

PLAYING FOR TWO

There are moments in one's tennis career that are life changing: earning your first direct entry into a WTA event; moving up the rankings to the next level; winning your first title; being selected to compete for your country; or learning that you are going to be a mother. For some players, motherhood and pregnancy are an exciting time. For others, finding out they are pregnant can lead to a lot of questions and concerns. How will this impact my tennis career, my lifestyle, or even my training? Can I still compete while pregnant? Reputable international obstetric medicine colleges, such as the American College of Obstetrics and Gynecology (ACOG), recognize the importance of exercise during pregnancy for both the mother's and the baby's health. A proper exercise routine can reduce back and musculoskeletal pain, improve psychological wellbeing, enhance heart and lung function, and lower the risks of pregnancy complications such as gestational diabetes and high blood pressure. However, your usual tennis training routine will need to be modified to safely manage the normal physical and physiological changes of a healthy pregnancy.



"Successful mothers are not the ones that have never struggled. They are the ones that never give up, despite the struggles."
-Sharon Jaynes (motivational speaker)

PLAYING PREGNANT:

Can professional tennis players continue to train and compete during pregnancy? **Yes!** Scientific evidence shows it is safe for players to continue exercise, train, and compete so long as certain precautions are taken. There have been at least 18 Olympians (across all sports) who have competed while pregnant, including gold medalists in ice skating (1920); skeleton (2006) and equestrian (2004). There is **NO** evidence of pre-term labor (early birth) in mothers who exercised during pregnancy as was previously believed. However, professional tennis players should be aware of the limitations and potential risks from intense training, especially during the first trimester (first 3 months of pregnancy). You should **always** consult a medical doctor, preferably your specialist Obstetrician and Gynecologist (OB-GYN), about your training routine if you are pregnant or think you are pregnant.

PREGNANCY-RELATED EFFECTS OF INTENSE TENNIS TRAINING:

Decrease in performance: **May occur** during your pregnancy due to physiological changes in the body such as swelling (due to increased blood pressure), anemia, shortness of breath (may be related to elevated resting heart rate and or blood pressure changes), nausea, heartburn, weight gain, an altered center of gravity (which will change balance and coordination and add load to the lumbar spine), and musculoskeletal aches and pains related to the ligamentous softening necessary for the birthing process. These factors may cause you to experience reduced speed and endurance on the court and/or cause you to have less agility and coordination to stop or make rapid direction changes.

Overtraining problems: Training loads, scheduling, and recovery and rest ratios should **always** be monitored by athletes to maintain in peak performance condition. During pregnancy, some women will experience poor sleeping patterns, excess fatigue, nausea or heartburn, varicose veins, increased injury risk, musculoskeletal soreness, changes to blood pressure, and a faster resting heart rate. **These factors need to be carefully considered and monitored so that training and recovery loads can be adjusted to optimize performance.**

Risk of overheating/hyperthermia: Increased body temperature (hyperthermia) is one result of intense training and can be dangerous for your baby's health if core temperature is raised above 39 degrees Celsius (103 F), especially during the first trimester. If you are pregnant you should avoid prolonged, intense practice or competition outside in hot, humid environments (greater than 90F or 32C). You should avoid steam rooms, saunas, sunbeds, and hot tubs. You should also practice good cooling strategies and stay well hydrated when exercising. Consult your OB-GYN, a Primary Health Care Provider (PHCP) or WTA Dietitian and read "*Play it Cool*" and "*Liquefy your Assets*" for more information.

Dietary considerations for healthy weight gain: A healthy pregnancy weight gain is important to ensure a healthy baby. Weight gain between 10–15 kg (22-33 pounds) is normal. This gained weight is from the baby, the placenta, amniotic fluid, and increased blood volume. **Too much and too little** weight gain can cause poor health outcomes for both you and your baby. The dietary requirements of pregnant tennis players and players who are breastfeeding differs from those who are not pregnant or breastfeeding. You should see a WTA Sports Dietitian during your pregnancy and post pregnancy (while breastfeeding) to receive a custom training meal plan to ensure you are meeting the needs of you and your baby's.

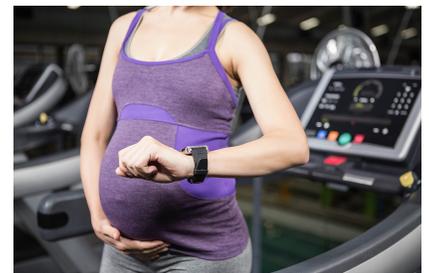
GET IN THE ZONE:

Research recommendations for measuring exertion during pregnancy are mixed. The International Olympic Committee consensus encourages using heart rate as a guide. However, the general consensus is that during pregnancy heart rate is a poor predictor of exertion because the resting heart rate is raised and the heart rate response blunted. Other research suggests that using 'rate of perceived exertion' (RPE), the feeling of how hard you train is more realistic, due to the physiological changes of pregnancy.

The following are recommended training zone heart rates for pregnant professional tennis players:

- Age <20 years --- 140 to 155 beats/minute (bpm)
- Age 20 to 29 years --- 135 to 150 beats/minute (bpm)
- Age 30 to 39 years --- 130 to 145 beats/minute (bpm)
- Age > 40 years --- 125 to 140 beats/minute (bpm)

Training zone heart rate is a range that defines the upper and lower limits of **training intensity** and is calculated using an age-related predicted **maximum heart rate** (HRmax) and **resting heart rate** (RHR). RHR is measured when you wake up and before you rise. Consult your OB-GYN to discuss your optimum training levels.



CAUTION! BABY ON BOARD:

To maintain a healthy and safe level of training while you're pregnant, you should **always** follow the guidance of your OB-GYN. There are many myths

and untrue beliefs about what is healthy and safe for women to do during pregnancy. Most of the information available is based on safe guidelines for **non-elite athletes**. Tennis is a relatively low-risk sport for pregnancies. It is a non-contact sport with low risk of trauma. Most healthy, pregnant tennis players will be able to safely compete, with some modifications, at least through part of their pregnancy.

SOME FACTS TO CONSIDER:

Increased risk of injury: Due to hormonal changes, including increase in relaxin, there is an increased risk of injury during pregnancy. These hormonal changes can lead to laxity of ligaments and joints, which can elevate the risk of injury especially to the low back, sacroiliac (SI) joint, pubic symphysis joint, and shoulder. Balance is altered during pregnancy as the center of gravity changes with the growth of the fetus. One-third of all pregnancy injuries are due to physical activities. The twists and turns, sudden stops, changes of direction, and sideways lunges, all of which are necessary when playing tennis, can cause injury to pelvic joints. Be mindful of swollen joints and ankles and wear proper shoes.

Miscarriage: Miscarriage is the spontaneous loss of a pregnancy before the 20th week. Many miscarriages occur because the fetus isn't developing normally. It is estimated that between 10-20% of all pregnancies end in miscarriage. The rate could be much higher as many occur before the woman realizes she is pregnant. There is some evidence that high intensity training in the first trimester may increase miscarriage risk in non-athletic populations. There are no conclusive studies with respect to professional athletes. However, a previous history of miscarriages is associated with an increased risk of subsequent miscarriages. Follow your OB-GYN's advice regarding intensity and volume of training for **your** pregnancy.

Potential risk of preterm labor (early birth): The risk of preterm labor exists for any woman who has a history of preterm labor. There is no solid evidence that professional athletes have a higher risk of preterm labor. Recent Danish studies suggest that physical activity may be associated with a reduced risk of preterm birth. However, the amount by which preterm birth risk was reduced was not significantly lower in women competing in sports versus women performing regular levels of physical activity. You should consult your OB-GYN if you have previously experienced an early birth.

Dehydration risk: Proper hydration is essential for peak tennis performance. Pregnant players should monitor their hydration status for competition and training with fluid balance and USG (urine specific gravity) testing. You should see a WTA PHCP and/or consult with a WTA Sports Dietitian to receive your personal hydration plan to ensure you are getting all the fluid, salt and electrolytes you need to compete safely and with energy.

Compromised blood flow to placenta: A healthy placenta provides oxygen and nutrients to the baby as it forms in a mother's womb. Pregnant tennis players who engage in repeated sessions of heavy weight lifting or repetitive intense isometric exercises, which require the Valsalva maneuver and cause a rapid increase in blood pressure and intra-abdominal pressure, may temporarily reduce placental blood flow. Reduced placental blood flow is associated with birth defects, learning disabilities, premature labor, and in extreme cases death. The implications of temporary, reduced fetal blood flow are not known. Follow the advice of your OB-GYN. If in doubt, avoid heavy weight training entirely.

Pelvic floor injury: The pelvic floor is vital to the support of the pelvic organs. The pelvic floor reduces risk of pelvic organ prolapse, as well as reduces the risk of urinary or anal incontinence and enhances sexual health. Pelvic floor injury may result from repeated sessions of heavy weight training which causes large increases intra-abdominal pressure, which may overload the pelvic floor support. Research indicates that Olympic and elite athletes have increased incidence of urogenital hiatus, which can increase the risk of prolapse (where the pelvic organs descend into the vagina) when they are training pre- and post-delivery. There is no evidence that elite athletes have any greater risk of pelvic floor injury or trauma from childbirth. Read "*Pelvic Floor and More*" to learn more.

STOP exercising immediately and call your OB-GYN if you experience any of the following symptoms while exercising when pregnant: vaginal bleeding or fluid leakage, feeling dizzy or faint, chest pain, persistent headache, muscle weakness, calf pain or swelling, regular or painful contractions, and decreased fetal movements. You should have regular check-ins with your OB-GYN to monitor the baby's health.

BACK IN THE GAME:

The benefits of motherhood for an athlete may include: improved psychological wellbeing, improved bone health, lowered cholesterol levels, healthy weight management, and optimal blood glucose level. However, juggling the demands of being a new parent with returning to play can be challenging. Additionally, some new mothers may experience degrees of urinary incontinence, low back pain, postpartum depression, and challenges with breastfeeding. Therefore, if you plan to return to play after giving birth, you should first have a full evaluation with your doctor. Additionally, you should return to competition following a graduated training program supervised by a health care provider to ensure you are ready to restart competition. You may take time off post-birth using a special ranking. Refer to the WTA rulebook and contact tourops@wtatennis.com for more information.

After giving birth it is recommended that you:

- Receive medical clearance after delivery to ensure safe return to play
- Perform appropriate postpartum exercises to improve pelvic floor and core trunk strength and minimize risk of injury
- Have a graduated return to play designed with a qualified health care provider that provides safe parameters based on: the nature of your delivery (vaginal versus Cesarean), pelvic floor healing (e.g. repair of tears, surgical cuts to perineum), pelvic floor injury and function, core trunk strength, mood, motivation, fatigue, sleep patterns, breastfeeding status and comfort, and musculoskeletal strength, agility and endurance;
- Consult a sports dietitian for specific dietary requirements for breastfeeding mothers
- Be fitted and wear a proper bra to protect breast health and manage the dual loads of tennis competition **and** breastfeeding
- Return to the court at a pace that is in accordance to the readiness of both you and your baby. Remember that everyone is different

Appropriate postpartum exercises should include:

- Aerobic and anaerobic exercises, strengthening and muscle toning exercises of all muscle groups
- Postural exercises and core stability
- Emphasis of pelvic floor exercises (Kegels) of 1-3 sets of 8-12 contractions
- Rest and recovery time. Be kind to yourself

Not coping? Feeling overwhelmed, anxious, panicky or depressed?

- You are not alone. It takes time to adjust to new circumstances, and a new baby will challenge you in every possible way.
- Seek help from your OB-GYN, a PHCP or the Senior Director Athlete Assistance.
- Remember to breathe. IN and OUT. Keep it simple. IN and OUT.



For more information read Physically Speaking topics "Liquefy Your Assets," "Play it Cool," "Pelvic Floor and More," and "Recovery".

Questions? Need more information?

Contact a member of the WTA Sports Science & Medicine and Athlete Assistance Departments and check out the Athlete Assistance Website: www.achievesolutions.net/tennis

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