



## Higher National Unit specification

### General information

**Unit title:** Exercise for Pre and Post-natal Clients

**Unit code:** H4TA 35

**Superclass:** MA

**Publication date:** September 2014

**Source:** Scottish Qualifications Authority

**Version:** 02

### Unit purpose

The Unit is designed to provide the learner with Knowledge and Understanding of exercise implications for the pre/post natal client. On completion of the Unit the learner should be able to identify the physiological and biomechanical adaptations that take place during pregnancy and recovery from pregnancy and the effect that this would have on the design of an exercise programme.

### Outcomes

On successful completion of the Unit the learner will be able to:

- 1 Explain physiological and biomechanical adaptations that will occur in pre-natal clients.
- 2 Explain contra-indications and nutrition in relation to exercise for pre-natal clients.
- 3 Plan, teach and evaluate a pre-natal exercise programme
- 4 Plan a post-natal exercise programme.

### Credit points and level

1.5 Higher National Unit credits at SCQF level 8: (12 SCQF credit points at SCQF level 8)

## Higher National Unit specification: General information (cont)

**Unit title:** Exercise for Pre and Post-natal Clients

### Recommended entry to the Unit

Access to this Unit will be at the discretion of the centre.

It may be beneficial for the learner to have attained or be working towards:

- ◆ Exercise Physiology and Anatomy
- ◆ Exercise Principles and Programming
- ◆ Health Screening
- ◆ Plan, Teach, and Evaluate Units in either Exercise to Music, Gym, or Group Exercise
- ◆ S/NVQ2 in Exercise to Music, Gymnasium, or Aqua

### Core Skills

Opportunities to develop aspects of Core Skills are highlighted in the Support Notes for this Unit specification.

There is no automatic certification of Core Skills or Core Skill components in this Unit.

### Context for delivery

If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

This Unit has been designed as an optional Unit in the Group Award HNC/HND Fitness, Health and Exercise. It is anticipated that learners will therefore have studied related material either at this or lower SCQF levels prior to undertaking this Unit. Ultimately at the discretion of the delivering centre

### Equality and inclusion

This Unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on our website [www.sqa.org.uk/assessmentarrangements](http://www.sqa.org.uk/assessmentarrangements)

## **Higher National Unit specification: Statement of standards**

**Unit title:** Exercise for Pre and Post-natal Clients

Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the Knowledge and/or Skills section must be taught and available for assessment. Learners should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

### **Outcome 1**

Explain physiological and biomechanical adaptations that will occur in pre-natal clients.

#### **Knowledge and/or Skills**

- ◆ Physiological adaptations that occur during pregnancy
- ◆ Bio mechanical adaptations that occur during pregnancy

### **Outcome 2**

Explain contra-indications and nutrition in relation to exercise for pre-natal clients.

#### **Knowledge and/or Skills**

- ◆ Complete contra-indications relating to exercise for pre-natal clients
- ◆ Common conditions that affect pre-natal clients exercising
- ◆ Nutritional recommendations for pre-natal clients

### **Outcome 3**

Plan, teach and evaluate a pre-natal exercise programme.

#### **Knowledge and/or Skills**

- ◆ Identification of clients needs
- ◆ Analysis of client information
- ◆ Risk Assessment
- ◆ Programme planning
- ◆ Evaluation techniques
- ◆ Observation and Feedback
- ◆ Identification of improvements for future sessions

## Higher National Unit specification: Statement of standards (cont)

**Unit title:** Exercise for Pre and Post-natal Clients

### Outcome 4

Plan a post-natal exercise programme.

#### Knowledge and/or Skills

- ◆ Identification of client needs
- ◆ Analysis of client information
- ◆ Risk Assessment
- ◆ Programme planning

#### Evidence Requirements for this Unit

Learners will need to provide evidence to demonstrate their Knowledge and/or Skills across all Outcomes by showing that they can:

##### Outcome 1

- ◆ Identify the physiological adaptations that occur during pregnancy.
- ◆ Identify bio mechanical adaptations that occur during pregnancy.
- ◆ Describe the implications and safety considerations that should be considered when planning and teaching exercise programmes for pre-natal clients.

Evidence will take the form of a written assessment relating to physiological and bio mechanical adaptations relating to the three trimesters.

##### Outcome 2

- ◆ Identify contra-indications that occur during pregnancy.
- ◆ Identify common conditions that may occur during pregnancy.
- ◆ Explain nutritional recommendations to be considered for pre-natal clients.

Evidence will take the form of a written assessment relating to conditions identified as contra-indications for exercise for pre-natal clients and nutritional recommendations for pre-natal clients participating in exercise.

## Higher National Unit specification: Statement of standards (cont)

**Unit title:** Exercise for Pre and Post-natal Clients

### Outcome 3

- ◆ Analyse client information.
- ◆ Identify client needs.
- ◆ Assess the risks to the client(s)/participant(s) from the activity, equipment, and activity environment prior to the session.
- ◆ Analyse the risks and identify control actions to decrease the risk to the client(s)/participants(s).
- ◆ Identify emergency procedures of the facility where the session will take place.
- ◆ Plan an appropriate programme for a pre-natal client.
- ◆ Teach an exercise session to a pre-natal client (or using a pregnancy simulator) adapting activities according to their needs and state of pregnancy.
- ◆ Evaluate their own performance, taking into account client/participant feedback. Learners must provide evidence covering content, structure and effectiveness of the session.
- ◆ Identify areas of their performance or session that may require to be adapted or improved for future sessions. Learners should identify ways that this may be achieved.

This assessment requires a combination of approaches to provide written, oral and performance evidence.

The following instruments of assessment are recommended for this Outcome:

- ◆ A risk assessment.
- ◆ A screening questionnaire relating to collecting, recording and analysing information on a client.
- ◆ A written plan of an exercise programme including explanations on implications, adaptations and safety considerations for the pre-natal client.
- ◆ A practical taught session observed by a tutor and assessed by observation check list.

In order to successfully achieve this Outcome the learner must complete an evaluation following their practical session once they have gained feedback from their client/participant. Once this is completed learners should identify areas of their performance or session that may require to be adapted or improved for future sessions. Learners should identify ways that this may be achieved.

Should there be any ambiguity regarding aspects of the learner's performance oral questioning may be used. The tutor should note questions and responses.

### Outcome 4

Written and/or recorded oral evidence is required to demonstrate that the learner has met the requirements of this Outcome and knowledge and skills and should be in the form of a case study. This case study should include:

- ◆ A screening questionnaire targeted towards a post-natal client.
- ◆ An analysis of the implications of physiological/bio-mechanical adaptations and safety considerations for a post-natal client.
- ◆ Written plan of an exercise programme for a post natal client. This should include explanations of how physiological/bio-mechanical adaptations and safety considerations for the post-natal client have been addressed.



## Higher National Unit Support Notes

**Unit title:** Exercise for Pre and Post-natal Clients

Unit Support Notes are offered as guidance and are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 60 hours.

### Guidance on the content and context for this Unit

This Unit is designed to give learners the skills and knowledge to plan and teach an exercise programme for the pre and post-natal client. It is essential that the learner already possesses underpinning knowledge in anatomy and exercise physiology, and in the principles of exercise programming.

Prior knowledge and experience of delivering a variety of exercise classes would be advantageous to the learner as they may be required to teach a client on a one-to-one basis or in a group situation.

The practical class could take the form of exercise with music, circuits, resistance training, gymnasium or aqua, and can utilise a pregnancy simulator if relevant clients not available.

#### Outcome 1

##### Biomechanical Adaptations:

Should include reference to: the musculo-skeletal system and should make reference to posture, centre of gravity, balance, joints, abdomen, uterus, breasts, pelvic region, weight increase.

##### Physiological Adaptations:

Should include reference to: blood pressure, blood volume, metabolic rate and demands, cardiac output and stroke volume, hormonal effects, thermo regulation, capillarisation, dyspnoea, oedema, maximum heart rate (MHR), diaphragm, respiratory frequency, and oxygen demand.

#### Outcome 2

Contra indications: hypertension, rupture of membranes, pre-term labour, incompetent cervix, persistent bleeding, placenta praevia, intra-uterine growth retardation, multiple foetuses, pre-eclampsia, pubis symphysis disorder.

Pregnancy related conditions: oedema, carpal tunnel syndrome, back pain, haemorrhoids, diastasis recti, heartburn, varicose veins, nausea.

Pre-natal nutrition should include reference to: essential nutrients — their roles and sources, specific food products to be avoided — related conditions, carbohydrate intake, gestational diabetes, increase calorific intake in third trimester, calorific intake with reference to exercise.

## Higher National Unit Support Notes (cont)

**Unit title:** Exercise for Pre and Post-natal Clients

### Outcome 3

Learner should utilise a screening questionnaire relating to a pre natal client.

Collecting, recording and analysing information should include reference to: medical report and pregnancy history, lifestyle, physical activity history, physical activity preferences, barrier to participation in activity, current fitness level and stage of pregnancy.

Implications and safety considerations relating to an exercise programme should include reference to: stage in pregnancy, adaptations to FITTA principles, temperature (maternal, foetal and environment), humidity, warm up, cool down, ROM, training heart rate, postural alignment, exercise in the supine position, rising from the floor, hydration, energy demands, base position.

The production of a plan for an exercise programme suitable for a pre-natal client, demonstrating knowledge of the implications and safety considerations stating the stage of pregnancy.

The teaching of an exercise session to a pre natal client or group demonstrating effective communication and instruction qualities according to their needs and using safe and appropriate techniques stating what stage of pregnancy the session is designed for.

The needs of a client should include reference to: maintenance of fitness levels, posture, prevention of back pain, preparation for delivery, promotion of a sense of wellbeing.

Planned programme should include: appropriate activities for a client stating the stage of pregnancy and showing progression.

### General adaptations

Reduce intensity, low impact, maintain fitness, lengthier warm up/cool down. Avoid isometric and ballistic movements, keep within appropriate range of movement, avoid the Valsalva manoeuvre, stop exercise if bleeding, cramping, faintness, elevated blood pressure, dizziness, joint pain.

### First trimester implications

Risk of miscarriage, the need to monitor temperature with a reference to increase in foeto-placental metabolism, generating additional heat which could result in congenital abnormalities. Preparation for initial decrease in fitness, increased energy intake by 150 calories, increased hydration in parallel with blood volume and growing breasts require more support.

### Second trimester implications

Little risk to foetus or mother.

Avoid supine lying after 14th week, use exercise base on all fours, side lying.

## Higher National Unit Support Notes (cont)

**Unit title:** Exercise for Pre and Post-natal Clients

### Third trimester implications

Greater risk to mother due to weight gain, postural changes, lack of balance and joint laxity, fatigue and discomfort, symphysis pubis disorder, diastasis recti.

Learner should complete an evaluation of own personal teaching techniques. This should include the use of feedback from a variety of sources including self and clients. This should include suggestions for improvements for the future.

### Outcome 4

The production of a screening questionnaire relating to a post-natal client.

The production of an exercise programme for a post natal client demonstrating knowledge of the implications and safety considerations after delivery.

Collecting, recording and analysing information should include reference to: six week medical check-up and agreement of exercise resumption, type of delivery, breast feeding, physical activity preferences, current level of fitness, lifestyle, length of time elapsed post-delivery.

Identifying the needs of the client should include: return to agreed weight, improved posture, promote sense of wellbeing, improve fitness, improve lower back strength.

Implications and safety considerations relating to an exercise programme should make reference to: hydration, nutrition, normalisation of FITT (Frequency, Intensity, Time, Type of exercise) principles, return gradually to high impact, pelvic floor, core stability and abdominal strength. Continuing joint laxity and effective exercise, and milk production.

Plan a programme should include appropriate activities for a post-natal client over an agreed period of time, showing progression.

## Guidance on approaches to delivery of this Unit

It is suggested that this Unit is taught in two discrete sections (pre natal and post natal), working progressively through each area so that the learner can comprehend the theoretical adaptations and apply them to the design of an exercise programme.

Learners are required to develop a comprehensive understanding of the requirements and implications in each trimester of pregnancy.

There are four separate stages where an exercise programme could be delivered:

- ◆ Trimester 1
- ◆ Trimester 2
- ◆ Trimester 3
- ◆ Post-Natal

Each of these requires special considerations.



## Higher National Unit Support Notes (cont)

### Unit title: Exercise for Pre and Post-natal Clients

Ideally this should be done in a practical setting. Learners will also look at the return to the pre-pregnancy state giving cognisance to physiological and psychological factors. Once learners have assimilated the required information, they are required to deliver an exercise session for either trimester 2 or trimester 3 as this is the time during which the client is most at risk and requires special consideration. This can be done using a pregnancy simulator if suitable client unavailable.

The order of delivery is probably determined by the need for the learner to first acquire the knowledge and then apply this knowledge in a practical setting.

### Guidance on approaches to assessment of this Unit

Evidence can be generated using different types of assessment. The following are suggestions only. There may be other methods that would be more suitable to learners.

Centres are reminded that prior verification of centre-devised assessments would help to ensure that the national standard is being met. Where learners experience a range of assessment methods, this helps them to develop different skills that should be transferable to work or further and higher education.

#### Outcome 1

Evidence will take the form of a closed-book, written assessment relating to physiological and bio mechanical adaptations relating to the three trimesters.

#### Outcome 2

Evidence will take the form of a written assessment relating to conditions identified as contra-indications for exercise for pre-natal clients and nutritional recommendations for pre-natal clients participating in exercise.

#### Outcome 3

This assessment requires a combination of approaches to provide written, oral and performance evidence.

The following instruments of assessment are recommended for this Outcome:

- ◆ A risk assessment
- ◆ A screening questionnaire relating to collecting, recording and analysing information on a client.
- ◆ A written plan of an exercise programme including explanations on implications, adaptations and safety considerations for the pre-natal client
- ◆ A practical taught session observed by a tutor and assessed by observation check list

In order to successfully achieve this Outcome the learner must complete an evaluation following their practical session once they have gained feedback from their client/participant. Once this is completed learners should identify areas of their performance or session that may require to be adapted or improved for future sessions. Learners should identify ways that this may be achieved.

## Higher National Unit Support Notes (cont)

**Unit title:** Exercise for Pre and Post-natal Clients

Should there be any ambiguity regarding aspects of the learner's performance oral questioning may be used. The tutor should note questions and responses.

### Outcome 4

Evidence will take the form of a written assessment relating to physiological and biomechanical adaptations relating to the post natal stage.

### Opportunities for e-assessment

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by *Information and Communication Technology (ICT)*, such as e-testing or the use of e-portfolios or social software. Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at [www.sqa.org.uk/e-assessment](http://www.sqa.org.uk/e-assessment)

### Opportunities for developing Core and other essential skills

All elements of the Core Skill of *Problem Solving*, that is, planning and organising, critical thinking, and reviewing and evaluating, could be developed and enhanced in the Unit as learners plan, undertake and evaluate the complex practical tasks required to provide evidence of competence. Detailed preparation for teaching sessions, including designing, administering and analysing questionnaires for the client, is critical to achievement as all factors are considered in relation to the health benefits and risks for a specified group. Identifying implications, adaptations and all factors which impact on exercise and safety for pre and post natal clients in order to pre-empt and overcome any perceived potential difficulties will further involve a high level of critical thinking. Justifying and adopting effective strategies which reflect and apply current theory will be an integral aspect of each session. Producing and delivering a balanced, safe programme should allow on-going opportunities for review and potential adjustment. Learners have to complete a personal evaluation questionnaire, and some may benefit from additional support materials or personal interviews with the assessor in order to reinforce analytical approaches to overall achievement and future activities and further development.

## Higher National Unit Support Notes (cont)

### Unit title: Exercise for Pre and Post-natal Clients

There are many opportunities to enhance skills in managing co-operative *Working with Others* in programmes. Elements of negotiation are intrinsic to all stages of planning and delivering sessions. Learners could be expected to offer encouragement to clients by demonstrating, explaining and adapting their behaviour to maximise the achievements of a group. Centre designed self assessment skills checklists might support practice in developing a range of approaches to instruction and negotiation with different types of client groups. In the delivery of teaching sessions learners will be required to demonstrate an empathic and sensitive understanding of the physical and emotional needs of clients in order to assure an appropriate approach. A significant level of verbal and non-verbal communication skills will be developed in order to present complex information sensitively and in a style and format most conducive to learning. Learners should be aware of how to:

- ◆ Collate, organise and structure information effectively.
- ◆ Adapt language, register and style to learners.
- ◆ Emphasise and signpost key points.
- ◆ Select and produce appropriate support materials if appropriate.
- ◆ Use effective verbal non-verbal communication techniques.
- ◆ Assure compliance and safety.
- ◆ Use pace and voice projection for impact to respond to in depth questions confidently.
- ◆ Respond to in depth questions confidently.

## History of changes to Unit

| Version | Description of change                                 | Date     |
|---------|---|----------|
| 02      | Clarification of Evidence Requirements for Outcome 4. | 23/09/14 |
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## General information for learners

### Unit title: Exercise for Pre and Post-natal Clients

This section will help you decide whether this is the Unit for you by explaining what the Unit is about, what you should know or be able to do before you start, what you will need to do during the Unit and opportunities for further learning and employment.

Assessments will require you to work progressively through the Unit, gaining knowledge relating to the pre and post-natal client and then applying this to the design of exercise programmes. You will also be required to teach and exercise session to a pre-natal client or group.

For both pre-natal and post natal client:

- ◆ Written assessments relating to physiological and bio-mechanical adaptations.
- ◆ Written assessments relating to collecting, recording and analysing information on a client.
- ◆ A written plan of an exercise programme including explanation on implications, adaptations and safety considerations.

In addition you will deliver a practical taught session for a pre-natal client observed by a tutor. You'll be expected to:

- ◆ Identify the physiological and biomechanical adaptations that occur during and after pregnancy.
- ◆ Identify contraindications that affect pre-natal clients as well as common conditions that can affect participation.
- ◆ Explain nutrition recommendations for pre-natal clients.
- ◆ Identify the needs of the client and the implications/safety considerations that adaptations during pregnancy will have when planning and teaching an exercise programme for pre and post natal clients.
- ◆ Plan an appropriate programme for a pre natal client.
- ◆ Teach an exercise session to a pre natal client adapting activities according to their needs and stage of pregnancy.
- ◆ Evaluate the taught session.

In order to achieve this you'll need to draw from knowledge gained in the following Units:

- ◆ *Anatomy and Exercise Physiology*
- ◆ *Exercise Principles and Programming*
- ◆ *Health Screening*
- ◆ *Practical exercise classes in: gymnasium, exercise to music, resistance training, circuits, group exercise, aqua*