

Training Considerations - Training during Pregnancy

<http://concept2.co.uk/training/guide/pregnancy>

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Many pregnant women enjoy regular exercise/training in pregnancy and, for most women, regular exercise during pregnancy is beneficial. The majority of pregnancies are normal. As a general rule, regularly exercising women are able to continue exercising at a mild or moderate level during pregnancy as long as the pregnancy is uncomplicated. The information in this section is carefully researched but does not replace the need for personal guidance from your physician or midwife who know your medical and obstetric history. This is very important, as there are some risks as well as benefits of exercise in pregnancy, and exercise is not recommended for women with serious or potentially serious complications of pregnancy.

Some examples of the conditions that are "absolute" contraindications to exercise are active heart disease, uterine bleeding/ruptured membranes, high blood pressure, history of pre-term labour, incompetent cervix/cerclage, intrauterine growth retardation and suspected foetal distress. Some examples of the conditions that are "relative" contraindications to exercise in pregnancy are; anaemia, thyroid disease, diabetes, excessive obesity or excessively underweight, breech presentation in the last trimester. Relative contraindication means that after full medical assessment of the individual case patients may be engaged in medically supervised exercise programmes.

Some examples of risks/theoretical risks of maternal exercise to the foetus (baby) are:

- Direct trauma to the foetus. This is very rare. Contact sports should be avoided.
- Changes in foetal heart rate may occur in response to exercise, depending on the stage of pregnancy, and the exercise intensity, duration and type. This may relate to decreased uterine blood flow during exercise, causing blood to be shunted away from the foetus to the working muscles. The clinical significance of these changes in foetal heart rate observed is uncertain.
- Intense exercise by the mother during pregnancy has been noted in some studies to result in a small decrease in average birth weight of their babies. There are no reports of any adverse outcomes on pregnancy.
- There is a "theoretical" risk of premature labour associated with the level of certain hormones causing uterine irritability, but these have not been seen in practice.
- One particular area of concern for the health of the foetus is hyperthermia (overheating). Data on animals has shown abnormalities with maternal core temperatures above 39C. Some studies in humans however have shown an increase in the incidence of neural tube defects (early developmental abnormalities) with maternal high fever. This goes along with the general pregnancy advice of avoiding saunas, steam baths, hot tubs etc.

Risks of exercise to the mother include:

- Prolonged standing, or exercising in the supine position (lying on ones back), can lead to hypotension (low blood pressure).
- There is a potential increase in susceptibility to musculoskeletal injuries such as lower back pain. Relaxin, a hormone produced in pregnancy, loosens ligaments and this, along with an alteration in the centre of gravity and an increase in the lumbar lordosis (arch in the lower back) that occurs in pregnancy, predispose to this problem.

Research has shown the following benefits are common:

- An improved general physical and psychological well being in the mother.
- Women who exercise prior to pregnancy and continue to do so in pregnancy weigh less, gain less weight and deliver slightly smaller babes than sedentary women.
- The discomfort of pregnancy and labour may be more easily handled.

- It may be easier to get back into pre-pregnancy shape and weight after the birth.

Once you have the all clear from your doctor to exercise the following guidelines should help you to ensure that no damage to mother or baby occur whilst training.

Remember there will always be time to do another 2,000m test after the pregnancy. If you need time off take it - there is nothing more important than the safety of mother and baby. Not even your result at BIRC!!!

General Guidelines

- Drinking plenty of fluids is very important during pregnancy and especially during the first trimester. The baby has no way to control its own temperature so over heating should be avoided at all cost. This can be done by ensuring adequate hydration and avoiding training in hot humid conditions. Remember that if swimming you still sweat but might not notice, so stop regularly to rehydrate.
- For women who trained regularly before pregnancy regular exercise is preferable to sporadic sessions. As a general rule, mild to moderate exercise for 20 to 40 minutes, three times a week, at a heart rate up to approximately 140 beats per minute, has been recommended. Prescriptive guidelines however can be unhelpful (producing frustration, rebellion and guilt in many physically active women), and now it is generally considered as important to encourage pregnant women to modify the intensity of their exercise according to their own feelings of fatigue. Exhaustive exercise should be avoided. Unfortunately, there is a lack of clear scientific evidence to rely on at higher exercise intensities and further research is needed. Pregnancy is not the time to commence anything other than a very mild exercise programme (those serious athletes who wish to continue intense training should be individually and carefully counselled as to the best approach for them).
- You should always be aware of the reduced oxygen availability during pregnancy and moderate your training accordingly. We recommend using a heart rate monitor to ensure the correct intensity, and not to rely on your pre-pregnancy pace as a guide. Above all, even if your heart rate appears to be within your normal range, listen to your body and stop exercising if you do not feel comfortable.
- Pregnancy requires approximately an extra 300 calories per day. These requirements are greater for women who exercise regularly. This should be carefully observed and training should be stopped if there is an insufficient weight gain (less than 1kg per month) during the last two trimesters.
- Avoid exercise where a loss of balance or physical contact could occur, especially in the third trimester.
- Dress for exercise wearing loose fitting clothing, with a good support bra and comfortable shoes. You can keep the one-piece row-suits in the cupboard for a few months!
- Avoid exercising in the supine position (on your back) after the first trimester since this is the time that the uterus grows out of the pelvis and this position causes the uterus to weigh down on the vena cava so reducing the blood and oxygen flow to the baby.
- Non-weight bearing exercise like swimming, cycling and indoor rowing are recommended, but, if doing weight bearing exercise, avoid bouncing and jerking exercises and deep knee bends as the hormone relaxin released during pregnancy softens the ligaments and this can increase the likelihood of injury. For the same reason, be careful when stretching during warm up and cool down, especially avoiding excessive and ballistic stretches.
- Avoid standing stationary for long periods of time.
- Weight training may be continued by experienced athletes but avoid heavy weights. Concentrate more on high repetitions with low weights. Avoid the valsava manoeuvre (holding breath until half way through the lift) at all times.
- Exercising at altitudes of greater than 3,000m (10,000ft) may be unadvised, as rates of pregnancy complications are higher, and birth weights are lower, at high altitudes. In comparison, there have been no reports of problems associated with exercise at moderate altitudes.

Indoor Rowing

If you are a regular user of the Indoor Rower pre-pregnancy there is no reason why you should not continue rowing throughout your pregnancy, subject to the following guidelines:

- Be aware that as your pregnancy progresses you will need to re-evaluate your goals - more in line with staying fit than trying to work towards a personal best.
- Be particularly careful with the intensity of your workouts in the first and last trimesters. For example, whilst Professor Clapp (see below) concludes that continuing aerobics and running during the first trimester does not increase the incidence of miscarriage, it is important to remember that, to some degree, indoor rowing utilises the abdominal muscles. Given this crucial time in the development of the foetus, it is therefore vital that the rower adopts the correct technique, utilising predominately the leg muscles with less emphasis on the upper body and abdominal region. If in doubt ask a Concept 2 instructor or personal trainer to review your technique.
- In relation to training throughout pregnancy Professor Clapp recommends stationary cycling, swimming and walking but he suggests that other forms of exercise are either contraindicated, or require modification. Indoor rowing would fall into the latter category and, apart from ensuring correct technique, the appropriate modifications could involve the lowering of your damper setting/drag factor to a minimum and, as above, ensuring that there is a minimum amount of stress placed on the upper body/abdominal region at the conclusion of the Drive phase of the stroke.

Warning Signs

Stop training immediately and seek medical advice if you experience any of the following symptoms:

- Vaginal bleeding or leaking of amniotic fluid.
- Swelling of the ankles, hands or face.
- Persistent headaches or visual disturbances.
- Shortness of breath when not exercising.
- Dizziness, faintness, pins and needles or numbness.
- Nausea and vomiting.
- Excessive fatigue.
- Palpitations or chest pains.
- Persistent contractions (more than six per hour) or unexplained abdominal pain.

Post-Delivery

Pre-pregnancy exercises should be resumed gradually and gently after birth, based upon your doctor's advice and your physical capabilities. The body changes that occur during pregnancy take time to return to normal, so care should be taken, particularly in the first six weeks after delivery. Breast-feeding women should take care regarding adequate fluid and calorific intake (breast feeding requires an increased calorific intake of approximately 500 calories per day). In relation to caesarean birth, current medical opinion would suggest that you do not resume gym-based activity until you have been given the all clear from your medical practitioner at your six to eight week check up, weight training may be deferred for longer.

Recommended Reading

For more information please see the following websites and publications:

- **American Collage of Sport Medicine, <http://www.acsm.org>**
- **James F Clapp, *Exercising through your Pregnancy***
Addicus Books, 2002
ISBN: 1886039593
- **Dr Karen Nordahl, *Fit to Deliver: Prenatal Fitness Programme***
Fit to Delivery Intl, 2000
ISBN: 0968730507, and
Warne Books, 1999
ISBN: 0446673986

- **Thomas W Hanlon, *Fit for Two; the Official YMCA Prenatal Exercise Guide***
Human Kinetics, 1995
ISBN: 0873228286
- **Renee Garrick (Foreword), Greg Waggoner, Doug Stumpf, *From Baby to Bikini: Keep Your Midsection Toned Safely During Pregnancy and Flatten Your Abdominals Fast After You Have Your Baby***
Warner Books, 1999
ISBN: 0446673986
- **Kim Bennell, "*The Female Athlete*" in**
P Brukner P and K Kallin, Clinical Sports Medicine
McGraw Hill Education - Europe, 2002
ISBN: 0074711083
- **Carl DeCromme, *Safety Guidelines for Exercising During Pregnancy* in**
The Lancet
Volume 351, Issue 9119
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