



# Pregnancy & Postnatal Exercise Guidelines

Version 2

**Many women in their childbearing year wish to commence or continue with their exercise programs during and post pregnancy to maintain their health and quality of life.**

The traditional medical advice used to be for exercising women to reduce their habitual levels of physical exertion during pregnancy and for non-exercising women to refrain from initiating strenuous exercise programs. This advice was primarily based on concerns that exercise could affect early and late pregnancy outcomes.<sup>1</sup> However, recent investigations focusing on aerobic and strength conditioning exercise regimens in healthy pregnant or postnatal women, indicate that moderate exercise does not increase adverse pregnancy outcomes or quantity or composition of breast milk.

While an increasing demand for appropriate health and fitness services for pre and postnatal women provides an opportunity for many AUSactive professionals, it is imperative that pregnant and postnatal women are cared for individually, as there can be considerable variation between individuals and pregnancies.

AUSactive registered professionals who provide services for pregnant and/or postnatal women should follow these guidelines and work within their **Scope of Practice** aligning with the **Code of Ethical Conduct**.

## Professional Skills and Knowledge

AUSactive professionals who offer specifically tailored health and fitness services to pregnant and/or postnatal women are required to complete an AUSactive approved continuing education program containing relevant foundational knowledge, skills and content that aligns with the recommendations in this document.

## Pre-Exercise Screening and Referral

All new participants should complete a suitable pre-exercise health screening questionnaire, such as the Pre-Exercise Screening System (APSS) and follow recommended procedures in accordance with their risk status.

The Physical Activity Readiness Medical Examination for Pregnancy (PARmed-X for Pregnancy), developed by the Canadian Society for Exercise Physiology, also provides a helpful guide for screening and referral.

The **Pelvic Floor Screening Tool** for Women from Pelvic Floor First<sup>2</sup>, is another tool designed for women to assess the risk of pelvic floor problems postnatally.

Importantly, if a new or continuing client has been identified with any medical or pregnancy-related musculoskeletal condition that has exercise implications, it is vital that ongoing consultation and collaboration takes place with the appropriate allied health or medical professional.

## Exercise Programming

Exercise participation pre- and post-partum has numerous health benefits, which are well documented. However, AUSactive professionals must recognise that throughout this period, extra consideration and knowledge is required to design safe and appropriate exercise programs. During pregnancy, both the client and the developing baby are at a higher risk of exercise-induced complications due to physiological and morphological changes. During the postnatal period, extra care is required to ensure proper musculoskeletal recovery. Therefore, as part of the ongoing service provided to pre and postnatal women, it is important that the AUSactive professional continues to closely monitor progress and refer to the appropriate pregnancy-related health care professional if any concerns arise. This may include their doctor, midwife or women's health physiotherapist, depending upon the issue.

In developing a safe, effective and comfortable program for each individual pre and postnatal client, careful consideration of the following is vital:

## Pregnancy Guidelines

### Past Exercise History

Pregnant women who were previously exercising may continue, but should be advised to modify their exercise in accordance with general physiological changes associated with pregnancy and their individual situation. Previously inactive clients need to start at a low level and progress gradually. Knowledge regarding the client's previous exercise experience helps to determine suitable and effective program content. Every pregnancy is different, and women can develop pregnancy-related issues that have exercise implications at various times, so it is vital that AUSactive professionals continue to monitor their clients and modify them to suit.

### Current Health

AUSactive professionals should consider the general health of the client continuously. Appropriate rest should be encouraged and incorporated as a formal component of programming. If the client is unwell at any stage, refer to the following warning signs.

## Warning Signs

It is recommended that AUSactive professionals stop the exercise and refer to their client's health care professional for medical advice if their client experiences any of the following:

- ▶ Excessive shortness of breath
- ▶ Dizziness or feeling faint
- ▶ Fainting
- ▶ Headaches
- ▶ Chest pain or palpitations
- ▶ Blurred vision
- ▶ New or persistent nausea or vomiting
- ▶ Calf pain or swelling, or unusual muscle weakness
- ▶ Any pain or numbness
- ▶ Excess fatigue after exercise
- ▶ Vaginal bleeding
- ▶ Abdominal cramps or pain
- ▶ Intense or new back pain
- ▶ Contractions
- ▶ Leaking of amniotic fluid
- ▶ Reduced movements of baby

### Activity Choice During Pregnancy

AUSactive professionals should consider the following within their programming for pregnant clients:

#### It is advisable to include the following activities:

- ▶ Gradual warmups and cool downs for pre-natal circulation and avoidance of blood pooling
- ▶ General strengthening, plus particular focus on pregnancy specific muscles, such as pelvic floor core and postural muscle strengthening
- ▶ Modified strength training according to the AUSactive Safety Guidelines for Strength Training
- ▶ Modifications for supine and stationary standing, such as four-point kneeling, sitting on a fit ball and side lying
- ▶ Flexibility training limited to a comfortable range of movement
- ▶ Relaxation
- ▶ Labor preparation
- ▶ Appropriate low-impact exercise styles
- ▶ Modified exercise programs when risk of overheating is raised
- ▶ In the presence of a pregnancy related musculoskeletal condition, include exercises that either do not exacerbate or assist the condition

#### It is advisable to avoid the following activities:

- ▶ High impact, jerky or ballistic movements
- ▶ Exercise intensities or duration that make the client feel hot, exhausted or sweat excessively
- ▶ Sudden changes of intensity and position
- ▶ Any exercise that involves breath holding or Valsalva manoeuvre
- ▶ Any exercise that places significant load on the abdominals or pelvic floor, including abdominal curls, sit ups, planks and hovers
- ▶ Stretching beyond comfortable range of movement to avoid overstretching due to increased joint and ligament flexibility
- ▶ Weight bearing activities beyond comfortable range of movement
- ▶ Exercises involving lying supine from 16 weeks onwards
- ▶ Exercises in stationary standing (especially upper body strengthening) that will increase the risk of fainting
- ▶ Contact activities (to minimise risk of falls and blows to the abdomen which may increase the risk of fetal trauma). Example activities include, but are not limited to, horse riding, downhill skiing, ice hockey, gymnastics or Olympic lifts<sup>3</sup>
- ▶ Any exercise that may cause or exacerbate any pregnancy related condition

## Intensity

The most recent evidence has indicated that both aerobic and resistance training at moderate intensity is considered safe and has no adverse outcomes throughout pregnancy for the general population.

Monitoring exercise intensity in pregnant women is best achieved using a rating of perceived exertion (RPE) scale such as moderate level 3-7 (on a scale of 1-10), using the talk test or even by heart rate. However, as heart rate responses to physical activity/exercise change during pregnancy, physical activity guidelines recommend that pregnant women use a rating of perceived exertion to judge the intensity of their activities.<sup>4</sup>

Research also suggests that high-intensity exercise can be safe for women used to exercising at a high-intensity, providing there are no contraindications.<sup>5,6</sup>

## Duration & Frequency

It is recommended that session duration is limited to avoid hypoglycemia and overheating. However, intensity and duration must be considered together, i.e., low-intensity can be performed for longer than moderate-intensity exercise. In the absence of any medical issues, exercise can be undertaken on most days with consideration given to intensity, duration and recovery.

## Water Based Programs

No adverse effects on the fetus have been reported to occur during water exercise in pregnancy. Exercising in the water may mitigate the physiological risks associated with land-based exercise. If a woman is exercising in water (as in aqua natal classes), the water temperature should not exceed 33.4°C.<sup>7</sup>

AUSactive professionals need to consider the following more specifically for water-based programs:

- Pregnant women should not exercise in a hydrotherapy pool or spa.
- The intensity recommendation remains the same in and out of the water, low moderate.
- The same activity modifications should be made for pregnancy-related conditions.
- To avoid a sudden drop in blood pressure, ensure that when women leave the pool, they move from deep to shallow water first and then get out slowly.
- Inform women that if they feel lightheaded, it's important that they sit and wait until they feel normal again before standing.

## Activity Choice

Many women can be in a hurry to return to exercise postpartum. The type of activity and when a woman can return to exercise after giving birth depends on pre-existing fitness, her pregnancy, labour and delivery and the postnatal health of both herself and her baby. Too much, too soon can cause both short and long-term problems. It is important that AUSactive professionals encourage women to listen to their bodies, not rush and follow recommended guidelines when returning to various activities.

AUSactive professionals should consider the following within their programming for postnatal clients:

### It is advisable to include the following activities:

- ▶ Appropriate recovery of pelvic floor and core strength, endurance and control prior to any other exercise
- ▶ Gradual progression of exercise to match the clients level of core strengthening and core control
- ▶ Load, repetitions and sets should be based on form and the ability to maintain pelvic floor control, underlying core stability and normal breathing
- ▶ Postural awareness and strengthening (especially of upper back and shoulder girdle)
- ▶ Gentle stretching (especially of neck, lower back and shoulders)
- ▶ Rest and relaxation
- ▶ A very gradual return to high impact
- ▶ Return to resistance exercise gradually according to recommendations listed on the following page

### It is advisable to avoid the following activities:

- ▶ Any exercise that may cause or exacerbate any pre- or postnatal-related condition
- ▶ Exercises that cause a bearing down on the pelvic floor
- ▶ Any exercise that causes loss of bladder or bowel control
- ▶ Any exercise that involves breath holding or Valsalva manoeuvre
- ▶ High impact exercises until core control pelvic floor strength, bladder and bowel control have been regained
- ▶ Exercises that cause breath holding or compromised quality of movement
- ▶ Abdominal exercises that involve significant outer abdominal muscle load, such as sit ups, abdominal curls or hovers, until the client is able to engage their pelvic floor and maintain core recruitment throughout the move
- ▶ Aqua exercise if there is any ongoing vaginal loss or open wound
- ▶ Exercises that may strain vulnerable areas, such as neck, lower back and shoulders
- ▶ If client is unwell, has a fever or experiences breast lumps or tenderness, cease exercise and seek medical assessment



## Recommendations for Postnatal clients

The following recommendations are specific phases for return to exercise postnatally. Postnatal is the term used to describe the time after a woman has given birth, however, the length of time that the physical effects of pregnancy and birth has on the body varies widely from woman to woman. Factors such as altered sleep patterns, breastfeeding, hormonal changes and establishing new routines with a baby can result in fatigue, so programming for a postnatal woman needs to consider the individual's energy level, as well as physical and mental state.

Further modification may be required for women who have given birth by caesarean, have any existing pelvic joint, back or wrist pain, rectus diastasis or have additional risk factors, such as assisted delivery, a long second stage (over 2 hours) and birth weight over 4kg.

### 0-3 weeks Postnatal

Should include walking, postnatal core/deep abdominal training and pelvic floor exercises.

### 3-8 weeks Postnatal

It is recommended that clients wait until their 6-week postnatal check with their doctor or midwife before commencing a group exercise program, returning to the gym or personal training. Recommended exercises at this stage include:

- ▶ Walking
- ▶ Swimming (once bleeding has stopped)
- ▶ Gym programs - maintain posture, light weights, no breath holding
- ▶ Postnatal abdominal and pelvic floor exercises
- ▶ Low-impact aerobics or a post-natal class
- ▶ Low-intensity water aerobics classes (once bleeding has stopped)

Note: Check for abdominal muscle separation.

### 8-12 weeks Postnatal

As for 3-8 weeks, increasing intensity/weights. Progress postnatal core, abdominal and pelvic floor exercises.

### 12-16 weeks Postnatal

Abdominal and pelvic floor muscle testing prior to returning to higher impact exercise/running/sport and commencing regular abdominal exercise programs.

**Note:** Cardiovascular and resistance training should be prescribed based on her existing pelvic floor and abdominal function and is best assessed and determined by a women's or pelvic health physiotherapist (or another appropriate allied health professional). The following exercise recommendations can be given by a physiotherapist or registered AUSactive professionals with the relevant training and education.

Pelvic floor and core strength must be optimised for the individual prior to progressing impact, load and volume. Any symptoms indicating compromised ability of these supportive muscle groups, such as lower back pain, heaviness in the pelvic floor, compromised bladder or bowel control or the client's lack of awareness or inability to engage these muscles, indicate further work is required prior to other exercise progressions. A pelvic health physiotherapist is the ideal health professional to refer to and work with.

### After 16 weeks Postnatal

Progressively work at a rate that considers the client's pelvic floor and core control levels and any ongoing pre or postnatal complications such as rectus diastasis and pelvic joint pain.

The client should not experience any back pain, pelvic or vaginal heaviness or urine loss during or after exercise. If they do, they should be advised to slow down or reduce their intensity level.

**Note:** Pelvic floor and abdominal wall function can be compromised postnatally, with healing time exceeding 16 weeks which has significant exercise programming implications. Ideally, all postnatal women would have an individual consultation with a pelvic health physiotherapist before recommencing exercise, ongoing physiotherapy and collaboration between the physiotherapist and exercise professional to safely progress pelvic floor function and fitness.

It is outside the scope of practice for AUSactive professionals to assess or diagnose pelvic floor dysfunction, however, understanding the risks, exercise implications and signs indicating the need for referral is important. Further education in the area of pelvic floor and exercise, particularly in relation to pre and postnatal programming, are encouraged to gain a further understanding.



## Pregnancy & Postnatal Specific Group Classes

Tailored pre and postnatal group exercise classes are a great option for these clients as they provide specific physical, mental, emotional and social benefits. AUSactive professionals taking specific pregnancy and postnatal group classes must have adequate continued education (refer to the Professional Skills and Knowledge section) and be able to provide safe and appropriate programs with options and modifications to suit each client. To do this, they must:

- ▶ Have a sound understanding of exercise prescription for pregnant and postnatal women
- ▶ Have a sound knowledge of each individual's situation relating to their fitness, pregnancy, mode of delivery and any existing exercise limitations
- ▶ Conduct a pre-exercise screening, taking into account pregnancy and postpartum factors
- ▶ Monitor the individual's progress before each exercise session and adapt their program to suit.

AUSactive professionals must evaluate and determine the appropriate number of participants based on the following:

- ▶ Type of class conducted
- ▶ Environment delivered in (refer to AUSactive Outdoor Training Guidelines if applicable)
- ▶ Diversity and experience of the group participants
- ▶ Ability to monitor and modify each individual exercise in the group setting.

## General Group Exercise Classes

Pregnant and postnatal clients wishing to participate in general exercise classes should be guided to appropriate classes. Group exercise instructors should be conducting pre-exercise screening and advising participants to undertake activities relevant to the client's health and well-being; often modifications are important to pregnant and postnatal participants. Participants may need to seek medical advice for existing or new health concerns based on screening or symptoms. Instructors are encouraged to undertake further education in this area so they can cater for these participants safely and effectively.

## Other Considerations

### Environmental Considerations

To avoid overheating during pregnancy, it is recommended that clients:

- Do not exercise in high temperatures or high humidity
  - Minimise layers of clothing
  - Position themselves near the air conditioner/fan in classes
  - Avoid spas, saunas, hot baths and overheated pools
  - Have access to a water fountain
- ▶ Suitable access to change rooms and toilets is required at all times
  - ▶ Pre and post-natal clients should be encouraged to wear non-restrictive comfortable clothing and a good supportive underwire free sports bra.
  - ▶ If the service is being conducted in an outdoor setting, it is recommended that the AUSactive Outdoor Training Guidelines are referred to.

## Nutrition & Hydration

During pregnancy, adequate dietary intake before exercising is very important:

- ▶ AUSactive professionals should emphasise the importance of hydration and consuming water before, during and after exercising for pregnant and breastfeeding clients, including when performing aqua based exercises.
- ▶ Exercise and lactation are compatible in the post-partum period, provided adequate calories are consumed and hydration is maintained.
- ▶ Consultation with an accredited dietitian should be encouraged for specific dietary advice (refer to Dietitians Australia or Sports Dietitians Australia) especially for clients commencing exercise and very frequent exercisers.
- ▶ Breast feed, where possible, prior to exercise

## Postnatal Depletion

- ▶ Clients can experience postnatal depletion, a term used to describe symptoms that arise from nutritional depletion, sleep deprivation, and the significant changes of a new mother's role, which can lead to depletion of a woman's wellbeing at multiple levels.
- ▶ Refer to appropriate medical and allied health professionals to collaborate for best client outcomes.



## Mental Health

Common pre and postnatal mental health symptoms that exercise professionals should be aware of:

- ▶ Feeling low or numb
- ▶ Feeling isolated, alone and disconnected
- ▶ Loss of confidence, feeling helpless, hopeless and/or worthless
- ▶ Feeling teary and emotional, angry, irritable or resentful towards others
- ▶ Being unable to sleep when exhausted or sleeping too much
- ▶ Difficulties concentrating, thinking clearly or making decisions
- ▶ Changes in appetite
- ▶ Lack of interest in activities they normally enjoy
- ▶ Thoughts of harm to self, baby and/or other children
- ▶ Over critical and intrusive repetitive thoughts
- ▶ Increasing fear around the safety of themselves and/or the baby
- ▶ Elevated levels of anxiety and/or panic attacks

Exercise professionals should be encouraged to communicate with their clients where possible, particularly if these symptoms are ongoing, and offer support or assistance with an appropriate referral to a health professional or service (e.g. PANDA, COPE or GP).

**Note:** It is normal for pre and post-natal women to experience a range of emotions, thoughts and concerns around pregnancy, childbirth and post-partum. If these emotions, thoughts or concerns are problematic for the client, then you should seek to refer them to an appropriate service.

All AUSactive professionals have a duty of care to prevent harm that could reasonably be expected to occur while providing advice or instruction to clients. Professional standards and guidelines developed by AUSactive (such as the Pregnancy & Postnatal Exercise Guidelines) will assist AUSactive professionals in understanding their level of education and scope of practice, as well as mitigating risk and exercising their duty of care.

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