












Supplement 2 – Intervention with Pilates exercise program.

First 3 months (3-6 months)		
Exercise	Figure	Instructions
<p>1. Imprinting</p> <p>Strengthening Diaphragm / rectus abdominis / iliopsoas / gluteus maximus</p>		<ul style="list-style-type: none"> ● Lie comfortable on your back; ● Relax your muscles; ● Inhale while arching your back; ● Exhale.
<p>2. One Leg Stretch</p> <p>Strengthening Hip flexor muscles / hip extensors muscles / abdominal muscles</p>		<ul style="list-style-type: none"> ● Raise your head off the floor to stretch your posterior neck. ● Inhale and lengthen one leg. ● Exhale. ● Inhale and bend both knees. ● Exhale and lengthen the other leg
<p>3. Shoulder Bridge</p> <p>Strengthening Gluteus maximus / quadriceps femoris / hamstrings</p>		<ul style="list-style-type: none"> ● Lie on your back with your knees bent and the soles of your feet touching the mat. Squeeze your gluteus and lift your hips toward the ceiling. The weight of the body at this point should be supported by the shoulders and the soles of the feet. ● Place your hands under your hips, as if holding them
<p>4. Clam</p> <p>Strengthening Hip adductor muscles /</p>		<ul style="list-style-type: none"> ● Lie on your side with your knees bent and feet in line with your spine. Support your head on your arm.

<p>hip abductor muscles / gluteus medius</p>		<ul style="list-style-type: none"> ● Exhale and lift the top leg in an arc without moving the pelvis. ● Inhale and slowly descend the upper leg returning to starting position.
<p>5. Saw</p> <p>Strengthening the hamstrings</p> <p>Flexibility of the vertebral column</p>	  	<ul style="list-style-type: none"> ● Rotate through your spine and create torque until right hand is in line with left little toe. ● Inhale and come back to the starting position keeping the spine long and the head towards the ceiling. <p>Repeat for opposite side.</p>
<p>6. Mermaid</p> <p>Body mobility / Agility of the vertebral Column in the three Planes / Proprioception</p>	 	<ul style="list-style-type: none"> ● Sit on your side and bend your knees. One hand supports the foot facing backwards and the other just in front of the torso for better stability. ● Inhale in the neutral position and exhale while leaning the torso. ● Stretch as much as possible without losing body alignment and without lifting your body off the ground.

	 <p>Cuide do seu corpo pois é o único lugar que tem para viver</p>	
<p>7. Spine Stretch Forward</p> <p>Strengthening posterior chain</p> <p>Strengthening intercostal muscles</p>	 	<ul style="list-style-type: none"> ● Sit down and extend your legs ahead. The arms can be lying at the side of the body or placed in front. ● The back should remain straight, as if leaning against a wall. ● Slide your pelvis slowly forward (in retroversion). Keep the buttocks to the ground. ● Exhale and flex your back as much as possible towards your legs, trying not to accumulate tension in leg muscles.
<p>8. Bird Dog</p> <p>Strengthening Erector spinae muscles / rectus abdominis / glutes maximus</p>	 <p>Cuide do seu corpo pois é o único lugar que tem para viver</p>  <p>Cuide do seu corpo pois é o único lugar que tem para viver</p>	<ul style="list-style-type: none"> ● With your hands and knees on the floor, place your knees under your hips and your hands under your shoulders. Maintain a neutral spine. ● Inhale. Exhale and raise your right arm and left leg, keeping your shoulders and hips parallel to the floor. Keep your neck aligned with your spine. ● Hold this position for a few seconds, then lower back down to the starting position. ● Repeat using your left arm and right leg.

9. Cat Stretch


Mobility of the spine, relaxation of the erector spinae muscles




Strengthening intercostals muscles



- Push yourself onto your knees and hands, ensuring your hands are below your shoulders and your hips are above your knees.
- Make sure your back is straight, not tilted up or down.
- Make sure your head and neck are in line with your back, parallel to the floor.
- Exhale and flex the coccyx downwards with the heel of the hand positioning as if you were pushing the floor; lift the sternum, resting the chin on the chest and then bowing the head.
- Inhale with your back in a rounded position. Stay in this position. Exhale and return to the starting position, reversing the sequence (leaving the head parallel to the floor, then doing the same with the chin and coccyx).

Last three months (6-9 months)

Exercise	Figure	Instructions
<p>1. Push Up</p> <p>Strengthening of the total body</p> <p>Body stabilization / body control / body awareness</p>	 <p>Cuide do seu corpo pois é o único lugar que tem para viver</p> <p>Cuide do seu corpo pois é o único lugar que tem para viver</p> <p>Cuide do seu corpo pois é o único lugar que tem para viver</p> <p>Cuide do seu corpo pois é o único lugar que tem para viver</p>	<ul style="list-style-type: none"> • Standing, line up your feet with your hips. • Lower the head, and slowly wrap vertebra by vertebra until the torso is fully bent over the legs. The arms during the winding are heavy and drooping until the hands touch the floor. • Support your hands. Make sure your hands are in line with your shoulders, knees and hips. Keep the spine with some retroversion. • Bend your elbows and lower your torso to the mattress: hold the position for as long as possible. • Return to starting position. Standing, making all the movements inverse to those of the descent, for the ascent.
<p>2. Swimming</p> <p>Strengthening Posterior chain</p>	 <p>Cuide do seu corpo pois é o único lugar que tem para viver</p> <p>Cuide do seu corpo pois é o único lugar que tem para viver</p>	<ul style="list-style-type: none"> • In ventral decubitus position, face down, raise your arms and place them forward in a “V” shape with your shoulders. The lumbar area must be stable, without letting the belly sag towards the ground, but keeping the abdomen contracted. • Exhale and simultaneously and oppositely raise your right arm and left leg to the same height. • Inhale and lower your right arm and left leg at the same time. When performing this movement, make sure that the abdomen remains contracted. • Exhale and simultaneously and oppositely raise your left arm and right leg to the same height. Inhale and lower your left arm and right leg at the same time.

<p>3. Leg Pull Prone</p> <p>Strengthening Muscles of the upper limb / torso</p>		<ul style="list-style-type: none"> ● Bring your body into a push-up position with both legs together and your abdominal muscles active. Keep your arms shoulder width apart. ● Try to maintain centered in the positioning.
<p>4. Side kick</p> <p>Strengthening Trochanter area / hip adductor muscles / hip abductor muscles / hip flexor muscles/ hip extensor muscles</p> <p>Axial awareness / spine stabilization</p>		<ul style="list-style-type: none"> ● Lie on your side and rest your head on your arm and place your other arm along your body. Raise the ribs so as to leave some space between them and the mattress. Lift your feet slightly off the floor, making sure they are in line, and inhale. ● Exhale and lift your top leg without losing your balance. ● Lower the leg and, inhaling, to return to the initial position, maintain the same energy when down, that is, without allowing the leg to give way. ● Exhale and extend the top leg forward and the bottom leg slightly back in opposition. To perform this exercise alternating the leg and always in opposition, now moving the lower one forward and the upper one backwards.
<p>5. Criss Cross</p> <p>Strengthening External oblique</p>		<ul style="list-style-type: none"> ● Lying on your back, inhale with your legs extended and elbows bent and hands behind the head. ● Exhale and perform cross flexion, bringing your left elbow to the right knee and repeat to the contralateral side.

6. Scissors

Strengthening
Abdominal
muscles / hip
flexor muscles /
hip extensors
muscles



- Starting from the base position (with your lower back completely resting on the floor), with both legs raised and bent at a 90 degrees angle.
- Exhale and lower one leg until the big toe lightly touches the floor. Be careful not to arch your back too much.
- Inhale and return leg to starting position.
- Exhale and repeat the exercise with the other leg.

7. Hip Twist

Scapular
stabilization

Strengthening
Abdominal muscles
/ torso



- Sit with arms extended back and shoulder blades stabilized.
- Inhale and stretch your legs apart a little (or a lot).
- Exhale and raise your legs, flexing your hips.
- Keep your spine straight and curved in your lower back, for support.
- Perform the circle movement in both directions.

8. Hundred

Strengthening
Rectus abdominis /
transverse
abdominis /
intercostals
muscles / deltoid



- Starting from the base position (with your lower back completely resting on the floor) lying on your back with your legs elevated and your knees forming a 90° angle. The arms are parallel along the body.
- Raise one leg at a time at a right angle and stay in that position, breathing evenly.
- Raise your head off the floor and look toward your navel.
- Take short breaths in and out. Vibrate the arms and keep the extension of the elbows.

9. Roll Up

Strengthening
Rectus abdominis
/ iliopsoas /
gluteus maximus /
quadriceps
femoris / adductor
muscles



- Inhale. In the ascent phase, do not accumulate tension in the shoulder and neck region.
- Exhale in the ascent phase (slowly) paying attention to winding of the spine from vertebra to vertebra.
- Inhale.
- Exhale during the descent phase onto the mattress, as with the ascent one, make sure to slowly unroll the vertebrae of the spine.