant
Previous negative experiences with physical activity	1	2	3	4	5	6	7	8	9	10
Lack of time	1	2	3	4	5	6	7	8	9	10
Have other areas in my life that I feel must take priority in my day	1	2	3	4	5	6	7	8	9	10
Costs	1	2	3	4	5	6	7	8	9	10
Lack of energy	1	2	3	4	5	6	7	8	9	10
Lack of knowledge	1	2	3	4	5	6	7	8	9	10
Lack of motivation	1	2	3	4	5	6	7	8	9	10
Lack of skill	1	2	3	4	5	6	7	8	9	10
Feeling uncomfortable or intimidated in a gym	1	2	3	4	5	6	7	8	9	10
Fear of injury or re-injury	1	2	3	4	5	6	7	8	9	10
Fear of making an existing condition worse	1	2	3	4	5	6	7	8	9	10
How I see my body	1	2	3	4	5	6	7	8	9	10
Failure to reach goals in past attempts	1	2	3	4	5	6	7	8	9	10
Know that I cannot achieve the goals I want so why bother	1	2	3	4	5	6	7	8	9	10
Gendered bathroom/locker facilities	1	2	3	4	5	6	7	8	9	10
Fear of gender discrimination	1	2	3	4	5	6	7	8	9	10
Feeling uncomfortable with one's chest/body image	1	2	3	4	5	6	7	8	9	10

Barriers to Physical Activity

Note: amended from CSEP-PATH (2019)

Appendix F

Fillable Assessment Forms

Treadmill Walking Test

Aerobic Assessment: Treadmill Walking Test						
Age:	HRmax:	Calculation: = $0.85 \times [208 - (0.7 \times age)]$				
50% HRmax:	70% HRmax:	85% HRmax:				
Stage 1	Stage 2	Extra Time				
1min:	5min:	9min:				
2min:	6min:	10min:				
3min:	7min:	11min:				
4min:	8min:	12min:				
Speed After 4min:	Speed After 4min:					
Steady State HR:						
VO2max Calculation: Estimated VO2max (ml \cdot kg-1 \cdot min-1) = 15.1 + (21.8 \times speed mph) - (0.327 \times SSHR bpm) - (0.263 \times speed mph \times age) + (0.00504 \times SSHR bpm \times age) + (5.98 for males)						

Note: Amended from CSEP-PATH (2019)

Fillable Functional Assessment Form

Functional Assessment						
Assessments:	No	Common Breakdowns:				
	Lateral View	Posterior View				
Static Posture			 Excessive thoracic kyphosis Rounded shoulders Winged scapula Anterior/posterior hip tilt Forward head position 			
Shoulder Flexion/Extension	R Side	L Side	- Elevated shoulders - Rib cage flare			
Segmental Intervertebral Motion	Flexion	Extension	- Lack of movement			

Seated Rotation Test	R Side	L Side	- Unable to move t-
			spine separate from
			hips
Overhead Squat	**See below for fu	Ill assessment form	
Single leg balance	R Side	L Side	- Flat feet + knee
			valgus
			- Unable to complete
			without support
Single Leg Squat	R Side	L Side	- Hip hike/drop
~		2.5.00	- Knee valgus/varus
			- Torso rotation
Plank			- Raised butt
1 Idlik			- Arched low back
			- Head sagging forward
			- Shoulder blades
			retracted (lack shoulder
			stability)
Seated Chest Press	R Side	L Side	- Shoulder elevation
Machine			- Low back arch
			- Head migrates
			loiward
Cable Row	R Side	L Side	- Shoulder elevation
			- Low back arch
			- Head migrates
			forward
Double Leg Lowering		1	- Low back unable to
Test			stay on the ground

Sorensen Erector Spinae Test		
Sit and Reach Test		- Hips excessively tucked under
	Overhead Squat Assessment	
Sagittal View	Notes	Common Breakdowns
Head		- Forward head position
Shoulders		- Excessive internal rotation
Spine		 Excessive thoracic kyphosis Excessive lumbar lordosis
Hips		- Excessive anterior/posterior tilt
Knees		- locked out
Posterior/Frontal View	Notes	Common Breakdowns
Head		- Lateral tilt
Shoulders		- Shoulders elevated or shrugging

Spine	- Spine scoliosis
Hips	- Hips tilted to one side
Knees	- valgus or varus knee movement
Feet	- Flat feet or excessive arch

Appendix G

Post-Surgery Recommendation Hand-Out

Post-Surgery Recommendations

Recommendations for weeks 1-6 after Gender affirming chest masculinization surgery (GACMS)

First 7-9 Days

- Organize time off with your employer
- Have a family member or friend help you with
 - daily living activities for the first 4-7 days
- Short slow walks. Avoid any vigorous activity
 Rest, rest, rest
- R
 - Avoid a high sodium diet, smoking, and alcohol

8-14 Days

- Long walks at a "strolling pace"
- Walking helps promote blood flow and healing
- ROM limited due to compression vestDeep breathing exercises can help with
- Deep breatning exercises can help with circulation and mental health



15-21 Days

- Long walks at a "strolling pace"
- Keep nipple area clean and change dressings when required



21-42 days

- It is ok to do cardio activities. ie running, elliptical, cycling
- Avoid raising arms above shoulder heightAvoid stretching the chest



- Do not lift over 5lb for the first two weeks post surgery
- for weeks 3-6, 20-25lb is the maximum
- weight that can be liftedRegular physical activity can commence after 6 weeks post-surgery

**These are general suggestions and guidelines. However, tt is extremely important that you follow the instruction set forth by your doctor because they may differ.

References

Gender Confirmation Center by Dr. Scott Mosser

Appendix H

Macrocycle and Mesocycles

GACMS Recovery - Macrocycle

Yearly Trair	Yearly Training Plan/Macrocycle													
Level	Phase	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
Initial Recovery	Rehab	•	1/2											
Stabilization + Movement	1		1/2	•			•		•		•			
Strength Endurance	2				•							•		
Hypertrophy	3					•							•	
Strength	4							•						
Power	5									•				

Note: $\frac{1}{2}$ *indicated half of the month spent in allocated phase.*

GACMS Recovery – Mesocycle 1 (Stabilization and Movement)

Phase 1 (6 weeks)																					
Weeks		1-2 MTWTFSS								2	-4						,	4-6			
Day	М	Т	N	Т	F	S	S	Μ	Т	W	Т	F	S	S	Μ	Т	W	Т	F	S	S
Aerobic		Х		Х		Х			Х		Х		Х			Х		Х		Х	Х
Resistance	Х		Х		Х			Х		Х		Х			Х		Х		Х		
Flexibility	Х		Х		Х			Х		Х		Х	Х		Х		Х		Х	Х	
Mind-Body		Х			Х				Х			Х		X		Х	Х		Х		Х

GACMS Recovery – Mesocycle 2 (Strength Endurance)

Phase 2 (4 weeks)														
Weeks	1-2 2-4													
Day	М	Т	W	Т	F	S	S	М	Т	W	Т	F	S	S
Aerobic		Х		X X X X X X										

Resistance	Х		Х	Х		Х	Х	Х		Х	
Flexibility	Х		Х	X		Х		Х		Х	
Mind-Body		Х			Х		Х		Х		Х

GACMS Recovery – Mesocycle 3 (Hypertrophy)

Phase 3 (4 weeks)														
Weeks			1	-2						2-4				
Day	М	Т	W	Т	F	S	S	М	Т	W	Т	F	S	S
Aerobic		Х		Х				X X X						
Resistance	Х	Х	Х		Х			Х	Х	Х		Х		
Flexibility	Х	Х	Х		Х			Х	Х	Х		Х		
Mind-Body		Х		Х		Х			Х		Х			Х

GACMS Recovery – Mesocycle 4 (Strength)

Phase 3 (4 weeks)														
Weeks			1	-2							2-4			
Day	М	Т	W	Т	F	S	S	М	Т	W	Т	F	S	S
Aerobic			Х			Х		X X X						
Resistance	Х	Х		Х	Х			Х	Х		Х	Х		
Flexibility	Х	Х	Х		Х			Х	Х	Х		Х		
Mind-Body		Х		Х		Х			Х		Х		Х	

GACMS Recovery – Mesocycle 5 (Power)

Phase 3 (4 weeks)													
Weeks					2-4								
Day	М	Т	W	Т	F	S	М	Т	W	Т	F	S	S

Aerobic/anaerobic			Х			Х	Х		Х		Х		Х	Х
Resistance	Х	Х		Х	Х			Х	Х		Х	Х		
Flexibility	Х	Х	Х		Х			Х	X	Х		Х		
Mind-Body		Х		Х		Х			Х		Х		Х	

Appendix I

The following exercise program contains the information for the stabilization and movement phase. There are three workouts (upper body, lower body, and full body) for each 2-week section within the 6-week microcycle. Each exercise is hyperlinked to a video of the movement as well as notes describing important queues and the reasoning behind each exercise. The sets and reps change each week and intensity increases throughout the phase. Flexibility and mind-body exercises can be found as the cool-down portion of the exercise routine and cardiorespiratory training can be found at the end of the program and an example client logbook can be found in the last table.

Week 1-2 Day 1 – Upper Body												
Exercise	Sets		Reps	Intensity (RPE or %)	Notes	Reasoning						
Prep:												
A1: <u>Cat/cow</u>	1		18-20	1-3 RPE	Breath in during cat and out during cow.	Spine mobility, specifically working into extension						
A2: <u>Thoracic</u> Extension on Foam Roller	1		18-20	1-3 RPE	Don't let rib cage flare up	Thoracic mobility (extension)						
A3: <u>Lying T-</u> <u>Spine Rotation</u>	1		6-8/side	1-3 RPE	Keep knees directly stacked over each other	Thoracic mobility (rotation)						
A4: <u>Seated</u> <u>Shoulder</u> <u>Retraction and</u> Depression	1		18-20	1-3 RPE	N/A	Scapular movement Improve strength of muscles around the shoulder blade						
Resistance, Teo	hniqu	e, Bala	ance, Core			·						
B1: <u>Supine</u> <u>Drawing-In</u> (<u>Bracing</u> Technique)	W1 W2	1 2	15 12	2-4 RPE	Keep spine neutral (don't arch or round low back)	Core engagement and bracing practice						
B2: <u>Quadruped</u> <u>Drawing-In</u> <u>(Bracing</u> <u>Technique)</u>	W1 1 15 W2 2 12		2-4 RPE	Keep spine neutral (don't arch or round low back)	Core engagement and bracing practice							
	W1	1	30sec hold	n/a		Static balance						

Phase 1	(Stabilization	and Movement) Microcy	ycle
---------	----------------	--------------	-----------	------

B3: <u>Single Leg</u> Balance	W2	2	40sec hold		Use a chair or wall as support if needed	
						·
C1: Prone	W1	1	15	2-4 RPE	Don't shrug	-Shoulder mobility
Swimmers	W2	2	12		shoulders, keep	-Trapezius, rhomboid,
					them away from your ears	rotator cuff strength
C2: <u>Plank</u>	W1	1	20sec hold	3-4 RPE	Tuck hips under	Core strength
	W2	2	30sec hold		and squeeze the	
					glutes. Go from	
C3: Shoulder	W1	1	8/side	1-3 RPF	Create tension	Shoulder joint ROM
CARs	W2	2	6/side		through the body	Shoulder joint Rolvi
	** 2	2	0/ 3100		and don't move	
					anything but the	
					shoulder joint	
	1	1	1	1		
D1: Wall	W1	1	20	2-4 RPE	Keep core	-Shoulder mobility
Slides	W2	2	18		engaged	-Strength for muscles
						surrounding the
D2: Wall	W1	1	20	2-4 RPE	Keep low back	Shoulder blade
Angels	W2	2	18		and head against	retraction and
_		-	10		the wall	strengthening of
						scapular muscles
Cool Down/Flex	xibility	y:	1	T	T	Γ
E1: <u>Childs</u>	1		60s hold	1-3 RPE	N/A	Flexibility
Pose F2. Standing	1		(0)	1 2 DDE		F1
Chest Stretch			hold/side	1-3 KPE	1N/A	riexionity
E3: Overhead	1		60s	1-3 RPE	N/A	Flexibility
Reach with	1		hold/side		1 11 2 1	1 ioniointy
Side Bend						
E4: Seated	1		60s	1-3 RPE	N/A	Flexibility
Neck Stretch			hold/side			

Week 1-2 Day 2 – Lower Body									
Exercise	Sets		Reps	Intensity (RPE or %)	Notes	Reasoning			
Prep:									
A1: <u>Rocking</u> <u>Quadrupeds</u>	W1	1	20	1-3 RPE	Keep spine neutral	Thoracic and hip mobility while maintaining lumbar			
	W2	2	18			stability			
A2: <u>Pelvic</u> <u>Tilts</u>	W1	1	20	1-3 RPE	Try to keep movement in the				

	W2	2	18		hips, not the spine	Improve hip mobility and pelvic
						tilt control
A3: <u>Half</u> Kneeling Hip	W1	1	20/side	1-3 RPE	N/A	Thoracic rotation and hip flexor
<u>Flexor Stretch</u> (with rotation)	W2	2	18/side			stretch
A4: Hip 90/90	W1	1	60s/side	1-3 RPE	Ease into these	Hip mobility
Holds	W2	2	45s/side	-	holds, use hand support if needed	(glutes, piriformis, psoas, hip flexors, hip abductors, and adductors)
Resistance, Tec	hnique,	Balanc	e, Core			
B1: Glute	W1	1	20	3-4 RPE	Keep hips tucked	-Bilateral hip hinge
Bridge	W2	2	18		under and rib cage down	-Glute and hamstring strength
B2: Split	W1	1	20/side	3-4 RPE	Use chair or wall	-Unilateral squat
Squat	W2	2	18/side		as balance	-Lower body
(bodyweight)					support if needed	strength and stability
	•					2
C1: Squat	W1	1	20	3-4 RPE	Brace core	-Bilateral squat
(bodyweight)	W2	2	18		before each rep	-Lower body strength
C2: <u>Hip 90/90</u>	W1	1	20	1-3 RPE	Lean back onto	-Active rest
Switches	W2	2	18		hands if needed	-Hip mobility
	•					
D1: Hip Hinge	W1	1	20	2-4 RPE	Feet hip width	-Bilateral hip hinge
Practice	W2	2	18		apart, keep spine	-Core bracing and
					neutral and brace before each rep	hinging practice
D2: Staggered	W1	1	20/side	3-4 RPE	Move arms	-Balance and single
Stance to					opposite to leg	leg stability
Single Leg	W2	2	18/side		position	-Glute activation
Balance	•1 •1•					-Coordination
Cool Down/Fle	xibility:					
E1: <u>Seated</u>	1		60s/side	1-3 RPE	N/A	Flexibility
Hamstring						
<u>Stretch</u>	1		(0 / 1)			T 1 '1'''
E2: <u>Half</u>	1		60s/side	1-3 RPE	N/A	Flexibility
Flevor Stretch						
(hold)						
E3: Supine	1		60s/side	1-3 RPE	N/A	Flexibility
Figure Four	-					
Hip Stretch						
E4: Standing	1		60s/side	1-3 RPE	N/A	Flexibility
Calf Stretch						

			Week 1	-2 Day 3 – Full]	Body	
Exercise	Sets		Reps	Intensity (RPE or %)	Notes	Reasoning
Prep:						
A1: <u>Cat/Cow</u>	W1 W2	1 2	20 18	1-3 RPE	Breath in during cat and out during cow	Spine mobility, specifically working into extension
A2: <u>Quadruped</u>	W1	1	20	1-3 RPE	Don't flex or extend the spine	-Scapular retraction and protraction
<u>Scapular Pusn-</u> <u>ups</u>	W2	2	18		elbows	-Scapular strength and stability
A3: <u>Supine</u> <u>Drawing-In</u>	W1	1	15	1-3 RPE	Keep spine neutral (don't	Core engagement and bracing
(Bracing Technique)	W2	2	12		arch or round low back)	practice
A4: <u>Adductor</u>	W1	1	15/side	1-3 RPE	Keep spine	Thoracic and hip
Rock Backs	W2	2	12/side		neutral	mobility while maintaining lumbar stability
Resistance, Tec	hnique,	Balance	e, Core			
B1: <u>Deadbug</u>	W1	1	20	3-4 RPE	Keep low back	-Core strength and stability
<u>only)</u>	W2	2	18		floor	-Maintain spine stability during limb movement
B2: <u>Birddog</u> (individual	W1	1	20	3-4 RPE	Do not extend lumbar spine or	-Core strength and stability -Maintain spine stability during limb movement
arm/leg movement)	W2	2	18		lift head/neck up	
		•				
C1: <u>Step Up to</u> Single Leg	W1	1	20/side	3-4 RPE	-Use balance aid	-Balance
Hold	W2	2	18/side		-Don't let knee cave in	and stability
C2: <u>Half</u> <u>Kneeling</u>	W1	1	20/side	3-4 RPE	-Slight bend in elbows	Rotational movement and
<u>Medicine Ball</u> <u>Chop</u>	W2	2	18/side		-Focus on movement from the trunk not the shoulder joint	strength

D1: Push-Up	W1	1	20	3-4 RPE	Keep elbows	Upper body
	W2	2	18		pointed in a	strength (push)
					reverse direction	/
					(not out to the	
					side)	
D2: <u>TRX Row</u>	W1	1	20	3-4 RPE	Don't shrug	Upper body
	W2	2	18		shoulders	strength (pull)
D3: Shoulder	W1	1	8/side	1-3 RPE	Create tension	-Shoulder joint
CARs	W2	2	6/side		through the body	ROM
					and don't move	-Active rest
					anything but the	
					shoulder joint	
Cool Down/Fle	xibility:					
E1: <u>Box</u>	1		60s	1-3 RPE	N/A	Flexibility
Shoulder						
Stretch						
E2: Standing	1		60s/side	1-3 RPE	N/A	Flexibility
Chest Stretch						
E3: Standing	1		60s/side	1-3 RPE	N/A	Flexibility
Hamstring						
Stretch						
E4: Standing	1		60s/side	1-3 RPE	N/A	Flexibility
Quad Stretch						
Mind-Body Prac	ctice					
F1: <u>Box</u>	1		1-2min	1 RPE	N/A	Physiological and
Breathing						cognitive benefits

Week 3-4 Day 1 – Upper Body									
Exercise	Week	Sets	Reps	Intensity (RPE or %)	Notes	Reasoning			
Prep:									
A1: <u>Cat/cow</u>	W3	2	16	1-3 RPE	Breath in during cat and out during	-Spine mobility, specifically			
	W4	3	15		cow	extension			
A2: <u>Thoracic</u>	W3	2	16	1-3 RPE	Keep rib cage	-Thoracic mobility			
Foam Roller	W4	3	15		down.	(extension)			
A3: Quadruped	W3	2	16 (8/side)	1-3 RPE	N/A	-Thoracic mobility (rotation)			
Thoracic Rotation	W4	3	16 (8/side)						

B1: <u>Supine</u> Drawing_In	W3	2	16	2-4 RPE	Keep spine neutral	Core engagement
(Draving-III)		_			(don't aren of	and bracing
<u>(Bracing</u> <u>Technique)</u>	W4	3	15		round low back).	practice
B2: Wall	W3	2	16	2-4 RPE	Keep low back	Shoulder blade
Angels	W4	3	15		and head against	retraction and
					the wall.	strengthening of
						scapular muscles
Resistance, Tec	hnique, I	Balance,	Core			
C1: Plank	W3	2	35s hold	4-5 RPE	Tuck hips under	Core strength.
					and squeeze the	
	W4	3	30s hold		glutes. Go from	
					your knees if	
					needed.	
C2: <u>T-Spine</u>	W3	2	16	4-5 RPE	Focus on	Strengthening
Lifts	W4	3	15		extension through	spine extensor
					the upper back.	muscles.
					Keep feet on the	Specifically in the
					floor.	thoracic region.
C3: Single Leg	W3	2	16	2-4 RPE	Use balance aid if	Maintaining center
Balance With			(8/side)		needed.	of gravity with
Reach	W4	3	16			limb movement.
			(8/side)			
						1
D1. TRX Row	W3	2	16	4-5 RPF	Don't shrug	Upper body
D1. <u>11// 10w</u>	W/A	2	10	4-3 KI L	shoulders	strength (null)
	W4	3	15	4.5.000		strength (pun).
D2: <u>Push-Ups</u>	W3	2	16	4-5 RPE	Keep elbows	Upper body
	W4	3	15		pointed in a	strength (push).
					reverse direction	
					(not out to the	
					side).	
	1	1	1	1	1	Γ
E1: Seated	W3	2	16	4-5 RPE	Start light. Try to	Upper body
Dumbbell	W4	3	15		fully extend your	strength (push).
Shoulder Press					elbows and get the	
					dumbbells directly	
					overhead.	
E2: <u>Farmers</u>	W3	2	40s	4-5 RPE	Walk heal toe heal	Strength and
Carry	W4	3	35s		toe. Keep arms	conditioning.
					slightly away	Specifically grip
					from body.	and core strength.
Cool Down/Flex	xibility:					
F1: Shoulder	1		6-8/side	1-3 RPE	Create tension	Shoulder joint
CARs					through the body	ROM.
					and don't move	
					anything but the	
					shoulder joint.	

F2: <u>Standing</u>	1	60s	1-3 RPE	N/A.	Flexibility.
Chest Stretch		hold/sid			
		e			
F3: Scapula	1	12-15	1-3 RPE	Create tension	Shoulder girdle
CARs		each		through the body	ROM.
		directio		and don't move	
		n		anything but the	
				shoulder blades.	
F4: Seated	1	60s hold	1-3 RPE	N/A.	Flexibility.
Neck Stretch					

Week 3-4 Day 2 – Lower Body							
Exercise	Sets		Reps	Intensity (RPE or %)	Notes	Reasoning	
Prep:							
A1: <u>Rocking</u> <u>Quadrupeds</u>	W3 W4	23	16 15	1-3 RPE	Keep spine neutral	Thoracic and hip mobility while maintaining lumbar stability.	
A2: <u>Half</u> Kneeling Hip	W3 W4	2	16	1-3 RPE	N/A	Thoracic rotation and hip flexor	
Flexor Stretch (with rotation)		5	10			stretch	
A3: <u>Hip 90/90</u>	W3	2	16	1-3 RPE	Ease into these	Hip mobility.	
<u>Holds</u>	W4	3	15		holds, use hand support if needed.		
B1: Hip CARs	W3	2	16	3-4 RPE	No movement	Hip ROM and	
	W4	3	15		anywhere but the hip joint. Keep pelvis level with the ground.	mobility.	
B2: Pelvic	W3	2	16	1-3 RPE	Try to keep	Improve hip	
<u>Tilts</u>	W4	3	15		movement in the hips, not the spine.	mobility and pelvic tilt control.	
B3: Ouadruped	W3	2	16	3-4 RPE	Knees one inch off the ground.	Core strength and stability	
Knees Off Hold	W4	3	15		Imagine squeezing the ground between hands and feet, creating tension.		
Resistance, Tec	hnique	, Balar	nce, Core				
C1: <u>Glute</u> <u>Bridge With</u>	W3 W4	2 3	16 15	4-5 RPE	Keep hips tucked under and rib cage	Unilateral hip hinge. Glute and	
L				1	1		

Single Leg Hold					down. Try to not let hips drop when leg is lifted.	hamstring strength. Core stability
C2: <u>Reverse</u>	W3	2	16/leg	4-5 RPE	Lower the back	Unilateral squat.
Lunge	W4	3	15/leg		knee as close as	Lower body
(bodyweight)					possible to the	strength and
					ground. Use	stability.
					balance aid if	
					needed.	
	11/2		1.6		D 1.0	T 1 11 1 1 1
DI: <u>Goblet</u>	W3	2	16	4-5 RPE (54-	Brace core before	Loaded bilateral
Squat	W4	3	15	56%)	DB close to body	squat. Lower body
D2: Hip 90/90	W3	2	16	1-3 RPE	Lean back onto	Active rest. Hip
Switches	W4	3	15		hands if needed.	mobility.
	I					
E1: Kettlebell	W3	2	16	4-5 RPE (54-	Keep spine	Loaded bilateral hip
Deadlift	W4	3	15	56%)	neutral. Brace	hinge. Lower body
		_	-	,	before each rep.	strength.
E2: Single Leg	W3	2	16/side	4-5 RPE	N/A.	Balance and
Medicine Ball	W4	3	15/side			rotational strength.
<u>Chop</u>						
Cool Down/Flex	xibility:	:				
F1: Banded	1		60s	1-3 RPE	N/A.	Flexibility.
<u>Hamstring</u>			hold/side			
Stretch						
F2: <u>Half</u>	1		60s	1-3 RPE	N/A.	Flexibility.
Kneeling Hip			hold/side			
Flexor Stretch						
(hold) E2: Suring	1	1	(0-	1 2 DDE	NT/A	El ancia ilitar
F3: <u>Supine</u> Spinol Twist	1		60s hold/side	1-3 RPE	N/A.	Flexibility.
<u>Spillar i wist</u>			noiu/side			
F4: Standing	1		60s	1-3 RPE	N/A.	Flexibility.
Calf Stretch			hold/side			

Week 3-4 Day 3 – Full Body								
Exercise	Sets		Reps	Intensity (RPE or %)	Notes	Reasoning		
Prep:								
A1: <u>Adductor</u>	W3	2	16	1-3 RPE	Keep spine	Thoracic and hip		
Rock Backs	W4	3	15		neutral.	mobility while maintaining lumbar stability.		
	W3	2	16	1-3 RPE	N/A.	Spine mobility.		

A2: Seated	W4	3	15			
Spinal						
Flexion/Extens						
<u>101</u>						
B1.	W/3	2	16	2-3 RPF	Don't flex or	Scanular retraction
Ouadruped	W J W/A	2	10	2-3 KFL	extend the spine	and protraction
Scapular Push-	vv 4	3	15		of bend the	under load.
ups					elbows.	Scapular strength
						and stability.
B2: <u>Wall</u>	W3	2	16	2-4 RPE	Keep core	Shoulder mobility.
Slides	W4	3	15		engaged.	Strength for muscles
						surrounding the
B3: Glute	W3	2	16/side	2-4 RPE	Keen knee over	Glute activation and
Band Walk	W4	3	15/side		ankle. Try to not	strength.
	** -	5	15/5140		lean from side to	C
					side.	
Resistance, Tec	hnique	, Bala	nce, Core	1	1	1
C1: <u>Deadbug</u>	W3	2	16	4-5 RPE	Keep low back	Core strength and
	W4	3	15		pressing into the	stability.
					noor.	stability during limb
						movement.
C2: Birddog	W3	2	16	4-5 RPE	Do not extend	Core strength and
	W4	3	15	-	lumbar spine or	stability.
					lift head/neck up.	Maintain spine
						stability during limb
C3: Suitease	W/3	2	16	A 5 PPE	Try to not lean	Balance Grin and
March	W/J	2	10	4-3 KI E	side to side while	core strength
<u>iviaron</u>	VV 4	3	15		switching feet.	core strength.
D1: Single	W3	2	16	4-5 RPE	Control on the	Unilateral squat.
Leg Squat (to	W4	3	15	1	way down. Don't	Lower body
bench)					let knee cave in.	strength. Balance.
D2: <u>Paloff</u>	W3	2	16	4-5 RPE	Don't let	Anti-rotation drill.
Press	W4	3	15		shoulders shrug.	Core strength
				-		
E1: Staggered	W3	2	16	4-5 RPE (54-	Don't let	Upper body strength
Stance Single	W4	3	15	56%)	shoulders shrug or	(pull). Thoracic
Arm Cable Row					knee cave in.	rotation.
E2: Staggered	W3	2	16	4-5 RPE (54-	Keen hins facing	Unilateral hin hinge
Stance	W4	2	15	56%)	forward. Don't let	Lower body
Kettlebell	- ·· -	5	1.5	,	the trailing leg hip	strength.
Deadlift					open up.	-
Cool Down/Fle	xibility	:				

F1: <u>Box</u>	1	60s hold	1-3 RPE	N/A.	Flexibility.
<u>Stretch</u>					
F2: <u>Standing</u> Chest Stretch	1	60s hold/side	1-3 RPE	N/A.	Flexibility.
F3: <u>Shoulder</u> <u>CARs</u>	1	6-8/side	1-3 RPE	Create tension through the body and don't move anything but the shoulder joint.	Shoulder joint ROM.
F4: <u>Standing</u> Quad Stretch	1	60s hold/side	1-3 RPE	N/A.	Flexibility.
Mind-Body					
F1: <u>Box</u> Breathing	1	3-5min	1 RPE	N/A	Physiological and cognitive benefits

Week 5-6 Day 1 – Upper Body									
Exercise	Sets		Reps	Intensity (RPE or %)	Notes	Reasoning			
Prep:									
A1: <u>Cat/cow</u>	W5 W6	3 3	14 12	1-3 RPE	Breath in during cat and out during cow.	Spine mobility, specifically working into extension.			
A2: <u>Half</u> <u>Kneeling</u> <u>Thoracic</u> <u>Rotation</u> Against Wall	W5 W6	3	14/side 12/side	1-3 RPE	N/A.	Thoracic mobility (rotation).			
A3: <u>Shoulder</u> <u>CARs</u>	W5 W6	3 3	6-8/side 6-8/side	2-3 RPE	Create tension through the body and don't move anything but the shoulder joint.	Shoulder joint ROM.			
			1	1	1	1			
B1: <u>Scapular</u> <u>Push-ups</u> (from toes)	W5 W6	3	14	3-5 RPE	Don't bend at the elbow joint. Don't let low back arch.	Scapular retraction and protraction under load. Scapular strength and stability.			
B1: Deadbug	W5 W6	3 3	14/side 12/side	3-5 RPE	Keep low back pressing into the floor.	Core strength and stability. Maintain spine stability during limb movement.			
	w S	5	14	3-3 KPE					

1				1		
B2: <u>Banded</u>	W6	3	12		Elbows slightly	Upper body prep.
Pull-aparts					bent. Keep	Strengthening
					shoulder blades	shoulder retractors.
					down and back.	
Resistance, Tec	hnique	e, Balan	ce, Core			
C1: Push-Up	W5	3	14	4-6 RPE	Keep elbows	Upper body strength
	W6	3	12		pointed in a	(push).
					reverse	
					direction (not	
					out to the side).	
C2: <u>Shoulder</u>	W5	3	14	3-5 RPE	Don't shrug	Shoulder mobility.
Swimmers	W6	3	12		shoulders, keep	Trapezius,
					them away from	rhomboid, rotator
					your ears.	cuff strength.
C3: <u>Dead</u>	W5	3	15s	5-6 RPE	See	Grip strength.
Hang	W6	3	20s		progressions in	Overhead mobility.
					the video. Use	
					feet support if	
					needed.	
	[1.	T	1		
D1: <u>TRX Row</u>	W5	3	14	5-6 RPE	Don't shrug	Upper body strength
	W6	3	12		shoulders.	(pull).
D2: Plank to	W5	3	14	5-6 RPE	N/A.	Core strength. Upper
Down Dog	W6	3	12			body strength.
						Shoulder mobility.
E1: <u>Half</u>	W5	3	14/side	5-6 RPE (58-	Keep rib cage	Unilateral upper
<u>kneeling</u>	W6	3	12/side	60%)	down. Aim for	body push. Shoulder
<u>Dumbbell</u>					full ROM	strength.
Shoulder Press					overhead.	
E2: <u>Suitcase</u>	W5	3	30s/side	5-6 RPE	Try not to lean	Core and grip
<u>Carry</u>	W6	3	40s/side		to one side.	strength.
					Walk heel toe	
	•••••				heel toe.	
Cool Down/Fle	xibility		T	1	1	1
F1: <u>Shoulder</u>	1		6-8/side	1-3 RPE	Create tension	Shoulder joint
<u>CARs</u>					through the	ROM.
					body and don't	
					move anything	
					but the shoulder	
	1		<i>(</i>) / · 1	1.2 DDE	joint.	771 11 11 1
F2: <u>Standing</u>	1		60s/side	1-3 RPE	N/A.	Flexibility.
<u>Chest Stretch</u>	1		12 14	1 2 DDE	Careta tamian	<u>C1</u> 1.1
F3: <u>Scapula</u>			12-14 per	1-3 KPE	Create tension	Snoulder girdle
<u>UAKS</u>			direction		hody and don't	KUM.
					body and don t	
					but the choulder	
					blades	
1	1		1	1	oracios.	1

F4: Standing	1	60s/side	1-3 RPE	N/A.	Flexibility.
Triceps Stretch					

Week 5-6 Day 2 – Lower Body							
Exercise	Sets		Reps	Intensity (RPE or %)	Notes	Reasoning	
Prep:							
A1: <u>Hip CARs</u>	W5 W6	3 3	14 12	2-3 RPE	No movement anywhere but the hip joint. Keep pelvis level with the ground.	Hip ROM and mobility.	
A2: World's	W5	3	14	1-3 RPE	N/A.	Movement prep and	
<u>Greatest</u> <u>Stretch</u>	W6	3	12			mobility.	
A3: <u>Hip 90/90</u>	W5	3	14	1-3 RPE	Lean back onto	Active rest. Hip	
Switches	W6	3	12		hands if needed.	mobility.	
	1175	2	14		17 1 1 1	D'1 / 11' 1'	
BI: <u>Glute</u> Bridge	W5 W6	3	14 12	2-4 RPE	keep hips tucked under and rib cage down	Glute and hamstring strength. Core stability.	
B2: <u>Birddog</u>	W5 W6	3 3	14 12	2-4 RPE	Do not extend lumbar spine or lift head/neck up.	Core strength and stability. Maintain spine stability during limb	
Resistance, Tec	hnique	e. Bala	nce. Core			movement.	
C1: <u>Glute</u> <u>Bridge (from</u> <u>bench)</u>	W5 W6	3 3	14 12	5-6 RPE	Keep hips tucked under and rib cage down.	Bilateral hip hinge. Glute and hamstring strength. Core stability	
C2: Walking	W5	3	14	5-6 RPE (58-	Don't let front	Unilateral squat.	
Lunge	W6	3	12	60%)	knee cave in.	Lower body strength.	
		_					
D1: Goblet	W5	3	14	5-6 RPE (58-	Brace core before	Loaded bilateral	
Squat	W6	3	12	60%)	each rep. Keep DB close to body.	squat. Lower body strength.	
D2: <u>Staggered</u>	W5	3	14	5-6 RPE (58-	Keep hips facing	Unilateral hip hinge.	
<u>Stance</u> <u>Kettlebell</u> <u>Deadlift</u>	W6	3	12	60%)	forward. Don't let the trailing leg hip open up.	Lower body strength.	
	W5	3	14	5-6 RPE			

E1: Lateral	W6	3	12		Sit back into hip	Unilateral squat.
Lunge					and try to not let	Frontal plane. Lower
					your knee come	body strength.
					over your toes.	
E2: Single Leg	W5	3	14	5-6 RPE	Slight bend in	Rotational
Medicine Ball	W6	3	12		elbows. Focus on	movement and
Chop					movement from	strength.
					the trunk not the	
					shoulder joint.	
Cool Down/Fle	xibility	' :				
F1: Banded	1		60s/side	1-3 RPE	N/A.	Flexibility.
Hamstring						
Stretch						
F2: Standing	1		60s/side	1-3 RPE	N/A.	Flexibility.
Quad Stretch						
F3: Supine	1		60s/side	1-3 RPE	N/A.	Flexibility.
Spinal Twist						
F4: Standing	1		60s/side	1-3 RPE	N/A.	Flexibility.
Calf Stretch						
Mind-Body						
F1: <u>Box</u>		1	6-8min	1 RPE	N/A	Physiological and
Breathing						cognitive benefits

Week 5-6 Day 3 – Full Body								
Exercise	Sets		Reps	Intensity	Notes	Reasoning		
Prep:								
A1: <u>Adductor</u> <u>Rock Backs</u>	W5 W6	3	14/side 12/side	1-3 RPE	Keep spine neutral.	Thoracic and hip mobility while maintaining lumbar stability.		
A2: <u>Seated</u> <u>Spinal</u> <u>Flexion/Extens</u> ion	W5 W6	3 3	14 12	1-3 RPE	N/A.	Spine mobility.		
A3: Walking	W5	3	14/side	1-3 RPE	Keep back	Hamstring		
<u>Hamstring</u> Sweep	W6	3	12/side		straight.	dynamic flexibility.		
			·	·				
B1:	W5	3	20s	4-5 RPE	Knees one	Core strength		
Quadruped Knees Off Hold	W6	3	30s		inch off the ground. Imagine squeezing the ground between hands	and stability.		

					and feet,	
					creating	
					tension.	
B2: <u>T-Spine</u>	W5	3	14	4-5 RPE	Focus on	Strengthening
Lifts	W6	3	12		extension	spine extensor
					through the	muscles.
					Upper back.	specifically in
					the floor	region
B3: Glute	W5	3	14/side	4-5 RPF	Keen knee	Glute
Band Walk	W6	3	12/side		over ankle	activation and
<u>Durid () uni</u>		5	12/5140		Try to not lean	strength.
					from side to	8
					side.	
Resistance, Tec	hnique,	Balance,	, Core			
C1: Deadbug	W5	3	14/side	5-6 RPE		
	W6	3	12/side			
C2: Birddog	W5	3	14/side	5-6 RPE	Do not extend	Core strength
_	W6	3	12/side	-	lumbar spine	and stability.
					or lift	Maintain spine
					head/neck up.	stability during
						limb
	W/5	2	20 / 1	5 (DDE	17 '1	movement.
C3: <u>Overnead</u>	W5 W6	3	30s/side	5-6 RPE	down Tru to	Shoulder strength and
	wo	3	405/5100		get full arm	stability
					extension	stability.
					overhead.	
						I
D1: Single	W5	3	14/side	5-6 RPE	Control on the	Unilateral
Leg Squat (to	W6	3	12/side		way down.	squat. Lower
Bench)					Don't let knee	body strength.
					cave in.	Balance.
D2: <u>Cable</u>	W5	3	14/side	5-6 RPE	Elbows	Rotational
rotation	W6	3	12/side		slightly bent.	strength.
					Create	
					movement	
					using your	
					shoulder joint	
					shoulder joint.	
F1. Staggered	W5	3	14/side	5-6 RPF	N/A	Unilateral
Stance to	W6	3	12/side	5-0 KI L	11/21.	upper body
Single Leg		5	12/5100			pull. Upper
Hold with						body strength.
Single Arm						Balance.
Cable Row						
E2: Side Plank	W5	3	20s/side	5-6 RPE	Keep feet, hips	Core strength.
	W6	3	30s/side		and shoulders	

				in line. Use appropriate progression in the video	
Cool Down/Flex	xibility:				
F1: <u>Half</u> <u>Kneeling Lat</u> <u>Stretch</u>	1	60s/side	1-3 RPE	N/A.	Flexibility.
F2: <u>Standing</u> <u>Chest Stretch</u>	1	60s/side	1-3 RPE	N/A.	Flexibility.
F3: <u>Shoulder</u> <u>CARs</u>	1	6-8/side	1-3 RPE	Create tension through the body and don't move anything but the shoulder joint.	Shoulder joint ROM.
F4: <u>Seated</u> <u>Hamstring</u> <u>Stretch</u>	1	60s/side	1-3 RPE	N/A.	Flexibility.

Cardiorespiratory Training								
Frequency	Time	Туре						
	Weel	ks 1-2	·					
3x/week	Light to moderate (3-5 RPE)	20min	Walking or cycling					
Weeks 3-4								
2x/week	Light to moderate (3-5 RPE)	30min	Walking or cycling					
1x/week	Moderate to vigorous (4-6 RPE)	18min	Brisk walk, jog, or cycling					
	Weel	ks 5-6						
2x/week	Moderate (4-5 RPE)	35min	Walking or cycling					
2x/week	Moderate to vigorous (4-6 RPE)	18min	Brisk walk, jog, or cycling					

Client Logbook Example

	Week 1-2 Day 1 – Upper Body					
Rate on a Scale	e of 1-5 (v	worst to be	st)			
Sleep Quality	1	2	3	4	5	
Energy Level	1	2	3	4	5	
Muscle Soreness	1	2	3	4	5	
Stress Level	1	2	3	4	5	
Mood	1	2	3	4	5	

Exercise	Sets		Reps	Intensity (RPE or %)	Working weights/notes	Queues
Prep:			-	· · · · · · · · · · · · · · · · · · ·		
A1: <u>Cat/cow</u>	1		18-20	1-3 RPE		Breath in during cat and out during cow.
A2: <u>Thoracic</u> Extension on Foam Roller	1		18-20	1-3 RPE		Don't let rib cage flare up
A3: <u>Lying T-</u> Spine Rotation	1		6-8/side	1-3 RPE		Keep knees directly stacked over each other
A4: <u>Seated</u> <u>Shoulder</u> <u>Retraction and</u> <u>Depression</u>	1		18-20	1-3 RPE		N/A
Resistance, Tec	hniqu	e, Bal	ance, Core	1	I	
B1: <u>Supine</u> <u>Drawing-In</u> (Bracing	W1	1	15	2-4 RPE		Keep spine neutral (don't arch or round low back)
<u>Technique</u>)	W2	2	12			low back)
B2: <u>Quadruped</u>	W1	1	15	2-4 RPE		Keep spine neutral
<u>Drawing-In</u> (Bracing <u>Technique)</u>	W2	2	12			low back)
B3: <u>Single Leg</u> Balance	W1	1	30sec hold	n/a		Use a chair or wall as support if needed
	W2	2	40sec hold			
	 -	Γ.	1	1	Ι	
C1: <u>Prone</u>	W1	1	15	2-4 RPE		Don't shrug
Swimmers	W2	2	12			away from your ears
C2: <u>Plank</u>	W1	1	20sec hold	3-4 RPE		Tuck hips under and squeeze the glutes.
	W2	2	30sec hold			Go from knees if needed
C3: <u>Shoulder</u>	W1	1	8/side	1-3 RPE		Create tension
CARs	W2	2	6/side			through the body and don't move anything but the shoulder joint
D1: Wall	W1	1	20	2-4 RPE		Keep core engaged
Slides	W2	2	18			
D2: Wall	W1	1	20	2-4 RPE		Keep low back and
Angels	W2	2	18			head against the wall
Cool Down/Flex	xibility	y:				
E1: <u>Childs</u> <u>Pose</u>	1		60s hold	1-3 RPE		N/A

E2: Standing	1	60s	1-3 RPE	N/A
Chest Stretch		hold/side		
E3: Overhead	1	60s	1-3 RPE	N/A
Reach with		hold/side		
Side Bend				
E4: Seated	1	60s	1-3 RPE	N/A
Neck Stretch		hold/side		

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