

Exercise during pregnancy

Introduction

By providing exercise sessions specifically targeted to pregnant women, or ensuring coaches and instructors have the necessary knowledge to adapt existing exercise activities, opportunities are provided for pregnant women to carry out exercising throughout their pregnancy helping them to maintain a healthy lifestyle.

Such provision is not without risks. Risks to the pregnant woman and her unborn child do exist and must be assessed by the woman, her medical advisors (GP, Midwife etc) and by Managers/Operators providing the activities within the normal risk assessment procedures. The Operator is also potentially at risk, through possible litigation arising as a result of a woman and or her foetus suffering because of an inappropriate exercise programme.

The purpose of this information note is twofold:

- to highlight to Operators the risks and benefits to women who choose to exercise throughout their pregnancy
- to identify the steps that Operators of facilities should be taking to minimise the risks to their pregnant customers.

Body Changes During Pregnancy

Significant changes, both physical and physiological, take place to a woman's body throughout pregnancy. As a result some exercises performed without problem by non-pregnant participants may give rise to injury to a pregnant woman or her unborn child and thus should be avoided altogether or be adapted.

During pregnancy ligaments and bones soften to accommodate the developing baby. As a result joints in particular are susceptible to injury. High impact aerobics and funky dance moves that permit excessive movement of the pelvis or cause uneven pressure on the pelvis should therefore be avoided. Curvature of the spine is increased as a result of the growing baby and special care needs to be taken, particularly during any weight training activity. Weaker abdominal muscles exacerbate this condition.

Changes also occur to the pelvic floor muscles and again high impact activities should be avoided to prevent undue stress being placed on them.

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The developing foetus also places a strain on the woman's body temperature regulatory mechanisms. Care should be taken to ensure that the body does not overheat which may be harmful to the foetus, particularly during the early stages of pregnancy. The body may also take longer to cool down after exercise. The duration and intensity of exercise should be modified and water freely taken as a part of the exercise programme.

The woman's heart rate should not exceed 140 beats per minute whatever exercise is undertaken to prevent the foetus suffering from oxygen deprivation.

Contra-indications to Exercising During Pregnancy

Before any exercise programme is undertaken women should seek medical advice from their GP or Midwife. If problems have previously been experienced in pregnancy this is particularly important.

There are a number of symptoms that if experienced during pregnancy should result in immediate cessation of the exercise. These include any type of pain, bleeding or amniotic fluid leaking from the vagina, uterine contractions, dizziness or fainting, vomiting or nausea, generalised oedema (water retention) or decreased foetal activity.

More serious medical conditions such as high blood pressure, heart problems and particular conditions associated with pregnancy will prevent a woman from exercising during pregnancy at all.

Suitable Activities for Pregnant Women

Some activities are particularly suited to pregnant women and Operators should aim to provide these activities as part of a general programme.

Water Based Activities such as swimming and aqua-natal exercise classes are ideal as there is less stress placed on the joints due to the supportive nature of the water. Swimming itself is a good form of exercise to undertake during pregnancy and ideal for keeping fit and toning the body. The temperature of pool suitable for exercise in pregnancy may be slightly higher than appropriate for normal

swimming given that the exercise should be less anaerobic and more associated with suppleness and stretching exercises, that is between 28°C and 30°C.

Yoga has been adapted to suit pregnant women and improves suppleness, relaxation and breathing control.

Low Impact Aerobics and associated activities are ideal as they combine elements of aerobic exercise that are beneficial with more gentle stretching exercises. Specific ante-natal exercise classes are also ideal.

Other activities such as cycling, dancing, jogging and weight training can continue to be undertaken, with some modifications as the pregnancy advances.

Other sports such as horse riding, rowing, skating, squash and tennis should not be attempted by beginners and should only be undertaken with some modifications and particular care during the latter stages of pregnancy.

Sports and Activities to Avoid

Diving, skiing, mountaineering, water skiing, trampolining, gymnastics, netball, hockey, contact sports and anaerobic exercise e.g. sprinting.

In a recent article in the Health and Safety Practitioner the following table was given: -

Table 1: Hazards to new and expectant mothers

- shocks, vibration, excessive movement and fatigue from standing - which may increase the risk of a miscarriage, prematurity or low birth weight
- manual handling, as hormonal changes can affect the ligaments, increasing susceptibility to injury and postural problems may increase in the later stages
- excessive physical or mental pressure, which may cause stress, anxiety and raised blood pressure
- impaired dexterity, agility, co-ordination, speed of movement, reach and balance, with the consequence of increasing the risk of accidents

Table 2: Unhealthy conditions for exercise

Don't exercise if you are pregnant and experiencing..

- pregnancy-induced hypertension (N.B. high blood pressure)
- toxemia
- pre-eclampsia
- pre-term rupture of membranes
- a history of pre-term labour
- persistent second or third trimester bleeding
- incompetent cervix
- any sign of intrauterine growth retardation

Table 3: The good and bad of exercise

Benefits of exercise include:

- improved stamina, circulation and posture
- controlled weight gain
- reduction in minor ailments associated with pregnancy such as stiffness, tension, constipation and insomnia
- quicker post-natal recovery

Things to avoid include:

- excessive raising of body temperature, especially during the early weeks (however Sternfeld contends that a thermoregulation mechanism exists, whereby foetal heat is transferred back to the mother via the placenta)
- high intensity exercise likely to raise the heart rate excessively, thereby affecting the baby's oxygen supply due to blood being redistributed to the working muscles (but Sternfeld contends that the oxygen carrying capacity is increased and that blood-flow redistribution favours the placenta over the myometrium, N.B. muscle coat of the uterus)
- over-extending any joint in general and the spine in particular, as the pregnancy hormone relaxin makes these areas more vulnerable to injury
- isometric (static) contractions (except for the abdominals and pelvic floor) as this can affect the circulation and increase blood pressure
- lying on the back after 20 weeks, which may cause dizziness or nausea and could reduce blood flow to the baby

- high-impact work (e.g. running) as pregnancy progresses

Training, Qualifications and Regulation

There is no organisation that presently regulates exercise activities in pregnancy or stipulates the appropriate training and qualification coaches should have, or maintains guidelines and standards as they become available.

Training and qualifications are offered currently by a number of organisations and are either aquatic or land based. These organisations include the London Central YMCA Aquarobics Teacher Training, Fit to Perform Ltd and Aquacise.

Conclusions

This guidance note is intended to help sports facility operators and their exercise coaches develop an effective and safe exercise programme for pregnant women. The use of highly trained and informative coaches and the production of guidance leaflets on exercise during pregnancy will go some way towards achieving a professionally operated appropriate exercise and fitness programme for pregnant women. The advantage to the operator is the attraction of meeting the needs of a precise group of customers and compliance with health and safety legislation.

NOTE

At no stage can the information and advice contained within this information note supersede any medical advice given to a pregnant woman by her doctor or midwife. If there is any doubt as to the suitability of a particular exercise for a particular woman medical advice should be sought by the woman concerned prior to any exercise taking place.

References:

1. Barbara Sternfeld, Physical Activity and Pregnancy Outcome, (Sports Medicine, January 97)
2. American College of Obstetricians & Gynaecologists, Exercise During Pregnancy and the Postpartum Period, (ACOG, 1994)
3. Health and Safety Practitioner