

The Workout Plan

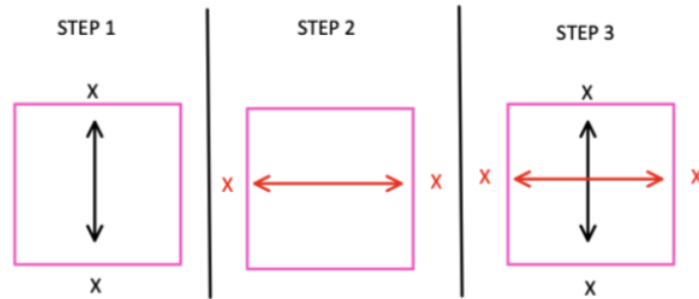
- Things to note:
 - Client prefers interval workouts
 - Workout should be short (estimation 1hr at day/4 per week. "3-4 extra workout hours to this program a week")
 - Goals: Slimmer waist, stronger upper and lower body.
 - Methods for cardio, idea: swimming and stairs, cause: running causes shin splints!

Workout Day 1:

Before starting the workout ensure to drink lots of water, as well as have a water bottle handy. Make sure to have all equipment necessary for the duration of this workout: ie. dumbbells, resistance bands, jump rope, landmark reference*, and a staircase.

Warm Up Day 1 : Neuromuscular Training Warm-up	
Time Allotted: 15 minutes	
High kicks, Butt kicks.	20 kicks and 20 Butt kicks complete 2 times
High Kicks: Begin by standing tall with your feet placed shoulder-width apart. Maintain this posture as you raise your right knee as high as you can and step forward. Do the same for the left leg and continue to alternate legs as you walk forward.	
Butt Kicks: While standing with your feet about hip-distance apart. Slowly bring your right heel to your buttocks by contracting your hamstring muscle. Butt kicks increase the speed of hamstring contraction which will help with strength and will help increase the range of motion.	
Directional Change Jumps (Double leg)	90 seconds x 2

Place a landmark for reference* (i.e book or cloth or any other object). Start jumping forward and backward over the object for 30 seconds while making sure to engage the calf muscles to absorb the landing. Move on to step 2 for side to side jumps. Step 3 do a combination of both directions.



Hamstring stretch dumbbells	6 repetition per leg x 2
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While standing upright, hold one dumbbell over one leg and lower it all the way down to the ground. Perform the exercise slowly as it will help the muscle stretch (5 seconds tempo) the weight should almost touch your thigh as it is being lowered. Note: for a proper stretch, make sure to hold the dumbbell as if almost touching your thigh and shin as you come down.



Resistance Side Shuffles	15 in each direction
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Place resistance bands of your choosing around your ankles and maintain tension on the band as shuffling begins. When doing this workout maintain bent knees to engage your quads and a straight back.



Workout Day 1 (change to curtsy lunges)

Focus: Lower Body and Cardiovascular

Time allotted: 40 minutes

Rest: 30 seconds rest before workout starts

Steps ups

2 sets of 12 reps (both legs)



Stand at the base of the staircase. Skipping the first step, push off the floor with your first foot and shift your weight onto it as you step up. Swing your other foot in front of you, thrusting your knee high into the air, while swinging your right arm forward for counter balance. Step back down to start position. Perform 12 step-ups with your right leg, then switch sides. Do 2 sets total.

Rest: 30 seconds to 1 min

Resistance Bands Crouch walking

25 walks right leg first & 25 walks left leg first

Place a resistance band of your desire 2 inches above the knees so that it wraps around the thigh region. Bend your knees to 120 degrees. Walk forward with the right leg, then, in a controlled manner bring the left leg so that it is parallel to the right foot.

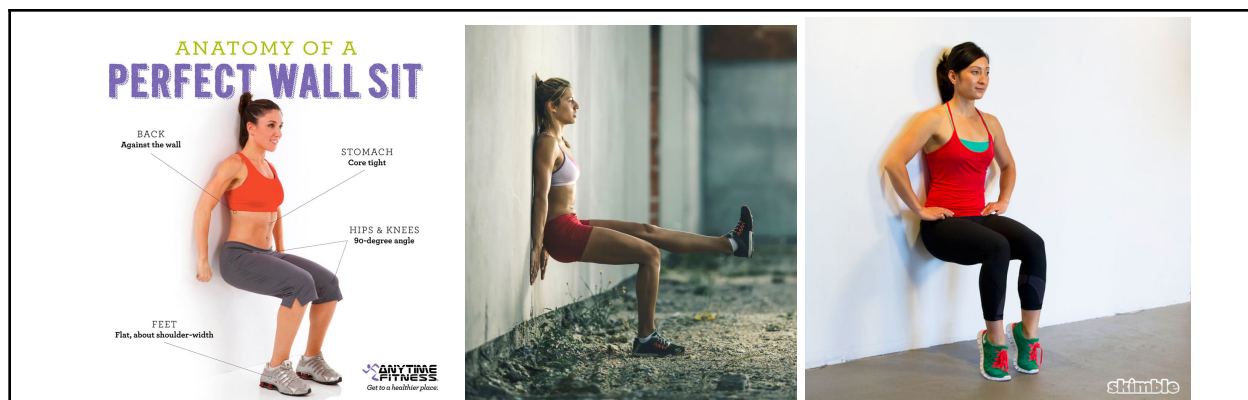


Rest: 1 minute

Wall sit, kicks and Calf Raises

Complete this circuit 2 times

Lean against a wall and squat to the position of your desire (the lower the angle, the higher the intensity). Hold the wall sit for 25 seconds, then, while staying seated lift one foot at a time and do 15 kicks per leg. When you're finished with the kicks stay seated and do 30 calf raises. Note: nothing besides the knee should be pivoting.



Rest: Rest for 2 minutes. Last exercise is coming up! Give it your all!

Fire hydrants exercise

Resistance Bands drop set

What is fire hydrant exercise: it's an exercise where the patient is on all fours and he or she raises their knee outwards and to the side. This time the band rests above the knee.

What is a drop set?: A drop set is when one performs an exercise with a particular weight until exhaustion. Upon exhaustion, the weight or resistance is drastically lowered and the exercise is continued until exhaustion with the lowered weight, this lowering of weight continues until there is no more weight to drop or patient does not want to continue due to unusual pain or medical complications.



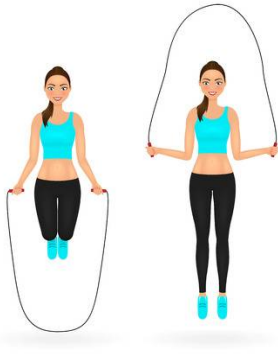
Tricep kickbacks

4 sets of 6 reps

While maintaining your body straight in relation to your neck, tuck your shoulder nice and close to your back and start the exercise by only hinging at the elbow. When performing this exercise push the weight back in a controlled manner while trying not to use momentum. As the dumbbell reaches the end of your range of motion, squeeze your muscle and hold the dumbbell for half a second. If you are new to this workout please start with low weights and subsequently work your way up.



Workout Day 2:

Warm Up Day 2 : Neuromuscular Training Warm-up	
Time Allotted: 10 minutes	
Jump Rope (Aerobic Component)	1 min x 3 times with 10 sec break
 Hold the jump rope loosely in your hands. Continuously jump for 1 min, using a two foot take off and two foot landing. Take a 10 second break before restarting the process. Repeat 3 times. Note: make sure the jump rope is the correct size for your height.	
Skier with Jump Rope (Agility Component)	1 min x 3 times with 10 sec break
 Using your jump rope, while using the rope, jump side to side for 1 min. Use a two foot take off and two foot landing. Take a 10 second	

break before restarting the process. Repeat 3 times. Place a landmark (ie. cloth) in the middle to use as reference to jump side to side.

One legged and armed Plank (Balance Component)	15 sec x 6 times with 5 sec break
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On the floor get into a plank position. Raise your right forward along with your left leg back. Hold this position for 15 seconds then relax. Take a 5 second break. Repeat with raising your left hand forward and your right leg back. Complete this exercise 6 times (3 holds on each side).



Superman (Strength Component)	30 sec x 2 times with 10 sec break
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Lay on the floor with your stomach, head and feet facing down. Inhale deeply, lifting your back, arms and legs up into the air. Hold this position for 30 seconds (remember to keep breathing). Once 30 seconds are over, exhale and lower yourself back to the floor. Take a 10-12 second break. Repeat this exercise one more time.

Focus: Core and Back

Time allotted: 40 minutes

Rest: 30 seconds rest before workout starts

Lumberjacks

3 sets x 15 reps

To start the workout, place a medicine ball or an improvised heavy object on the ground beside you. In order to properly perform a repetition, take a deep breath before descending. On the way down make sure to bend the knees, maintain a tight core (squeeze abs) and keep legs shoulder-width apart. Finally pick up the medicine ball with two by reaching one hand across your body and start moving up. On the way up push with your heels and make sure you exhale as you use your explosive motion upwards. Then hold the weight above your head and to the side before coming back down. Note: Please make sure to keep the weight low as this exercise should be done in sets of controlled repetitions. Take 30-40 seconds rest between sets.



Rest: 1 min before proceeding.

Side Planks

3 sets x 10 reps

Start in a plank position. Slowly turn your body to face the right side, extending your right arm above your head. Hold at this extension for 5-10 seconds. Slowly return back down bringing your right arm across your body. Hold the arm across the body for 5 seconds before returning to your plank. Repeat on the left side. Complete this exercise 10 times, 5 on each side. Note: if you would like an easier version, instead of doing the plank on your hands, use your elbows. Take 30-40 seconds rest between sets.





Rest: 1 min before proceeding

Russian Twists

3 sets x of 8 to 16 reps

To perform this exercise first lay down on the ground. Sit on your sit bones and lift your feet off the ground with your knees bent and keep your core tight. Once you are in position, hold your arms in front and interlace your fingers. Then twist your abdominals to the left, then back to center then to your right; this is one repetition. If you cannot maintain your feet up place them on the ground and try to finish your set. Take small breaks by holding the back of your knees



Rest: 1 min before proceeding

Cobra

3 sets x 10 reps



Start by laying flat on the ground. Put your hands close to your chest and parallel to your body beside you. Look straight ahead. Push all the way up, extending your back and looking ahead at all times. Hold at the extension for 15

seconds. Slowly return to the start position. Repeat 10 times. Make sure to keep breathing at all times. Take 30-40 seconds rest between sets.

Workout Day 3:

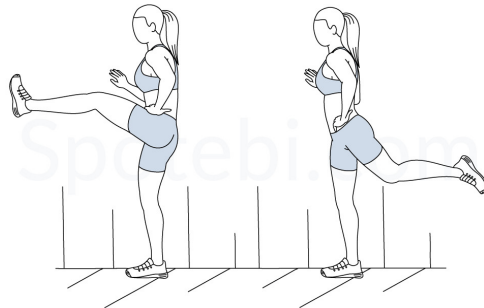
Warm-up Day 3	
Focus: Neuromuscular Training Warm-up	
Time Allotted: 10 Minutes	
Laps	Volume: 3-4 pool lengths (150-200 meters)
Using preferred stroke (ex. Front crawl, back crawl) swim at an <i>easy effort</i> , focusing on warming-up muscles and gliding through the water.	
CIRCUIT, repeat 2 times (outside of pool to prevent muscles from cooling down)	
Goal Post Squeeze	Volume: 15 reps
Raise arms in front of you, elbows bent at a 90 degree angle. Pull arms back slowly, focusing and squeezing shoulder blades together while maintaining a 90 degree bend .	
	
No break, next exercise	
Exercise: Goal Post Rotation	Volume: 15 reps
Raise arms up to your side with elbows bent forward and in line with your shoulders, forming a 90 degree angle. Rotate arms up to the goal post position, without dropping your elbows below your shoulders.	

No break, next exercise

Front-Back Leg Swings

Volume: 15 reps per leg

Stand tall with feet flat on the floor and with one hand gripping a rail, pole or supporting against a wall for balance. Lift one straight leg up, swing it straight forward and then backward in a controlled pendulum-like fashion. Forwards and back is one rep. Keep the movement fluid, only swing as high as you can while maintaining control and try to avoid using momentum.

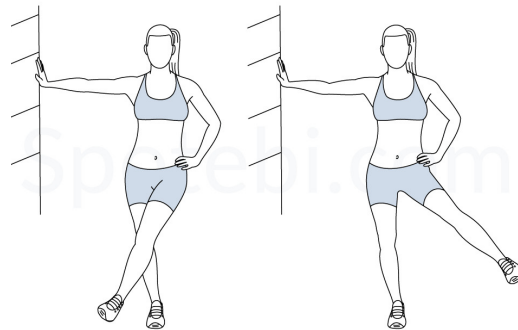


No break, next exercise

Lateral Leg Swings

Volume: 15 reps per leg

Stand tall with feet flat on the floor, *facing towards* and holding/supporting onto a rail, pole or a wall for balance. Lift one straight leg to the side, swing it side to side in a controlled pendulum-like fashion. Right to left is one rep. Keep the movement fluid, only swing as high as you can while maintaining control and avoid using momentum.



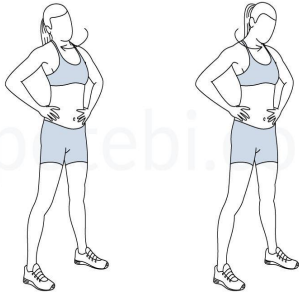
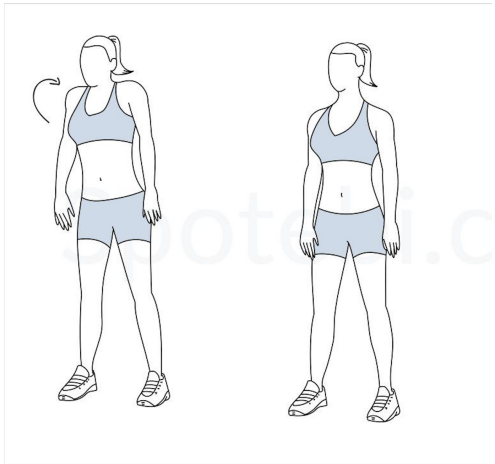
Rest for 1-2 minutes before repeating the warm-up circuit.

*Note: One length of an Olympic size pool is 50 m

Workout Day 3	
Focus: Swimming (Cardiovascular) and Muscular Endurance	
Time Allotted: 40 minutes	
HIIT - Repeat once for a total distance of 1 Km	
Freestyle Sprint	Volume: 1 pool length (50m)
Using your stroke of choice, perform the sprint “full out”. If possible, time how long it takes to complete the sprint.	
Active Recovery	Volume: 1 pool length (50m)
Perform 25m (half the pool length) of breaststroke, followed by a slow freestyle for the remainder of the pool (25m). If possible, the active recovery period, it should last twice as long as the first sprint interval.	
Freestyle Sprint	Volume: 2 pool lengths (100m)
Using your stroke of choice, perform the sprint “full out” - at a pace that you can maintain for 2 pool lengths. If possible, time how long it takes to complete the sprint.	
Active Recovery	Volume: 2 pool lengths (100m)
Perform 25m (half the pool length) of breaststroke, followed by a slow freestyle for the remainder of the pool (25m). Repeat for one more pool length, for a total of 100m. If possible, the active recovery period should last twice as long as the second sprint interval.	
Freestyle Sprint	Volume: 1 pool length (50m)
Using your stroke of choice, perform the sprint “full out”. If possible, time how long it takes to complete the sprint.	
Active Recovery	Volume: 1 pool length (50m)
Perform 25m (half the pool length) of breaststroke, followed by a slow freestyle for the remainder of the pool (25m). If possible time the active recovery period, it should last twice as long as the preceding sprint interval.	
Repeat 50m Freestyle Sprint AND 50m Active Recovery Period two more times.	

Cool Down	Volume: 4 pool lengths (200m)
Rest for 1 minute if necessary, then freestyle at a very slow pace.	

Workout Day 4:

Warm-up	
Time Allotted: 10 minutes	
CIRCUIT, repeat 2 times	
Neck rolls	Volume: 15
Drop neck forwards, roll it side to side without letting your head go past/behind your shoulders. 	
No break, next exercise	
Shoulder rolls	Volume: 15
Keep arms at sides your side and roll the shoulders by bringing them forward, up and back continue this process until you have finished 15 circles. 	
Windmills	Volume: 30 seconds each direction
Swing both arms forwards, keeping the movement controlled as to loosen shoulder 	

joints. Repeat, this time circling arms backwards for 30 seconds.

No break, next exercise

Jumping jacks

Volume: 120 seconds

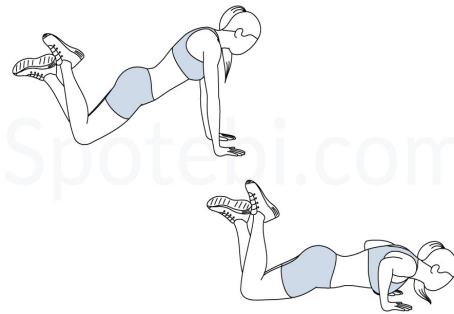
Start with arms on the side, and legs at shoulder width. Then, in one motion, swing arms and legs out while jumping. Then land with hands and legs out. Then afterwards jump again and pull arms and legs back in. Jump as high as you can.



Knee push ups

Volume: 10 reps 1 sets

Stand on your knees and put arms out. Lean forward, rest on your palms while remaining on your knees. Bring yourself down by bending your elbows and keeping them close to your body (elbows in), then push yourself up.



Rest for 1-2 minutes before repeating the warm-up circuit.

Workout Day 4

Focus: Upper Body

Time allotted: 40 minutes

Bodyweight Interval Training

Wide-arm Push-ups

Volume: 3 sets of 15 reps

Keep lower arms at a 90 degrees angle with upper arms, then drop down as low as possible without hitting the ground, then push yourself back up. Focus on engaging chest muscles and keeping the core tight to prevent your back from sagging.

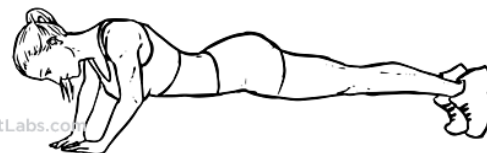
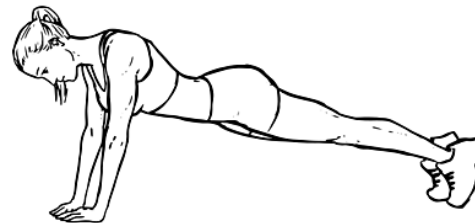
Modification: if it is too challenging to complete this exercise with proper form, perform push-ups on knees or against a wall. Still focus on engaging your core



Diamond Push-ups

Volume: 3 of of 12 reps

Position yourself on your hands and knees as if to do a regular push-up but instead, place hands side by side touching thumbs together. Engage your core and drop down as low as possible without hitting the ground and push yourself back up. Focus on engaging your triceps (posterior arm muscles).
Note: If your elbow joint starts to hurt, spread your hands a bit to relieve some pressure

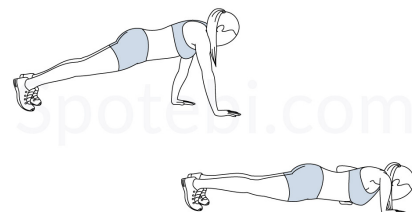


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Staggered Push-ups

Volume: 4 sets of 4

Get into a wide arm push up position, except this time, place one hand lower than the other. Then once you drop down and up, switch position (put the higher hand lower and the lower hand higher) and repeat. Each time you go down, it counts as one rep. This push up variation strongly works your traps and chest as well as involving some very light cardio!



Resistance Band - Reverse Flies

Volume: 3 sets of 20

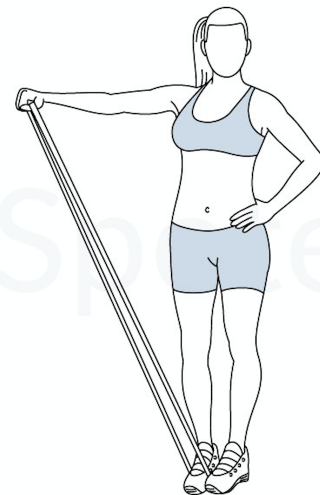
Stand on a resistance band, holding one end in each hand by your shins. Bend your knees slightly and lower your back so that it is parallel to the floor. Raise the arms to the side as far as you can go. Pause, then lower the band to starting position and repeat.



Resistance Band - Lateral Raises

Volume: 3 sets of 15

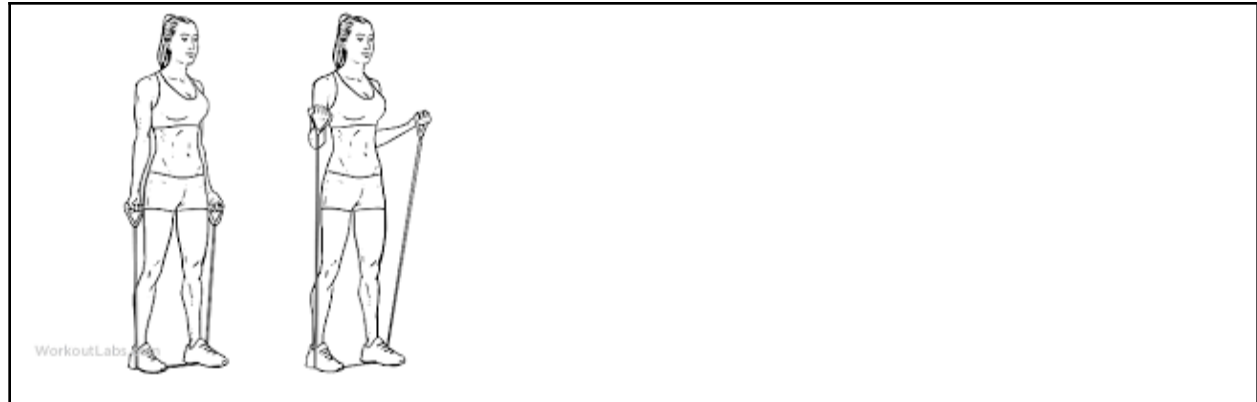
Place the elastic band under your foot then grab one end in your hand while keeping your arms at your sides. Pull your arm that is holding the band away from your body and upwards to towards your shoulders. Focus on working your deltoids (shoulder muscles). Complete 15 reps and repeat on the other side.



Resistance Band - Bicep Curls

Volume: 3 sets of 20

Stand with both feet on the resistance band holding both ends next to your sides with palms facing forward. Slowly curl hands up to shoulders, squeezing biceps and keeping elbows next to your sides. Slowly release arms back down to starting position.



Key Notes and References:

Scientific information on warm ups:

While stretching is known to aid in “increas[ing] muscle temperature and blood flow, which contributes to improved exercise performance and reduced risk of injuries to muscles and tendons. It is important to note that it can also decrease “muscle strength, muscle power, and exercise performance.”

Reference paper:

1. American College of Sports Medicine. ACSM’s guidelines for exercise testing and prescription. 10th ed. Philadelphia (PA): Wolters Kluwer; 2018.
2. McHugh, M. P., and Cosgrave, C. H. (2010). To stretch or not to stretch: the role of stretching in injury prevention and performance. *Scandinavian journal of medicine & science in sports*, 20(2), 169–181.
<https://doi.org/10.1111/j.1600-0838.2009.01058.x>

Part 2 – Cardio

Information on shin splints (aka, Medial tibial stress syndrome) :

A bone stress injury that causes tibial periostitis (inflammation of the membrane surrounding the bone) and micro fractures over the anterior tibia

Reference:

1. Arnold, M. J., and Moody, A. L. (2018). Common Running Injuries: Evaluation and Management. *American Family Physician*, 97(8), 510-516.
<https://www-clinicalkey-com.ezproxy.lib.ucalgary.ca/#!/content/playContent/1-s2.0-S0002838X18301059>

Information on swimming as a tool for weight loss:

A study conducted by the Duke University Medical Center has provided strict and evidence based recommendations to lose weight and reduce fatty tissue. According to the study **aerobic exercises, such as swimming**, are superior to resistance training (RT) when it comes to weight loss. There is a theory that increasing muscle mass through RT will boost one’s metabolism, thus helping in weight loss, but the effect of RT on fat free mass remains unclear. (1)

However, it should be noted that **weight loss alone may not be a sufficient intervention** to reverse changes in muscle metabolic and contractile phenotypes caused by weight, specifically fat, gain (2).

Use different strokes, using a variety of different strokes will utilize more muscle groups and minimize the repetitive stresses on the rotator cuff.

The purpose of stretching prior to a swim is to obtain full range in the joints. Muscle may become tight between swim workouts and it is important to ensure you have full range prior to any swimming

References:

1. Bales, C.W. (2013). Aerobic exercise beats resistance training for weight and fat loss: physical activity, such as walking, running, and swimming, seems best for losing both weight and body fat. *Duke Medicine Health News*, 19(3), 7.
<https://link-gale-com.ezproxy.lib.ucalgary.ca/apps/doc/A321465471/AONE?u=ucalgary&sid=AONE&xid=b53731ab>
2. Seebacher, F., Tallis, J., McShea, K., and James RS. (2017). Obesity-induced decreases in muscle performance are not reversed by weight loss. *International Journal of Obesity*, 41(8), 1271-1278. doi:10.1038/ijo.2017.81