

EXERCISE MEDICINE IN CANCER MANAGEMENT

MEDICAL, NURSING, ALLIED HEALTH AND FITNESS PROFESSIONALS

Overview

This course is designed to develop knowledge and skills in the application of exercise medicine for assessment, prescription, delivery, and monitoring of exercise for people with cancer. Medical, nursing, allied health and fitness professionals will benefit most from this course because it builds on your extensive knowledge of human biology, patient care and health systems. In this course we concentrate on developing skills and knowledge of exercise assessment, prescription, supervision, monitoring, exercise technique, motivating behavior change, prescribing safe and effective exercise for people with cancer.

Structure

This course is delivered virtually with resources provided through our learning management system. It consists of seven key components:

- 1) Background readings – key scientific, professional, and lay publications are prescribed and provided at specific stages throughout the course.
- 2) Pre-recorded lecture videos.
- 3) Multiple choice and true false quizzes following each major section.
- 4) Discussion forums on key topics, controversies, and questions.
- 5) Video demonstrations of digital tools for exercise assessment and prescription.
- 6) Q&A sessions with the instructor
- 7) Case study discussion

Schedule

Topic	Approximate Study Time (mins)
Introduction and course orientation	10
Cancer biology, statistics, and diagnosis	30
Cancer treatments	30
Physical and psychological consequences of cancer and treatments	30
Principles of exercise prescription <ul style="list-style-type: none"> • Exercise dosage • FITT Principle • Overload • Progressive overload • Acute physiological responses to exercise • Adaptations to chronic exercise • Specificity of training • Variation in Training • Cardiorespiratory (Aerobic) training (MICT & HIIT) • Neuromuscular and musculoskeletal (Resistance) training 	60

<ul style="list-style-type: none"> • Strength and Power • Flexibility training • Components of an exercise session • Periodization • Auto-regulation of session volume and intensity • Stages of change model 	
Exercise medicine within cancer management	90
Principles of resistance training <ul style="list-style-type: none"> • Physiology and biomechanics of resistance training • Prescribing for muscle hypertrophy • Prescribing for strength • Prescribing for function and power • Prescribing for bone health • Resistance training equipment and systems 	90
Principles of aerobic training <ul style="list-style-type: none"> • Physiology of aerobic training • Moderate intensity continuous training • Interval training • High intensity interval training • Heart rate training zone 	60
Patient flow <ul style="list-style-type: none"> • At diagnosis • On referral – physician or self-referral • Pre- Initial consultation • At consultation • Ongoing monitoring and patient review 	30
Health history	10
Pre-exercise screening	10
Virtual Practical Session 1 – Patient flow, forms, and risk stratification	30
Recruiting the patient	10
Informed consent and research participation	10
Absolute and relative contraindications to exercise	10
Rating of perceived exertion and wellness check	10
Assessment of cardiorespiratory capacity <ul style="list-style-type: none"> • CPET • Steep Ramp Test • Step test • 400m walk • 6 minute walk 	30
Assessment of neuromuscular strength and power <ul style="list-style-type: none"> • Repetition maximum testing 	30

<ul style="list-style-type: none"> • Leg press • Seated row • Abdominal strength test • Force platform tests 	
<p>Assessment of functional capacity</p> <ul style="list-style-type: none"> • Timed 6 meter walk • Timed up and go • 5 x sit to stand • 30 second sit to stand • Stair climb 	20
<p>Assessments of cancer specific health and status, quality of life and psychosocial wellbeing</p> <ul style="list-style-type: none"> • SF36 • HADS • FACT-G • FACIT • EORTC 	20
<p>Assessment of anthropometry and body composition</p> <ul style="list-style-type: none"> • height • weight • BMI • hip and waist circumference • DEXA • pQCT • bioimpedence 	20
<p>Virtual Practical Session 5 - Introduction to MyWellness Exercise Prescription Platform</p>	30
<p>Targeted exercise prescription</p> <ul style="list-style-type: none"> • cardiorespiratory • muscle hypertrophy • muscle strength • functional performance • balance • skeletal health • fat loss • lymphoedema • bone metastatic disease • pre-rehabilitation for surgery • neoadjuvant and adjuvant to chemotherapy, radiation therapy, immunotherapy, steroid therapy 	30
<p>Long term planning, prescription and periodisation</p>	20
<p>Nutritional considerations</p>	30
<p>Graduation to self-management</p> <ul style="list-style-type: none"> • Fitness centre • Home based • Group exercise • Park fit 	10

• Sport as medicine	
Clinician, fitness professional and patient feedback	10
Case studies and scenarios	30
	Total 800 minutes