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exercise for the pregnant client

joy and anxiety: it seems most pregnant women experience these juxtaposed emotions at one point or another. Joy for the baby to come, anxiety for the changes that will occur to their bodies and for the impending birthing process. For those with feelings of apprehension it would be wonderful if we, as trainers, could soften them ▸

thankfully we can. Research now allows us to reassure our mothers-to-be that exercise can help them through pregnancy and towards childbirth. According to the Canadian Clinical Practice Obstetrics Committee, all mothers without contraindications should participate in exercise. This now includes those who have previously not exercised.

exercise contraindications

Contraindications lists are a 'must have' tool, and should be followed religiously and you should always remember the safety of the mother and baby is paramount. Your first question to a pregnant client, current or new, should be, 'Have you been cleared by your doctor?' Then read over the list (see table 1) with them to ensure they are clear of any of the absolute contraindications. Those with contraindications on the relative list can exercise with close monitoring by you and their doctor. Any client you have been training before pregnancy can continue their normal routine. A new client who has previously been sedentary can start with 15 minutes continuous exercise, three times per week, gradually increasing to 30-minute sessions, four times per week. Aerobic training goals should be reasonable without trying to reach peak fitness or train for a high level competition. If your client is an elite athlete, communicate closely with their obstetrician.

table 1 contraindications to exercise in pregnancy

absolute contraindications	relative contraindications
• ruptured membranes	previous spontaneous abortion
• preterm labour	previous preterm birth
• hypertensive disorders of pregnancy	mild/moderate cardiovascular disorder
• incompetent cervix	mild/moderate respiratory disorder
• growth restricted foetus	anemia (Hb<100g/L)
• high order multiple gestation (_>triplets)	malnutrition or eating disorder
• placenta previa after 28th week	twin pregnancy after 28th week
• persistent 2nd or 3rd trimester bleeding	other significant medical conditions
uncontrolled Type I diabetes, thyroid disease, or other serious cardiovascular, respiratory, or systemic disorder	

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exercise benefits

Current research shows there are more benefits to the pregnant woman who exercises than disadvantages. If participating in exercise activities during pregnancy a mother will:

1. increase cardiovascular and muscular fitness

2. keep maternal weight gain within normal acceptable ranges (see table 2)

3. decrease risk of gestational diabetes or pregnancy-induced hypertension

4. decrease chances of developing varicose veins and deep vein thrombosis

5. decrease incidence of dyspnoea (shortness of breath) or low back pain

6. experience more positive psychological adjustments to the physical changes of pregnancy.

Always choose activities for your client that minimise the risk of loss of balance and fetal trauma and feel free to modify them according to your clients needs. Walking, stationary cycling, cross-country skiing, swimming, aquafit classes, and weight training are all good choices. There are many women who can participate in either regular aerobics or step classes with no problems. They must remember to keep movements non impact and keep their step level low, decreasing both these factors as they move through the pregnancy.

table 2 institute of medicine guidelines for total weight gain during pregnancy, based on pre-pregnancy body mass index (BMI)

pre-pregnancy BMI	recommended total weight gain (pounds) for singleton pregnancies
less than 19.8	28-40
19.8-26.0	25-35
26.1-29.0	15-25
More than 29.0	15

weight training programmes

When setting up a weight training programme there are certain considerations to keep in mind:

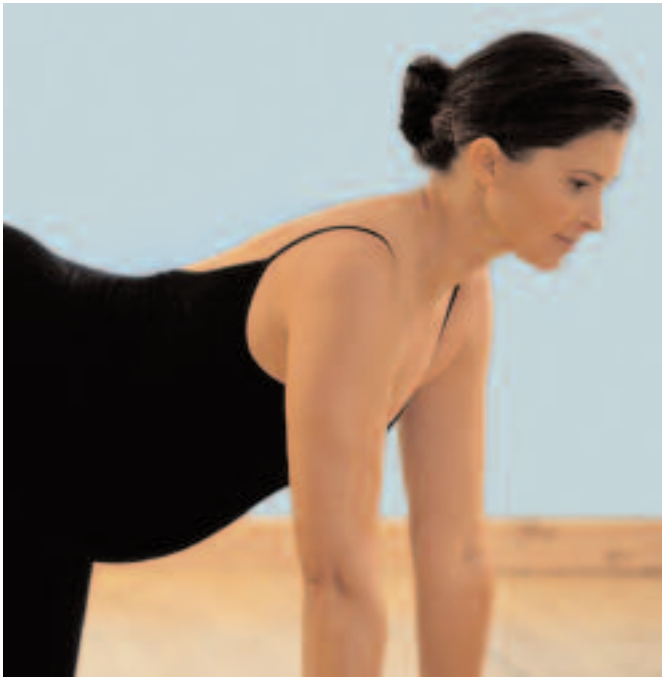
1. Supine positions should be avoided after 16 weeks' gestation. This is due to the uterus pressing against the vena cava and causing hypotension (resulting in light-headedness in the mother and potential lack of blood circulating to the baby). One option is to perform chest presses and abdominal/pelvic floor stabilisations on an incline bench. A 'hands and knees' position on the mat seems to work as well. Here the client can perform press-ups within a reasonable range and abdominal stabilisation and lower back exercises.

2. Often abdominal strengthening exercises may be hampered by diastasis recti (separation of the rectus abdominus away from the midline) and loss of feeling and the ability to recruit the abdominal muscles. Many women suffer from the latter, so here you can have them focus more on the pelvic floor stabilisations. The Kegel or pelvic floor stabilisations should be taught all throughout the pregnancy and continued postpartum.

3. Overhead movements should be avoided during the third trimester. This can cause lightheadedness in the mother and lack of circulation to the baby.

4. During pregnancy, the hormone relaxin softens ligaments and supportive soft tissues to allow the pelvis to open more during childbirth. This is a clever change the body makes and is needed but must be considered in the programme design or injuries can be incurred. Watching range of motion (ROM) and amount of weight on resistance exercises is important, as is ROM in stretching positions. Often women will feel as though there is an opening up at the symphysis pubis during pregnancy. This can be extremely painful and uncomfortable. Communicate with the client, asking if walking or any seated positions are uncomfortable. If so, take a break from walking and give the option of a recumbent bike, since this allows a seated position with pressure through the ischial tuberosities rather than the symphysis pubis. Other options are swimming or aquafit classes that are non weight-bearing through the area.

5. Posture will be affected during pregnancy by the birth weight and increased size of the breasts. This can be a source of irritation through the cervical, thoracic and lumbar areas that can continue through the postpartum breast-feeding period and as the baby



grows. To help the client avoid any undue back pain or change in posture, easy chest stretches and upper, mid and lower back resistance exercises should be included in the program. Rear flies with light dumbbells are a good option as is a one-arm row supported with one hand on a bench and also lower back stabilisations on hands and knees.

These guidelines should be monitored and discussed with your client as they move through their pregnancy and postpartum stages. Remember all women respond differently to pregnancy so minor individual adjustments can always be made.

exercise intensity

Intensity is another area to be aware of when setting programmes. Exercise intensity can be measured in three different ways: modified heart rate zone for pregnancy (see table 3); 'talk test' which indicates the exertion level through conversation (i.e. a lowering of intensity if the client cannot carry on a light conversation); and perceived exertion according to the Borg Scale (see table 4). Each client will react differently to intensity so you may want to try all three of these tools to see which works best for the individual.

One other note is to be aware of core body temperature. Most women will know instinctively if they are 'over heating'. This is a sign for them to ease off and modify what they are doing. If the core body temperature goes too high the foetus is put at greater risk.

when to stop exercise

Women should stop exercising if any of the following symptoms occur:

excessive shortness of breath

chest pain

painful uterine contractions

leakage of amniotic fluid

vaginal bleeding.

after the birth

In the postpartum period women can resume most exercises. The safest strategy is to have your client visit their doctor for their six-week postpartum evaluation and be cleared for exercise. A major consideration in this period is fatigue. The birth and baby aftercare can be extremely exhausting. Ask your client at the beginning of every session how she feels and move through the workout accordingly. Kegel exercises can be resumed straight after birth as long as the client feels that sufficient healing of the vaginal area has taken place. You can also reassure your client that moderate exercise during breastfeeding will not affect the quantity or composition of breast milk or impact their child's growth.

While contraindications should be looked for and guidelines to exercise followed, working with a client who is pregnant can be very rewarding. Make sure the lines of communication are wide open as changes will be occurring on a daily basis and allow yourself to share the joy and 'glow' of your client's pregnancy.

table 3 modified heart rate target zones for aerobic exercise in pregnancy[1,2]

maternal age	hear rate target zone (beats/min)	heart rate target zone (beats/10sec)
less than 20	140-155	23-26
20-29	135-150	22-25
30-39	130-145	21-24
40 or greater	125-140	20-23

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table 4 Borg's rating of perceived exertion[3]

6

7 very, very light

8

9 somewhat light

10

11 fairly light

12

13 somewhat hard

14

15 hard

16

17 very hard

18

19 very, very hard

20

A rating of 12-14 is appropriate for most pregnant women.

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