

Pregnancy during Pilates:
Strengthening the Pelvic Floor and Core to
Assist with the Intrapartum Process

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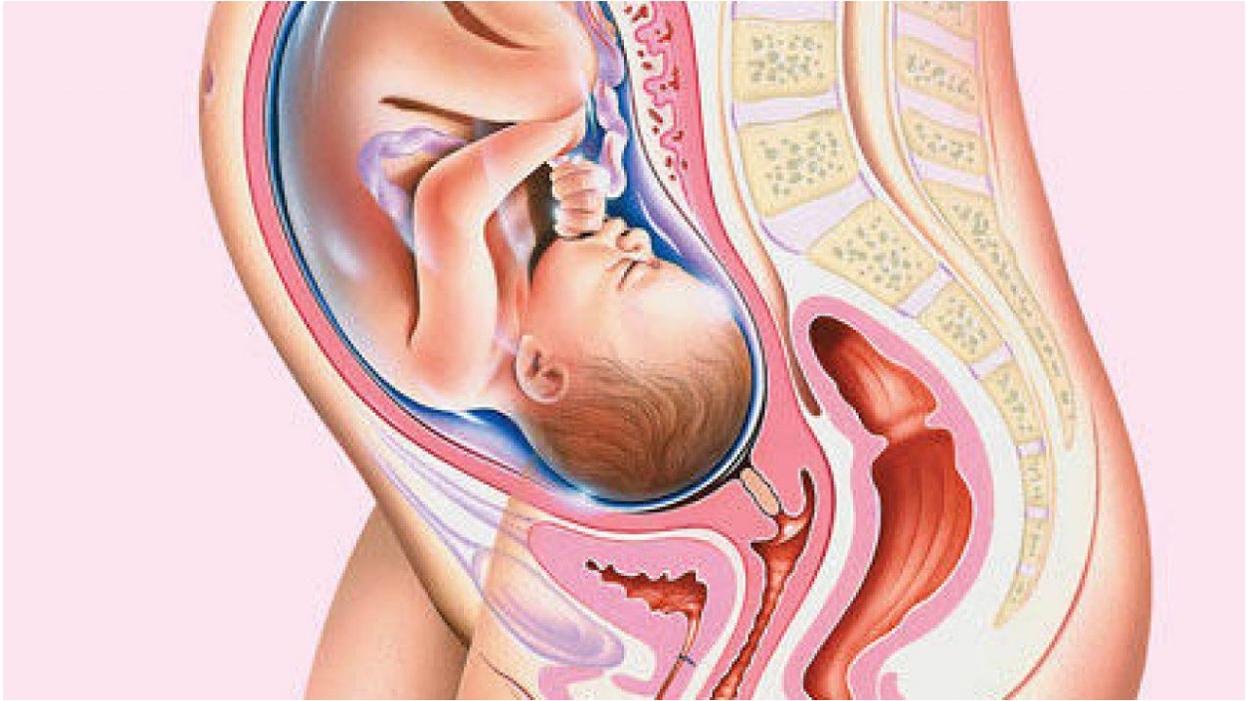
Abstract

Working as a Registered Nurse in Labor & Delivery for many years prior to enrolling in the BASI Pilates Certification Program, I have assisted with many labors and deliveries of patients during the intrapartum period. Throughout my career, I have always noticed that patients who are in good physical condition and who have exercised during pregnancy tend to have an easier labor process, including a shorter duration of labor, shortened second phase of labor (pushing), and better maternal pushing efforts. I believe this is due to patients having a strong core and pelvic floor to assist with maternal pushing efforts and optimizing fetal position into the birth canal during the labor process. In this paper I will discuss how Pilates can be utilized during pregnancy to prepare the woman's body for the intense physical process of labor and delivery of the infant.

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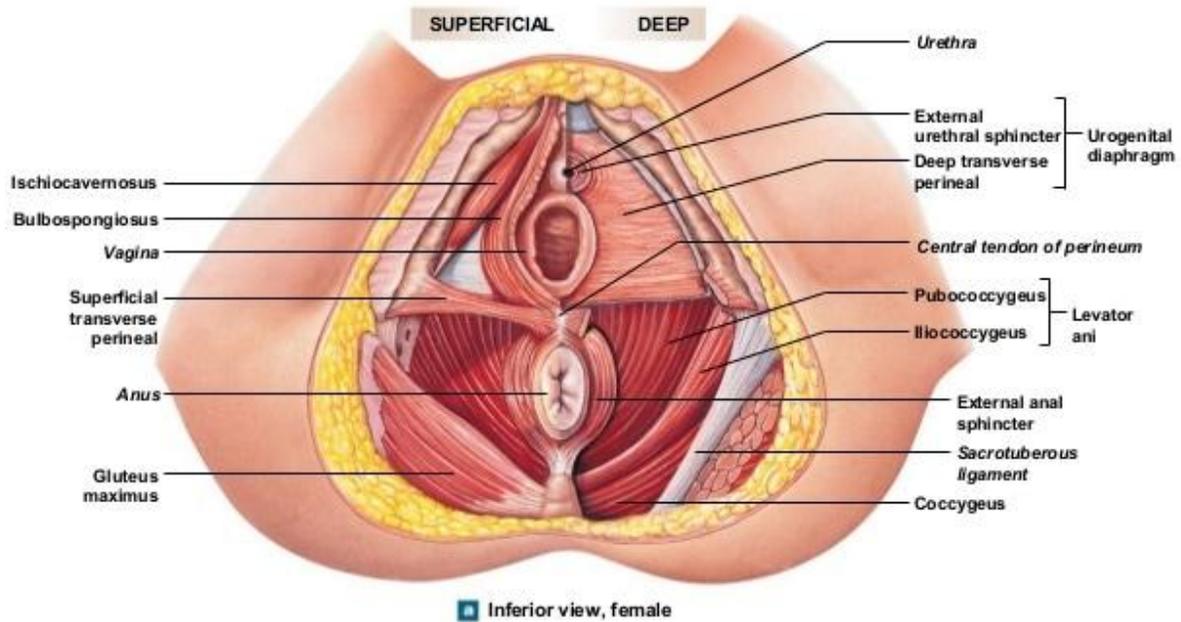
Anatomical Descriptions



<https://confusedparent.in/best-baby-position-for-normal-delivery/>

The most optimal fetal position for delivery is the fetus in cephalic presentation (head down) and left occiput anterior (the fetal head is facing the maternal spine).

Figure 10.13a Muscles of the Pelvic Floor



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<https://drsarahvisconti.weebly.com/chiropractic-blog/the-pelvic-floor-labour-and-chiropractic-care>

The abdominal and pelvic floor muscles will be used with maternal pushing efforts to help the fetus descend down the birth canal during delivery.

Introduction

The intrapartum period and labor process is probably one of the hardest and most strenuous times in a woman's life. Working as a nurse in Labor & Delivery for many years, my role has been to help support woman during the labor process and during delivery. I have always found that women who maintained an exercise regimen and healthy lifestyle habits during pregnancy tend to do better during the labor and delivery process. When I began my journey towards becoming a BASI certified Pilates instructor, I was very interested in working with pregnant clients to strengthen their abdominal and pelvic floor muscles to aide in the intrapartum period. Research has shown that abdominal strength training before and during pregnancy is recommended to help with a successful vaginal birth by strengthening muscles used during active pushing (Rise et al., 2019). Pelvic floor exercises also have been shown to be very beneficial during the delivery process (including maternal pushing) and also during the postpartum period. Strong pelvic floor muscles have been shown to improve muscle relaxation when the fetal head is crowning, improve healing of any lacerations or episiotomy of the perineum (area between the vagina and rectum), and reduce the risk of bladder incontinence after delivery (Guess, 2017). My goal as a Pilates instructor is to help strengthen clients during their pregnancy in hopes that their bodies may progress well during labor and achieve a successful vaginal delivery.

Case Study

Elizabeth is a 28 year old female client, gravida 1 para 0 (first pregnancy, no prior deliveries) at 20 weeks gestation in the second trimester of pregnancy. She has no significant medical or surgical history, and obstetrical history has been uncomplicated thus far. Elizabeth has been exercising with Pilates for many years prior to her pregnancy and has continued with

Pilates during the pregnancy. I will outline a conditioning program for her to use during the pregnancy that is safe and will assist in strengthening the core and pelvic floor muscles to help prepare her body for the intrapartum process of labor and delivery. The BASI Block System will be utilized to construct an exercise program Elizabeth may use during the pregnancy.

Initial Assessment:

- Roll Down

Warm Up: Fundamental BASI Warm-Up

- Pelvic Curl
- Spine Twist Supine
- Chest Lift
- Chest Lift with Rotation

Since Elizabeth is 20 weeks gestation at this time, she will need to begin to limit the time she spends in the supine position for the remainder of her pregnancy. As her uterus begins to grow larger with the fetus, the uterus can compress the aorta and the inferior vena cava, lowering maternal blood pressure and as a result decreasing the blood flow to the placenta and fetus. This can be corrected by tilting the client towards her left side and placing a wedge or pillow under her left hip. The left-lateral tilt position reduces compression of the inferior vena cava from the gravid uterus compared to the supine position (Fujita et al., 2019). Also since Elizabeth is 20 weeks gestation, her fundal height should be even with her umbilicus (the top of the uterus is even with her bellybutton) (Green, 2013). As her uterus grows larger, her fundal height will rise higher. From this point forward, forward flexion may need to be decreased due to the enlarging uterine size.

Foot Work: (on Wunda Chair)

- Parallel Heels
- Parallel Toes
- V Position Toes
- Open V Heels
- Open V Toes
- Calf Raises
- Single Leg Heel
- Single Leg Toes

As previously discussed, performing leg work on the chair will be beneficial for Elizabeth because she is in a sitting position, rather than a supine position on the Reformer or Cadillac. This will prevent aortocaval compression in the supine position.

Abdominal Work: *Short Box Series* (on Reformer)

- Round Back
- Flat Back
- Tilt
- Twist
- Round About

Abdominal work will help strengthen the muscles Elizabeth will use for pushing during the second stage of labor. This short box series is appropriate for a pregnant client due to the sitting position rather than spending an extended period of time in the supine position.

Hip Work: *Single Leg Side Series* (on Cadillac)

- Changes
- Scissors

- Circles Forward
- Circles Back

Once again, the positioning on the client's side is beneficial to use during pregnancy so she is not in the supine position for an extended period of time. This hip work series will help to strengthen Elizabeth's pelvic floor to assist with a successful vaginal delivery. A strong pelvic floor will also help Elizabeth after the baby is born during the postpartum period and will aide in a faster recovery of any lacerations or tearing from delivery.

Spinal Articulation: (on Mat)

- Spine Stretch

Certain exercises in the spinal articulation block are contraindicated after the 20th week of pregnancy. A pregnant client after 20 weeks gestation should not perform exercises with excessive weight or pressure on the cervical spine (such as short spine or long spine). Spine stretch is a safe exercise to use during pregnancy.

Stretches: (on Reformer)

- Standing Lunge

Full Body Integration: (on Reformer)

- Round Back
- Flat Back

Arm Work: *Arms Standing Series* (on Cadillac)

- Chest Expansion
- Hug-A-Tree
- Circles Up
- Circles Down

- Punches
- Biceps

Any arm series in the standing, sitting, or kneeling position will be optimal to use during pregnancy rather than a supine arm series that requires more time on the pregnant patient's back.

Leg Work: (on Reformer)

- Skating
- Leg Press Standing (on Wunda Chair)

Skating can be an exercise used during the leg work block that will help to strengthen the client's inner thigh muscles. Also the client can clench her pelvic floor muscles when she brings the carriage back to center to engage her pelvic floor and add strength in her pelvic floor muscles during skating.

Lateral Flexion/Rotation: (on Reformer)

- Mermaid

Back Extension: (on Mat)

- Cat Stretch

Back extension exercises may also be very limited during pregnancy as the gravid uterus grows larger and the client is unable to lie in the prone position. Cat stretch is a safe exercise that may be used during pregnancy for back extension.

Complete session with a Roll Down.

Conclusion

Pilates is a wonderful form of exercise that may be used during pregnancy. Pilates is a low-impact exercise that increases flexibility, muscle tone and strength, and can aide in the labor and delivery process (Kashtan, 2019). As with any client, it is always important to obtain a full health history of your client prior to beginning Pilates during pregnancy. Ideally, Pilates should be practiced during pregnancy when the client was practicing Pilates prior to pregnancy and is familiar with the repertoire and has already gained strength from using Pilates. The instructor should identify how far along the client is in her pregnancy, any contraindications for exercises during pregnancy, if the client has any high risk problems during the pregnancy, and what the client's goals are for using Pilates during pregnancy. The conditioning program in the case study above outlines a safe Pilates session that may be used for the pregnant client. My hope is that working with Elizabeth during her pregnancy may strengthen her body in preparation for the arduous process of labor and delivery.

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