



PHYSICAL ACTIVITY DURING PREGNANCY

Regular physical activity should continue throughout pregnancy. It is important that pregnancy is treated as an altered physiological state, not a condition, and that a few allowances are made concerning exercise routines for women in the pregnant state. It's also important to be aware of some fundamental changes that occur in a woman's body when she is pregnant.

Physiological changes that occur during pregnancy, and impact on physical activity

1. Pregnancy is associated with an increase in body temperature, and the body is therefore functioning at a higher temperature before exercise begins. It is important to avoid overheating during exercise by not doing more than 20 minutes of fast physical activity at a time.
2. The resting heart rate of a pregnant woman naturally increases, and maximal heart rate decreases. The heart of a pregnant woman thus experiences temporary functional changes, and should not be subject to extra stress. It is therefore best to avoid high intensity exercise during pregnancy, and heart rate should not exceed 140 beats per minute.

Additionally, blood volume increases during pregnancy due to the development of blood vessels that are needed to supply blood to the growing foetus. The increase in blood supply can either increase or decrease a pregnant mother's blood pressure depending on the stage of pregnancy. From about the fourth month of pregnancy, women should avoid rapid changes of position (e.g. from standing to lying and visa versa) to avoid dizzy spells.

Exercise should neither be commenced nor halted suddenly as cardiovascular adjustments take more time during pregnancy – sudden changes in activity levels can therefore cause dizziness and even fainting. Long periods of motionlessness should also be avoided.

3. The pregnant woman produces a hormone called relaxin which causes muscles to become more flexible. During birth, relaxin causes the muscles involved in labour to stretch enough to allow the baby to pass through the birth canal. Throughout gestation, release of this hormone causes all body muscles to become more easily stretched. During the second and third trimesters, muscles are particularly susceptible to over-flexing and pulling. It is therefore important that pregnant women who stretch as part of their exercise routine do so very gently.

4. Blood glucose levels can decrease more rapidly for those in the pregnant state. A sugar 'fix' (e.g. cordial, jelly beans) should therefore be at hand when exercising.
5. A number of anatomical changes occur during pregnancy. Pregnant women experience a noticeable increase in breast size, and it is important to wear good supportive bras during exercise. Increased belly size changes a pregnant woman's centre of gravity, and pregnant women should therefore be more conscious of subtle changes in balance.
6. During the third trimester of pregnancy, the growing uterus begins to compress on the vena cava located deeply within the lower back/buttock area. This results in a decline in venous blood returning to the heart, especially when lying in the supine position. It is therefore recommended that for pregnant women, some floor exercises be carried out in the recumbent position.

Does exercise cause any risk to the developing foetus?

It is important to avoid overheating during pregnancy, and exercise in hot, humid weather or in poorly ventilated rooms should be avoided. Pregnant mothers should wear loose, cool clothing and drink plenty of water when exercising, especially in warm weather.

Some studies have demonstrated that women who exercise intensely more than three times a week during the third trimester of pregnancy give birth to significantly small birth weight babies. Exercise of light intensity, three times a week or less, is therefore recommended.

Does exercise cause any risk to a pregnant mother?

As mentioned, the pregnant woman experiences many physiological and anatomical changes, particularly during the second half of the pregnancy. Some of these changes, including postural changes, a shift in the centre of gravity, weight gain and hormonal changes, can increase a pregnant woman's susceptibility to injury. Moreover, balance and co-ordination skills can be affected, and activities requiring these skills may become more difficult for a pregnant woman, and can be associated with increased risk of sustaining injury.

The release of the hormone relaxin causes all joints, particularly the pelvic joints, to become more mobile. Instability and injury to the sacroiliac and pubic symphysis joints can potentially arise.

Exercise Precautions for pregnant women

Pregnancy is not the time to begin a more intense exercise program, but rather a time to continue or modify an established exercise regime. If a pregnant woman experiences any of the following symptoms whilst exercising, activity should cease immediately and a physician should be contacted.

- High heart rate
- Dizziness
- Headache
- Uterine Contractions

- Vaginal bleeding
- Amniotic fluid leakage
- Nausea
- Insufficient weight gain
- Shortness of breath
- Faintness
- Back or pelvic pain
- Decreased foetal movements
- Sudden swelling of ankles, hands and face

Exercise during pregnancy is not advised for those with the following conditions:

- Heart disease (ischaemic or valvular)
- Severe hypertension (high blood pressure)
- Risk of premature labour (incompetent cervix, multiple pregnancy, ruptured membranes)
- Growth retardation
- Pre-eclampsia

Any illness or complication needs to be fully assessed by a physician before a pregnant woman can start or continue with an exercise routine.

Activities that should be avoided during pregnancy include:

- Scuba diving
- Water skiing
- Martial arts
- Gymnastics
- Trampolining
- Weight lifting

In conclusion, many benefits have been associated with exercise during pregnancy. A well designed program may aid in minimizing problems such as swollen extremities, leg cramps, lower back pain, fatigue and excessive weight gain which are all commonly associated with pregnancy. Walking and swimming are two activities that are considered safe throughout pregnancy. It is important that pregnant women be monitored by a qualified instructor and that their doctors are always informed of the level of activity exerted. In general, effort always reaps reward!