WCPT guideline for curricula for physical therapists delivering quality exercise programmes across the life span
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WCPT guidelines are produced to assist member organisations and others to raise the quality of physical therapy. They may provide guidance on standards criteria or courses of action in areas relevant to physical therapy education research practice or policy. They are not mandatory but designed to assist the implementation of WCPT's policies.
WCPT guideline for curricula for physical therapists delivering quality exercise programmes across the life span

Section 1: Introduction

1.1 Purpose
This guideline has been developed for the use of WCPT member organisations supporting physical therapists in their endeavours to deliver high quality evidence based exercise programmes to their patients/clients of any age.

While the guideline has been developed for and with input from member organisations of WCPT, the intent is that it may be used as well by countries where physical therapy associations and education programmes do not currently exist and where the profession is not represented in WCPT.

Other WCPT policies and guidelines intended to assist in the delivery of education policy include:

- Policy statement: Physical therapists as exercise experts across the life span
- Policy statement: Education
- Guideline for physical therapist professional entry level education
- Guideline for delivering quality continuing professional development for physical therapists
- Guideline for the clinical education component of the physical therapist professional entry level programme
- Guideline for a standard evaluation process for accreditation/recognition of physical therapist professional entry level education programmes

1.2 Background
According to the World Health Organization (WHO) at least 1.9 million people die as a result of physical inactivity and at least 60% of the world's population fails to complete the recommended amount of physical activity required to induce health benefits.\(^1\) Furthermore the evidence for the efficacy of exercise in the prevention and amelioration of the effects of diseases is robust.\(^2\)

Physical therapists provide services for a wide range of people to optimise their physical activity, from elite athletes to aging adults seeking to remain active as they age. More than any other profession, they prevent chronic disease by helping people become more active. Exercise is a principal component of physical therapy programmes designed to increase physical activity.

Physical therapist professional entry level education programmes should ensure that physical therapists are well prepared to deliver evidence based exercise prescriptions and programmes for patients and clients of all ages regardless of functional status. To this end this guideline is designed to outline the essential curriculum content.
1.3 Target audience

This guideline provides a basis for the evaluation of curriculum content of the exercise component of the physical therapist professional entry level education programmes and may be used by:

- WCPT member organisations
- potential WCPT member organisations
- national physical therapy organisations
- physical therapy educators
- health and education authorities
- monitoring and accreditation bodies
- government policy makers
- others, who have an interest in preparing the exercise component of physical therapist continuing professional education programmes

1.4 Application

This guideline may be used for a variety of purposes. It describes the suggested content of quality curricula for physical therapist professional entry level education programmes.

The guideline is an important external source of reference for designing and developing new physical therapist professional entry level education programmes. It provides for variety and flexibility in the design of programmes and encourages innovation within an agreed framework (eg to accommodate differing levels of physical therapist entry level education).

The guideline also provides a framework for quality assurance purposes; enabling the content specified for a particular programme to be reviewed and evaluated against agreed general expectations about what a quality programme should include.

This guideline may be modified and interpreted by individual WCPT member organisations, curriculum developers, programme providers and accrediting authorities within the context of their situation, while aiming to maintain the quality and coverage of the curriculum the guideline is designed to facilitate.

Section 2: Guideline

Curricula for the exercise component of physical therapist professional entry level education programmes should include the following content.

2.1 Anatomical and physiological changes in the musculoskeletal systems across the life span.
2.2 Anatomical and physiological changes in the neuromuscular system across the life span.
2.3 Anatomical and physiological changes in the cardiovascular and pulmonary systems across the life span.
2.4 Anatomical and physiological changes in the integumentary, genitourinary, endocrine, gastrointestinal, and immune systems across the life span.
2.5 Responses and adaptations of the musculoskeletal system to exercise across the life span.
2.6 Responses and adaptations of the neuromuscular system to exercise across the life span.
2.7 Responses and adaptations of the cardiovascular/pulmonary systems to exercise across the life span.

2.8 Responses and adaptations of the integumentary, genitourinary, endocrine, gastrointestinal, and immune systems to exercise across the life span.

2.9 Biomechanics of exercise.

2.10 Eating disorders, malnutrition, and obesity.

2.11 Principles of examination/assessment (including tests and measures) for exercise abilities and requirements for patient/clients.

2.12 Administration of tests and measures, scoring, and interpretation of results for patients/clients.

2.13 Exercise techniques:
   - aerobic/anaerobic exercises
   - aerobic classes (low impact, high impact, dance, step)
   - strength/power/endurance training exercises
     - active (concentric, eccentric, isometric, isokinetic, open chain, closed chain, proprioceptive neuromuscular facilitation).
     - resistive
     - plyometric
     - core/postural stabilization exercises
     - SAID principle (Specific Adaptation to Imposed Demands)
   - postural exercises
   - flexibility exercises (elastic stretch, plastic stretch, static, ballistic, cybernetic stretch, proprioceptive neuromuscular facilitation)
   - balance/vestibular exercises
   - coordination, speed, and agility exercises
   - breathing exercises
   - relaxation exercises
   - aquatic exercise programs
   - complementary exercises (eg Tai Chi, Yoga, Pilates, Feldenkrais, Alexander)

2.14 Exercise prescription
   - warm-up/cool down
   - duration
   - intensity
   - mode
   - frequency
   - specificity

2.15 Adapting exercises for individuals with communication impairments
   - cognition impairments
   - physical impairments
   - hearing impairments
   - visual impairments
2.16 Strategies for the delivery of effective group exercise programmes

2.17 Exercise equipment

- free weights
- weighted bars
- elastic tubes
- medicine balls
- rollers
- trampolines
- body blades
- bicycles
- steppers and climbers
- upper extremity ergometers
- jump ropes
- mats

- weight training machines
- elastic bands
- stability balls
- balance systems/trainers
- slide boards
- pulleys
- treadmills
- elliptical machines
- skiers
- rowers
- aquatic equipment – gloves, dumbbells, weights, boots, noodles
- music – tape, CD, microphone

2.18 Training programmes

- periodisation of training
- peaking threshold walk/runs
- circuit training
- specificity of training

- threshold walk/runs
- interval training
- cross training

2.19 Motivational factors involved in exercise programmes for patients/clients

2.20 Factors affecting adherence and compliance to exercise programme for patients/clients

2.21 Understand effective exercise teaching techniques for individual and group exercise programmes for patients/clients

2.22 Metabolic specificity of exercise for patients/clients

2.23 Nutritional factors in exercise performance

2.24 Prevention exercise programmes (eg sarcopenia, low bone mineral density, osteoporosis, falls, etc)

2.25 Psychology of exercise performance

2.26 Assessment of the format and effectiveness of established community-based exercise programs (eg “Y” programs, Pilates, Gyrotonics, Yoga)
2.27 Facility management

- layouts
- flooring
- electrical considerations
- equipment
- scheduling
- marketing
- risk management – waiver of liability, informed consent
- access
- environmental factors
- mirrors
- maintenance and cleaning
- personnel
- budgeting

Glossary

**Exercise** — is a subcategory of physical activity that is planned, structured, repetitive, and purposeful in the sense that the improvement or maintenance of one or more components of physical fitness is the objective. Physical activity includes exercise as well as other activities which involve bodily movement and are done as part of playing, working, active transportation, house chores and recreational activities. 3

**Physical activity** — is defined as any bodily movement produced by skeletal muscles that requires energy expenditure. 4

Additional resources


References


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