

EXERCISING FOR TWO

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PRE-NATAL EXERCISE

Pregnancy is an exciting time, involving many physical, emotional and social changes. Sensible exercise is beneficial for healthy pre and postnatal women. It is absolutely vital, however, that they exercise at appropriate levels without compromising the wellbeing of their baby or themselves. The general changes associated with pregnancy have programming implications. In addition, some women experience pregnancy related conditions, which may further influence their exercise choice.

Working with women in the childbearing year is exciting and rewarding. Our role, as fitness professionals, is to guide them, at all times, in order to ensure safety, appropriate choice and good technique. To safely design exercise programs for pre and post natal women, instructors need to understand the physical and psychological consequences of pregnancy, plus problems that can occur, and their programming implications.

Benefits of exercising during pregnancy

Appropriate exercise provides physical and psychological benefits:

- Maintenance of general strength, fitness and health during pregnancy
- Assist physical and psychological progression through pregnancy
- Healthy body weight
- Awareness of body, posture and changes that are occurring over time
- Enhance healthy progression of pregnancy
- Mood, morale and self esteem
- Prevention of potential problems that can be associated with pregnancy
- Allow women to continue exercise in the presence of various problems.
- Assist preparation for labour and early motherhood.
- Recovery after labour and return to pre-pregnant weight and body shape
- Social interaction and emotional support

How does a pregnant woman feel ?

CHANGES THAT OCCUR DURING PREGNANCY

System	Change	Implication
CARDIOVASCULAR	Increased blood volume, cardiac output and resting heart rate. Impaired blood flow in supine and standing.	Use perceived exertion Warm ups and cool downs Avoid supine and stationary standing
RESPIRATORY	Increased minute volume, and oxygen uptake Altered shape of rib cage	Lower threshold to SOB Aqua exercise and immersion / SOB
METABOLISM	Increases	Nutrition and energy levels
HORMONAL	Physical and psychological changes. Forgetful, mood swings. Relaxin affects joints, blood vessels, ligaments.	Venous return, concentration, joints posture
WEIGHT GAIN	Increased stress on joints, Less space for other organs, Impedance to venous return , Extra stress on supporting structures	Posture, core, venous return, joints
POSTURAL CHANGE	Increased weight anteriorly creates changes in balance and posture and thus places further loading on some joints.	Back care: mobility, awareness posture, core
ABDOMINALS	Stretched and weakened followed by altered mechanics Risk of separation	Core > curls Modify abs
PELVIC FLOOR	Stretched and weakened leading to potential loss of bladder and bowel control (short and long term).	PF care, advice and inclusion, exercise selection
EMOTIONAL AND PSYCHOLOGICAL	A wide range and degree of emotional changes can exist involving mood, feelings of apprehension about labour, life change etc, body image.	Consider the big picture when training

EXERCISE CONTRAINDICATIONS

- Pre eclampsia
- Incompetent cervix
- Placenta praevia after 26 weeks
- Ruptured membranes
- Intra uterine growth retardation
- Venous or pulmonary thrombosis
- Maternal heart disease
- Uncontrolled HPT
- Vaginal bleeding
- Pre-term labour

A woman should stop or avoid exercising if she suffers

- Excessive shortness of breath
- Chest pain or palpitations
- Severe headache
- Dizziness
- Faintness
- Hot and sweaty
- Nausea
- Vomiting
- New or sudden joint pain
- Abdominal cramps
- New back pain
- Vaginal Bleeding

SPECIFIC EXERCISE CONSIDERATIONS

INDIVIDUAL

Each pregnancy is different and the stages of pregnancy have varied exercise implications.

- Women require individual programming and ongoing assessment

PELVIC FLOOR

Risk of short or long-term incontinence or prolapse, is increased by added stress on the pelvic floor

- Avoid jolting / bouncing the pelvic floor
- Educate women about the importance of pelvic floor exercises
- Incorporate pelvic floor exercises in all programs
- Suggest PF exercises as alternatives to other inappropriate exercises
- Cross train, quality not quantity

ABDOMINALS

Reasons to modify abdominal training include

- Altered mechanics
- Supine hypotension
- Risk of causing / increasing rectus diastasis

Ab work in pregnancy

- Avoid excessive abdominal training, even early
- Abdominal curls are inappropriate after 16 weeks
- TA focus is important and beneficial throughout pregnancy and after delivery
- Core recruitment and abdominal alternatives are performed in various positions including sitting, standing, 4 point kneeling and side lying and on a fitball.

JOINT LAXITY AND CHANGES IN BODY ALIGNMENT

Increased risk of pain or injury during pregnancy because

- Weight gain
- Postural changes
- Increased load
- Joint laxity
- Altered balance

Exercise can exacerbate or prevent pain and risk of injury

- Low back and pelvis are particularly vulnerable
- Avoid high impact, jerking and jolting, extreme range of movement, and complex choreography.
- Do not load affected joints. Consider vulnerable joints
- Modify exercise technique and position changes
- Incorporate postural cues, pelvic tilting and core stability
- Other joints at risk include feet, wrists, and thoracic spine
- Refer

LOW BACK PAIN

The lumbar spine is particularly vulnerable due to altered COG > tendency to increase lordosis, as well as increased load and laxity

- Educate regarding static and dynamic posture
- Focus on core stability
- Positions to relieve such as four point kneel
- Avoid overloading lower back eg push ups
- Pelvic tilt and lumbar mobility

PREGNANCY RELATED PELVIC JOINT PAIN

Pain and inflammation in the sacroiliac joints or pubic symphysis is not uncommon during pregnancy. It is caused by asymmetrical weight bearing, and weight shift side to side, prolonged standing, wide stance and rotation. Muscle imbalances and lack of core stability also play a role. Women suffer increased risk with subsequent pregnancies.

- Avoid prolonged standing, single leg weight bearing, sudden changes in direction, wide stance movements and rotation
- Incorporate centering exs, stabilising exercises and specific stretches
- Fitball or aqua provide good alternatives
- Prevention vs management
- Refer

BLOOD FLOW

Supine hypotension

Lying supine may create impaired blood flow to the uterus

- Avoid supine positions after the 16 weeks
- Avoid slight incline after 30 weeks
- There are many fabulous alternatives

Standing hypotension / impaired venous return

During later pregnancy the heavy enlarged uterus may impair venous return in the upright position without the assistance of muscle pump.

- Beware of muscle conditioning in standing and encourage muscle pump
- Avoid stationary standing especially after aerobic exercise

EXERCISE INTENSITY AND DURATION

The foetus is dependent on mother for disposal of heat so it is vital to avoid hyperthermia

This is specifically important in first trimester. Some studies have demonstrated a connection between exercise intensity and low birth-weight or early delivery

- Avoid intensity and duration that causes women to feel hot, sweaty, exhausted
- Heart rate and rate of perceived exertion are used as guidelines for exercise intensity
- Consider both duration and intensity and assess women carefully
- CV exercise 15 – 40 mins at mild to moderate intensity
- Do not exercise with a fever and avoid saunas, sun baking, etc
- Ensure adequate hydration and consider environment

OTHER CONSIDERATIONS

- Psychology of pregnancy
- Hormones
- Shortness of breath
- Avoid maternal trauma
- Morning sickness
- Gastric reflux, indigestion
- Hypoglycaemia and fatigue
- Carpel tunnel syndrome
- Varicose veins
- Very low fitness level or extreme weight
- Preparation for labour and motherhood

PROBLEMS REQUIRING REFFERAL

- Past history of premature labour
- History of miscarriage
- Continence concerns
- Hypotension
- Diabetes
- Anaemia
- Extremely over or under weight
- History of bleeding during pregnancy
- Low back pain
- Sacroiliac or pubic symphysis pain +/- instability
- Any new ache, pain or concern

EXERCISE AND PREGNANCY GUIDELINES

- **Frequency** 3-4 sessions per week
- **Intensity** Mild to moderate perceived exertion (HR 140)
- **Time** 15- 30 minutes C.V.
- **Type** Non contact after first trimester

PRACTICAL APPLICATIONS / DO'S AND DON'TS

INCLUDE

- Low impact exercise
- Appropriate strength exercises: general and specific
- Pelvic floor exercises
- Postural strength, upper back
- Narrow base/ " mini skirt" and Centering
- Quadriceps
- Pelvic and spinal mobility
- Abdominal stabilising
- Modified Fitball, Aqua and Pilates are all great additions or alternatives
- Positions to relieve load and lumbar lordosis
- Mobility and flexibility
- Relaxation
- Referral

AVOID

- High impact, intensity or load
- Stationary standing
- Supine and prone positioning
- Loading vulnerable or affected joints

EXERCISE FAVOURITES

- Pelvic floor
- Posture and core
- Pre natal style low impact
- Seated fitball low impact
- Seated fitball core
- Seated fitball strength
- Aqua exercise
- Lumbar mobility
- Wall squats, wall hovers, wall calf raises, wall push ups, wall stretch
- 4 point kneel limb raises, mobility, rectus reminder
- Side lying abductors, gluteals, core and pelvic floor
- Labour practice (mind and body)
- Mobility and flexibility
- Relaxation

POST NATAL EXERCISE

BENEFITS OF EXERCISE

- Recovery
- Decrease incidence of post natal incontinence
- Regain pre-pregnancy strength and weight
- Enhance ability to physically manage motherhood
- Decrease likelihood of postnatal problems such as upper back pain
- Psychological benefits such as mood, morale, self esteem, self image

POST NATAL EXERCISE CONSIDERATIONS

- No magic six weeks
- Focus on health and recovery rather than weight loss
- Stretched and weakened abdominals and pelvic floor
- Ongoing joint laxity
- General fitness
- Life and posture of a new mother, finding time and energy to exercise
- Energy levels
- Ongoing problems: RDA, PPP
- Any new physical considerations
- Breast feeding: time, comfort and support
- Pelvic floor
- Core

Recovery is individual and depends on pregnancy, previous fitness, labour and delivery.

Early recovery : RICE, PF and TA and light walking

Then gradually progress with low impact exercises focusing on control and stability before CV or strength

Return to abdominals when TA control is maintained throughout

Return to load and high impact when bladder control is good

EXERCISE FAVOURITES

- Pelvic floor
- Core
- Posture
- Mobility
- Low impact
- Low load
- Aqua
- Pram and park
- Mother and baby workouts

FURTHER READING

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