

# 11: PHYSICAL ACTIVITY AND PREGNANCY



## Pre-Exercise Evaluation

There are very few absolute contraindications to exercise during pregnancy and these are mostly related to the pregnancy itself e.g. risk of premature labour or presence of pre-eclampsia.

However, there are a number of medical conditions where women need to be cautious and specialist input may be required<sup>2</sup> (box 1). In addition, any woman undertaking exercise for the first time should be screened in the usual way to consider any risk factors regarding their general health.

### Box 1: Absolute Contraindications to Aerobic Exercise in Pregnancy<sup>2</sup>

- Haemodynamically significant heart disease
- Restrictive lung disease
- Incompetent cervix
- Multiple gestation at risk of premature labour
- Persistent bleeding in the 2nd or 3rd trimester bleeding
- Placenta praevia after 26wks of gestation
- Premature labour during current or previous pregnancies
- Ruptured membranes
- Pre-eclampsia/pregnancy induced hypertension
- Severe anaemia

### Relative Contraindications to Aerobic Exercise in Pregnancy

- Anaemia
- Unevaluated maternal cardiac arrhythmia
- Chronic bronchitis
- Poorly controlled Type 1 diabetes, hypertension, epilepsy or hyperthyroidism
- Extreme morbid obesity BMI >40
- Extreme underweight BMI <12
- History of extreme sedentary lifestyle
- Intrauterine growth restriction in current pregnancy
- Orthopaedic limitations
- Heavy smoker

## Risk Management

Outside the conditions listed, there is no evidence that there is an increased risk of complications for the mother or the baby if the woman exercises during her pregnancy; however, there are a few activities not recommended (box 2).<sup>2</sup>

## Hyperthermia

Hyperthermia (>39.2°C): During the first trimester in particular, hyperthermia can increase the risk of developmental problems (e.g. spina bifida). There is no evidence that becoming slightly warm during exercise can cause this, however, the woman should be advised not to become uncomfortably hot. Keeping hydrated will help.<sup>2</sup>

**W**omen may be concerned that physical activity during pregnancy is not safe. However, there is no evidence suggesting adverse maternal or infant outcomes for healthy pregnant women who undertake moderate intensity physical activity. Indeed, there are clear benefits for both mother and baby.<sup>1-3</sup>

The recommendation from the Physical Activity and Pregnancy Study Group<sup>1</sup>, commissioned by the Department of Health CMO is to aim to accumulate at least 150 minutes of moderate intensity physical activity every week, in bouts of at least 10 minutes.

### Key Benefits of Exercise During Pregnancy<sup>1-3</sup>

- Reduction in hypertensive disorders
- Improved cardiorespiratory fitness
- Lower gestational weight gain
- Reduction in risk of developing gestational diabetes

Further low – moderate quality evidence exists for the woman with reduced:<sup>4,5,6</sup>

- Pelvic and low back pain
- Pre-natal depression

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### Modifications and Considerations:<sup>2</sup>

Due to the production of relaxin, ligaments around the spine, hips and pelvis will soften in preparation for delivery which may slightly increase the risk of injury. Stability exercises (e.g. Pilates – as long as it is modified for pregnancy by an experienced instructor) will help to manage this. Also, this softening will effectively increase a woman's flexibility so in order to protect their joints, they should not stretch beyond their normal range.

Avoid exercising lying supine or standing still for long periods after 16/40 weeks, due to venous compression and hypotension<sup>2</sup>.

The combination of increasing lumbar lordosis and weight puts more strain on the joints, especially in the back and pelvis. In addition, as the pregnancy progresses, stress incontinence will become more likely (prevalence 32-64%<sup>8</sup>). Stability and pelvic floor exercises will help to protect against this. Back and pelvic pain is not an inevitability during pregnancy (prevalence 45%<sup>9</sup>). As the woman progresses through the second and third trimesters they should reduce the amount of any weights they are lifting.

### Box 2: Activities to avoid during pregnancy<sup>2</sup>

- Contact sports e.g. rugby, soccer, boxing, basketball and martial arts
- Sports where there is a risk of falling e.g. riding, skiing, off road cycling, gymnastics and horse riding
- Scuba diving
- Sky diving
- Exercising at high altitude (>6000feet)
- Exercising in hot temperatures (including 'hot yoga' or 'hot Pilates')

After first trimester:

- Sports where there is a risk of being hit in the abdomen by equipment e.g. tennis, squash
- Exercise involving lying supine after 16/40 due to venous compression and hypotension

### When to stop exercising:<sup>2</sup>

Advise to stop if there is:

- Vaginal bleeding
- Regular painful contractions
- Amniotic fluid leakage
- Dyspnoea before exertion
- Dizziness
- Headache
- Chest pain
- Muscle weakness affecting balance
- Calf pain or swelling

### 'F.I.T.T.' For Pregnancy

As with any physical activity advice, consider the woman's activity history and preferences. During the first trimester morning sickness and fatigue may limit exercise ability, but most women will naturally reduce the intensity as it becomes more challenging.

**FREQUENCY** – most days of the week for aerobic work and twice weekly for performing 8 -12 repetitions of strengthening activities of all major muscle groups

**INTENSITY** – moderate: that is an activity that makes you feel warmer and breathe faster but still be able to hold a conversation. Those women who are training more seriously may be used to monitoring their heart rate in which case they should be advised to work at 50% - 70% of their maximum heart rate. However, there is no indication for someone to start monitoring their heart rate just because they are pregnant.

**TIME** – aim to accumulate at least 150 minutes of moderate intensity physical activity every week, in bouts of at least 10 minutes.

**TYPE** – mixture of aerobic, strength and stability, for example:

- Swimming / aqua aerobics (water temp not >32deg)
- Walking
- Jogging / running
- Yoga / Pilates – beware not supine after 16/40 / pelvic floor exercises
- Gym classes (inform the instructor)
- Dance

**Advice for those not used to exercising regularly prior to becoming pregnant:** walking is a good way to start. Begin with 10 minute walks every other day and then build up to 30 minutes on most days at a moderate intensity. Once used to doing some walking on a regular basis, they can add in other types of exercise. Women should also be advised to avoid prolonged sitting and to break up sedentary time.

**Advice to a woman who is already active:** these women can be encouraged to continue what they are doing and only adapt their activity if it is not recommended (box 2) or becomes necessary later, as pregnancy progresses.

### NICE guideline CG 62 on Antenatal care for uncomplicated pregnancies recommend:<sup>10</sup>

Exercise in pregnancy

- Pregnant women should be informed that beginning or continuing a moderate course of exercise during pregnancy is not associated with adverse outcomes.
- Pregnant women should be informed of the potential dangers of certain activities during pregnancy, for example, contact sports, high impact sports and vigorous racquet sports that may involve the risk of abdominal trauma, falls or excessive joint stress, and scuba diving, which may result in fetal birth defects and fetal decompression disease.



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## Take home message:

Physical activity is an important part of any management for a patient who is pregnant, leading to:

- Reduction in hypertensive disorders
- Improved cardiorespiratory fitness
- Lower gestational weight gain
- Reduction in risk of developing gestational diabetes

## Consider:

The importance of a healthy lifestyle should be reinforced throughout pregnancy. This should be discussed in some detail at the first booking appointment (typically with a midwife).

## Benefits for Midwives, Health Visitors and GPs:

Reduced complications, cost benefits and improved future population health.



Use the CMO infographic to discuss the benefits of physical activity with all pregnant women. [Download here](#)

Extracted from the Wales HEIW CPD module on physical activity [MOTIVATE2MOVE](#). Now part of the RCGP Clinical Priority on physical activity and lifestyle. Review Dec 2022

## REFERENCES

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