

Training the Pre- and Post-Natal Client

Traditionally, pregnant women were encouraged to reduce levels of physical exertion due to concerns that exercise could negatively affect pregnancy outcomes (e.g., poor fetal growth, premature delivery, miscarriage, and musculoskeletal injury). However, these concerns have not been substantiated and recommendations by The American College of Obstetricians and Gynecologists (2015) suggest that this approach was overly conservative. Currently, pregnant women are encouraged to accumulate a minimum of 20 to 30 minutes of moderate-intensity exercise on most—if not all—days of the week in the absence of medical or obstetric complications. It is important to consider that if women are new to exercise, they may need to set goals for working up to 20 to 30 minutes of moderate-intensity exercise and that the benefits of being physically active may occur with amounts below this target range.

Pre-activity screening

The Canadian Society for Exercise Physiology has created a screening tool called the PARmed-X FOR PREGNANCY to use with clients prior to participation in a prenatal exercise program. This resource provides a convenient checklist for the evaluation of pregnant clients with an interest in beginning or maintaining an exercise program throughout their pregnancy.

General Recommendations for Pregnant Exercisers

Collaborating with pregnant clients during the goal-setting process may help them set realistic goals that focus on self-efficacy, enjoyment, and finding success, while working up to the specific exercise recommendations. Although there are many benefits to beginning or maintaining an exercise program while pregnant (e.g., improving or maintaining physical fitness, reduced risk of gestational diabetes in obese women, weight management, reduced risk of pre-eclampsia and cesarean deliveries, and enhanced psychologic well-being), it is still important for pregnant women to receive a thorough clinical evaluation before starting a new exercise program.

In the absence of any contraindications, pregnant women are encouraged to participate in regular, moderate-intensity physical activity [e.g., zone 1, below VT1 (can talk comfortably), RPE of 3–4 on the 0–10 scale or 12–13 on the 6–20 scale, and 3–6 METs].

Examples of moderate-intensity physical activity include:

Walking, swimming, stationary cycling, yoga, pilates, strength training, racquet sports, low-impact aerobics

Examples of exercises that should be avoided during pregnancy include:

Contact sports, Activities with a high risk of falling, Scuba diving, Hot yoga, Sky diving

To assist health and fitness professionals in creating safe and effective exercise programs for pregnant women, the American College of Sports Medicine (2018) has established specific recommendations for the frequency, intensity, time, and type (FITT) of activity that can be used in conjunction with the other guidelines presented in this article. The table below summarizes these recommendations.

FITT	Aerobic	Resistance	Flexibility
Frequency	At least 3-5 days per week	2-3 days per week (nonconsecutive)	At least 2-3 days per week (daily stretching is most effective)
Intensity	Moderate (3-5.9 METs, RPE of 12-13) Vigorous intensity for women who were highly active prior to pregnancy (=6 METs, RPE 14-17)	Performed to a point of moderate fatigue with multiple submaximal repetitions	Stretch to point of slight discomfort
Time	Work up to 30 min per day (accumulated) of moderate intensity for a total of 150 minutes per week Vigorous intensity 75 minutes per week	1-3 sets for all major muscle groups depending on level of experience	10-30 seconds (static)
Type	A variety of well tolerated weight-bearing and non-weightbearing activities	A variety of well tolerated free weight, machine, and body weight exercises	Target each muscle-tendon unit using active, passive, and dynamic forms of stretching

Pregnant women should not exercise if any of the following health conditions are present:

Risk factors for pre-term labor

Vaginal bleeding

Premature rupture of membranes

Fitness professionals should also be familiar with both absolute and relative contraindications to exercise.

Exercise Guidelines for pregnant clients:

Do not begin a vigorous exercise program shortly before or during pregnancy.

If you have been previously active, continue current program during the first trimester to a maximum of 30 to 40 minutes per day as tolerated.

With no previous activity, begin slowly with 15 minutes of low-intensity exercise and gradually increase to 30 minutes.

During the second and third trimester, the intensity and duration should be gradually reduced.

Use the RPE scale rather than heart-rate monitoring.

Avoid bouncing while stretching, activities with a high risk of falling, deep knee bends, full sit-ups, double leg raises and straight-leg toe touches.

Avoid exercise in the supine position after the first trimester.

Avoid motionless postures (e.g., certain yoga positions and the supine position).

Avoid exercise in high temperatures and/or high humidity.

Modify exercise intensity if post-exercise body temperature exceeds 100° F.

Focus on hydration.

Utilize extended warm-up and cool-down periods.

Walking or running should occur on flat even surfaces.

Wear a bra that fits well to support the breasts.

Some pregnant women may benefit from a small snack prior to exercise to help avoid hypoglycemia.

Warning signs that warrant stopping an exercise session and physician referral before exercise is resumed:

Vaginal bleeding

Dizziness

Shortness of breath

Chest pain

Headache

Muscle weakness affecting balance

Calf pain or swelling

Regular painful contractions

Amniotic fluid leakage

Maternal Conditions and Exercises That Can Help

1. Round Ligament Pain

The round ligament, located in the front of the womb, is stretched as baby and uterus grow, which can lead to a sharp jabbing pain in the lower belly or groin area.

Cat Cow

The Cat Cow Pose is a great yoga move to help alleviate round ligament pain. Assume a quadruped (all fours) position with hands pointed forward. Inhale and round the back high, letting the head fall while curling the pelvis under, relieving tension on the ligament. Exhale, pulling the belly toward the mat, and extending the back body wide to stretch the ligament. Repeat 10 times.

2. Diastasis Recti

The linea alba is the tendinous tissue that merges the rectus abdominal muscles with the fascia. Both the rectus abdominis and the linea alba are designed to contract in a vertical fashion, and are not always able to withstand the strong horizontal pressure put on them with an expanding belly. This can lead to a thinning of the linea alba and a protrusion in the middle of the belly.

Seated abdominal compressions

This is a great way to train the transverse abdominals, while also teaching the individual how to engage these muscles.

Have one partner hold a string or band around the stomach of the exerciser. Encourage them to exhale, drawing the navel in and contracting the lower part of the abdominals. As this new tightness is achieved, the partner holding the string will slightly tighten it while the exerciser continues to breathe under this contraction. If the exerciser is having trouble doing the compression correctly, have them make a “ha ha” or coughing sound to encourage the appropriate contraction. Repeat two to three times.

TRX resisted heel taps

These are another great option. Begin lying on the ground facing the anchor point. Place both hands in the foot cradles and press down. Keep the core braced and knees bent at 90 degrees. Slowly lower one heel toward the ground until just before the low back rises up. Return to the starting position keeping pressure down in the hands. Aim for two 30-second sets of this exercise. (Note: Because this move is performed in the supine position, avoid doing this exercise any longer than 30 seconds and have the exerciser roll to her left side between sets.)

3. Low-back Pain and Posture Issues

Exercise can ease low back pain for the expecting mother, but if not done properly, it can also aggravate it. Muscles that tend to shorten include the chest, low back, shoulders, hamstrings and calves. Muscles that tend to weaken include the upper back, glutes, abdominals, pelvic floor and quadriceps. Begin by focusing on mobilizing tight muscles, and then work on strengthening weak muscles. Here are some sample exercises:

Seated or Standing Spinal Flexion

Due to the forced anterior pelvic tilt caused by increased weight in the belly, the lower back and hamstrings often tighten up.

To perform this exercise from a seated position, sit at the front of a chair with the feet flat on the ground. Separate the knees and bend at the waist.

To perform this exercise from a standing position, bend the knees and position the legs a comfortable distance apart. Lower the hands to the floor or a step. Slowly begin to lift the tailbone toward the ceiling while straightening the legs. Stop once a stretch is felt.

Standing Scapular Retraction With a Foam Roller

Increased lumbar lordosis also leads to a kyphotic posture in the thoracic spine. This posture can be somewhat alleviated by strengthening the muscles in the upper back.

Place a 3-foot foam roller up against a wall and stand facing away from it. Bend the knees slightly and place the tailbone onto the roller. Continue aligning the back on the roller so that

an imprint is felt on the spine. Gently (not forcefully) hug the foam roller with the scapula and hold for one minute.

Pelvic Tilts (Supine or Standing)

Pelvic tilts are another great exercise for alleviating lower-back pain. This move also strengthens the abdominals while stretching the tight lower-back muscles.

Begin lying supine on the ground or standing against a wall with knees slightly bent. Gently tighten the glutes and belly muscles and shift the pelvis posteriorly. This should flatten the curve in the lower back and create an imprint on the mat or wall. Hold for six seconds and repeat. This exercise can also be performed from a seated or quadruped position, or while sitting on a stability ball. (Note: If performing this exercise in the supine position, avoid holding it for longer than 30 seconds. Have the exerciser roll to her left side between sets.)

Side-lying Clam Shell

With the increased anterior pelvic tilt, the glutes and hips are weakened due to an over-tightening of the hip flexors. Strengthening the gluteus medius and minimus helps stabilize the sacroiliac joint, which can become loosened and unstable during pregnancy. This is a great exercise to do in between supine exercises as it only takes a quick roll to the side.

Begin in a side-lying position with the pelvis perpendicular to the floor. Knees should be bent between 45 and 90 degrees. Brace the core and keep the feet together. Contract the glutes and lift the top knee off of the bottom knee. Stop before the pelvis moves or the hips roll back. Hold for five to 10 seconds and repeat.

Assisted Lunges

Again, strengthening the glutes is important to help stabilize the hips and improve posture during pregnancy. Assisted lunges are also great for improving both balance and leg strength. As pregnancy progresses, a woman typically gains more weight and her joints become more lax, which can make lunges more difficult. Lunges can be unloaded using a suspension trainer or by placing a BOSU ball under the back knee. While returning to a stand with each lunge, ensure the glutes are engaged by thinking of scissoring the legs together, helping to preserve proper posture and glute engagement

Postnatal Exercise

Returning to physical activity after pregnancy also has benefits (e.g., improved maternal cardiovascular fitness without affecting milk production or composition of infant growth) and is associated with decreased incidence of postpartum depression. Although some recovery time

to regain strength is required, during the initial six weeks following delivery your client could begin to slowly increase physical activity as a means of relaxation, personal time, and regaining a sense of control. Nursing women should also consider feeding infants prior to exercise to avoid the discomfort associated with engorged breasts.

The following guidelines should be followed with the postnatal client:

Obtain physician clearance.

Begin slowly.

Start with walking several times per week.

Avoid excessive fatigue.

Wear a supportive bra.

Stop session if unusual pain is experienced.

Stop session if vaginal bleeding is more than normal.

Drink plenty of water.

References

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