
EXERCISE PRESCRIPTION
**Relate human anatomy and movement
to gym equipment and static stretching**

level:	2
credit:	4
planned review date:	August 2007
sub-field:	Fitness
purpose:	People credited with this unit standard are able to identify: gross anatomical structures; typical movements created by the human body; muscle actions and full joint movement ranges in relation to gym equipment; and the correct body positioning and movement progression for each major muscle group targeted when using the ACC SportSmart stretch posters.
entry information:	Open.
accreditation option:	Evaluation of documentation by NZQA and industry.
moderation option:	A centrally established and directed national moderation system has been set up by the Sport, Fitness and Recreation Industry Training Organisation – Fitness Advisory Group.
special notes:	<ol style="list-style-type: none">1 <i>Gym exercise equipment</i> refers to any machinery or object used to provide overload to the working muscles.2 Where gym equipment is not available people may choose to identify the gym equipment that could be used by suitable description and/or picture or diagram.3 ACC SportSmart stretch posters are available from the Accident Compensation Corporation under 'publications' on their website http://www.acc.co.nz.4 The <i>positive phase</i> of a movement refers to the time from when the load is engaged and concentric contraction of the prime mover occurs through until the negative phase begins. The <i>negative phase</i> of a movement refers to the time from when the load is engaged and eccentric contraction of the prime mover occurs through until the positive phase begins.

EXERCISE PRESCRIPTION
**Relate human anatomy and movement
to gym equipment and static stretching**

Elements and Performance Criteria

element 1

Identify gross anatomical structures.

performance criteria

1.1 Major muscle groups are identified.

Range: lower body – hamstrings, quadriceps, gluteals, calves;
upper body – pectorals, trapezius, latissimus dorsi, deltoids,
erector spinae, rhomboids, biceps, triceps, rectus abdominus,
internal and external obliques.

1.2 Major bones and joints are identified.

Range: bones – calcaneus, talus, fibula, tibia, femur, pelvis, vertebra,
scapula, humerus, radius, ulna, carpals, axis, skull;
joints – ankle, knee, hip, sacroiliac, intervertebral, shoulder, elbow,
wrist, neck.

element 2

Identify typical movements created by the human body.

performance criteria

2.1 With reference to anatomical position and the planes of motion the typical movements that occur at major joints are identified.

Range: movements may include – flexion, extension, abduction,
adduction, rotation, inversion, eversion, dorsi flexion, plantar
flexion, circumduction, pronation, supination;
planes of motion may include – sagittal plane, transverse plane,
frontal (coronal) plane.

2.2 The movements created by the contraction of major muscle groups across related joints are identified.

EXERCISE PRESCRIPTION
Relate human anatomy and movement
to gym equipment and static stretching

Range: lower body – hamstrings, quadriceps, gluteals, calves;
upper body – pectorals, trapezius, latissimus dorsi, deltoids,
rhomboids, biceps, triceps, rectus abdominus, internal and
external obliques.

2.3 The types of contractions muscles make to create and control human movement are defined and identified.

Range: concentric, eccentric, isometric.

2.4 The roles a muscle play during a movement are identified.

Range: agonist, antagonist, synergist, fixator.

element 3

Identify muscle actions and full joint movement ranges in relation to gym equipment.

Range: major muscle group – hamstrings, quadriceps, gluteals, calves, pectorals,
trapezius, latissimus dorsi, deltoids, rhomboids, biceps, triceps, rectus
abdominus, internal and external obliques.

performance criteria

3.1 An item of gym equipment that targets each major muscle group is identified.

3.2 The full range of movement and safe tempo for the movement completed using the gym equipment is identified.

Range: start position, end position, count or tempo.

3.3 The muscles' role and action through the positive and negative phases of the full range of movement completed using the gym equipment are identified.

Range: action – concentric, eccentric, isometric;
role – agonist, antagonist, synergist, fixator.

element 4

EXERCISE PRESCRIPTION
Relate human anatomy and movement
to gym equipment and static stretching

Identify the correct body positioning and movement progression for each major muscle group targeted when using the ACC SportSmart stretch posters.

performance criteria

- 4.1 The major muscle group targeted by the stretch is identified.
- Range: major muscle group – hamstrings, quadriceps, gluteals, calves, pectorals, trapezius, latissimus dorsi, deltoids, rhomboids, biceps, triceps, rectus abdominus, internal and external obliques.
- 4.2 The key points to attain the correct starting position for the stretch are identified.
- Range: joint angles, points of contact, position of body parts, alignment of body parts.
- 4.3 The movement direction required to increase the stretch is identified.
- 4.4 The breathing pattern required to increase the stretch is identified.
- 4.5 The intensity required for safe stretching is identified.
- 4.6 The typical duration for an effective static stretch is identified.

Comments on this unit standard

Please contact the Sport, Fitness and Recreation Industry Training Organisation info@sfrito.org.nz if you wish to suggest changes to the content of this unit standard.

Please Note

Providers must be accredited by the Qualifications Authority or a delegated inter-institutional body before they can register credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by the Qualifications Authority before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

EXERCISE PRESCRIPTION
Relate human anatomy and movement
to gym equipment and static stretching

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for providers wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

This unit standard is covered by AMAP 0069 which can be accessed at <http://www.nzqa.govt.nz/site/framework/search.html>.