

## Cancer Wellness & Exercise Toolkit

**Cancer Education Programs** 







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### **Background**

### **Pilot project**

'Telehealth for supportive survivorship care: Increasing access to a survivorship education, exercise and wellness program in rural and regional Victoria using telehealth' was a project funded by the Victorian Department of Health and Human Services (2016 – 2019) in partnership with Cancer Council Victoria, and Grampians and Hume Integrated Cancer Services (ICS).

### Aim

To provide access to a comprehensive survivorship assessment, education, exercise and wellness program for rural cancer survivors and carers in the Grampians and Hume regions using telehealth.

### **Objectives**

- 1. Design mechanisms for regional planning, promotion, delivery and referral pathways.
- 2. Implement governance and resource models.
- 3. Design, pilot and evaluate resources, tools and specific facilitation models using telehealth.
- 4. Innovate the Wellness and Life After Cancer program with tailored assessment, exercises and wellness sessions into a sustainable delivery model.

### **Program Delivery**

Eight-week group program of one hour of exercise and one hour of education each week. The exercise session was run by an exercise physiologist based at each site, followed by an education session connected by telehealth.

### **Evaluation**

Using action research methodology, evaluation results informed regional planning, promotion and delivery. The evaluation included collection of data from program participants, facilitators, health services and key project stakeholders through written surveys, focus groups and telephone interviews.

### **Outcomes**

By November 2018, eight programs were delivered successfully in both regions across five rural and regional health services.

A total of 110 participants attended with one third participants providing pre and post data. This showed that 86% increased physical activity levels and 48% increased daily consumption of fruit and vegetables after completing the program.

### **Discussion**

The use of technology provided increased access to programs close to home, peer support for participants and enabled the sharing of resources and personnel across health services.

The hub and spoke model reduced the burden on each health service needing to provide content experts for each topic.

### **Conclusion**

Telehealth is an effective and successful program delivery model which assists in overcoming social and geographical barriers and improves health and wellness for cancer survivors.

### **Ongoing delivery**

Telehealth for supportive survivorship care has now been embedded into normal business by all pilot health services and is expanding across both regions and the state as Cancer Wellness and Exercise.

The program can be delivered by those that have completed Cancer Council's Cancer Wellness Facilitator Training, alongside exercise physiologist and physiotherapists that have completed the EX-MED Cancer PD. Professionals with expertise in specific areas can also be engaged to deliver sections of the education program, for example podiatrists, dieticians, social workers, financial counsellors, etc.

This toolkit has been developed to assist in the implementation of the 8-week cancer wellness and exercise program and includes information on:

- The education program
- The exercise program and assessment procedures
- Program implementation
- Program resources
- Program delivery using telehealth

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Participants and facilitators from the Telehealth for supportive survivorship care pilot project delivered in the Hume region.

### Cancer Wellness & Exercise PROGRAM MANUAL

**Cancer Education Programs** 

### **Program overview**

### Aim

This supportive survivorship care program is for those who have completed their primary clinical treatment. The program aims to provide structured exercise, strategies and resources that enable participants to manage their long-term health and wellbeing with primary care and support.

### **Delivery**

Eight-week group program of two hours per week.

### 1. One-hour group exercise sessions:

- Pre and post physical assessments completed prior to the commencement of the program and following the completion of the program
- Exercise session can be delivered immediately before or after the education session
- Delivered by exercise physiologists or physiotherapists
- Maximum of 10 participants

### 2. One-hour group education sessions:

- Topics delivered by guest speakers
- Co-facilitated by two facilitators
- Include time for questions and discussion
- Supported by worksheets and resources
- Different topics can be chosen depending on the audience and presenter availability
- Topics include:
  - Cancer survivorship
  - Exercise and fatique
  - Healthy eating and nutrition
  - Emotions and wellness
  - Maintaining physical health
  - Your GP and your health
  - Finances and work
  - Relationships and intimacy
  - Local services
  - Foot health
  - Complementary therapies
  - Bone health

### **Program delivery using telehealth**

Telehealth refers to the use of technology such as videoconferencing to deliver health services, exchange health information and provide health education.

Telehealth gives cancer patients improved access to a broader range of health professionals close to home.

### "You feel as if you belong ...we all have something in common"

-Participant, 2018

"Two major issues for local cancer survivors are isolation and travel. The program reduced the need to travel a long distance and the group of participants became very close and supportive of each other."

- Facilitator, 2018



### **Education program**

Each week facilitators and guest presenters will provide one hour of education on a specific topic. These education sessions are delivered along with the group exercise program and can be scheduled immediately before or after the exercise sessions.

Please note, education sessions should be kept to **approximately one hour** and must be co-facilitated by two facilitators.

Each topic has supporting resources including a PowerPoint presentation with presenter notes, worksheets and videos. All supporting resources can be accessed and downloaded from the facilitator portal.

The table below outlines all available topics, supporting resources, prompts and the suggested presenter.

\*It is recommended that these topics be included in your 8-week program, however all topics are optional and can be included or excluded at the facilitator's discretion.

Topics and supporting resources		Facilitators / Presenters
Cancer Survivorship* • Program Introduction PPT • Cancer Survivorship PPT	Program Introduction worksheet     Cancer Survivorship worksheet	• Facilitators
Exercise & Fatigue*  • Physical activity and exercise PPT  • Fatigue and cognitive changes PPT	<ul><li>Physical activity and exercise worksheet</li><li>Fatigue and cognitive changes worksheet</li></ul>	<ul><li>Exercise physiologist</li><li>Physiotherapist</li><li>Facilitators</li></ul>
Healthy Eating & Nutrition*  • Healthy eating and nutrition PPT  • Health and wellbeing plans PPT  • My health and wellbeing plan template	<ul> <li>Healthy eating and nutrition worksheet</li> <li>Health and wellbeing plans worksheet</li> <li>My health and wellbeing goals template</li> </ul>	<ul><li>Dietitian</li><li>Facilitators</li></ul>
Emotions & Wellness*  • Emotions and wellness PPT  • Exercise and emotional health PPT	<ul><li> Emotions and wellness worksheet</li><li> Exercise and emotional health worksheet</li></ul>	<ul><li>Social Worker</li><li>Facilitators</li></ul>
Maintaining physical health* • Foot health PPT • Complementary therapies PPT	<ul><li>Foot health worksheet</li><li>Complementary therapies worksheet</li></ul>	<ul><li>Podiatrist</li><li>Facilitators</li></ul>
Your GP and Your Health*  • Your GP and long term health PPT  • Your bone health PPT	<ul><li>Your GP and long term health worksheet</li><li>Your bone health worksheet</li></ul>	<ul><li> GP</li><li> Practice Nurse</li><li> Facilitators</li></ul>
Finances and work • Finances and work PPT	Finances and work worksheet	<ul><li>Facilitators</li><li>Financial counsellor</li></ul>
Relationships and intimacy • Relationships and intimacy PPT		• Facilitators
Local services • Local networks and resources workshee	t	<ul><li>Facilitators</li><li>Past participants</li></ul>
<b>Q and A Session</b> A question and answer session can be orgonesenters that participants have express	<ul><li>Facilitators</li><li>Health professionals</li><li>Presenters</li></ul>	
Final celebration  You may also like to include a celebration	in your final week of the program.	• Facilitators



Participants and facilitators from the Telehealth for supportive survivorship care pilot project delivered in the Grampians region.

### **Exercise program**

This program is unique in its delivery of both education and exercise. Each participant will take part in one hour of exercise delivered either before or after the weekly education session.

### Physical assessment

Pre and post physical assessments must be undertaken on each participant prior to the commencement of the program and following the completion of the program. The *exercise* and assessment procedures manual (page 19) can be used by exercise physiologists and physiotherapists to facilitate these assessments.

### Requirements

- Each session should include a personal progress assessment and a practical exercise session.
- The exercise sessions must be delivered by an exercise physiologist (EP) or physiotherapist.
- It is recommended that all EPs and physiotherapists delivering this program have undertaken professional development in the area of cancer and exercise, for example the EX-MED Cancer PD.
- Groups should not exceed 10 participants.

### **EX-MED Cancer PD**

**EX-MED Cancer PD** is a professional development course for exercise specialists and health professionals with an interest in exercise for cancer patients.

This course has been developed and delivered by Associate Professor Prue Cormie, PhD AEP and is based on the latest scientific evidence and extensive clinical experience in delivering best practice care to people with cancer.

EX-MED Cancer PD aims to enhance your practice by equipping you with the theoretical and applied knowledge required to maximise outcomes for your patients through exercise.

Those undertaking the EX-MED Cancer PD for the purpose of delivering Cancer Council Victoria's 8-week cancer wellness and exercise program can register at the student price which provides a small discount on the registration fee.

To enrol in the EX-MED Cancer PD complete your **registration online** or to find out more information contact EX-MED cancer on:

Phone: **03 9230 8728** 

Email: exmedcancer@exmedcancer.org.au

Website: exmedcancer.org.au



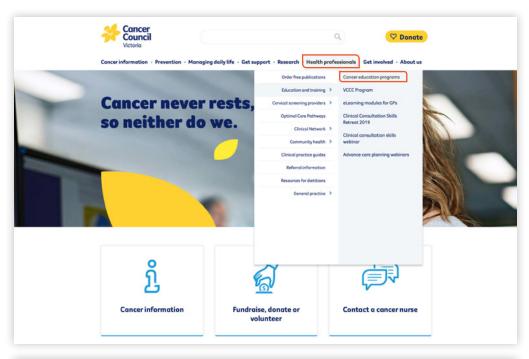
### **Program implementation and resources**

### **Facilitator resource portal**

All program facilitators have access to a wide range of program resources including checklists, forms and templates that can be printed for use in the delivery of the program. A video library is also available providing different videos for use within the program.

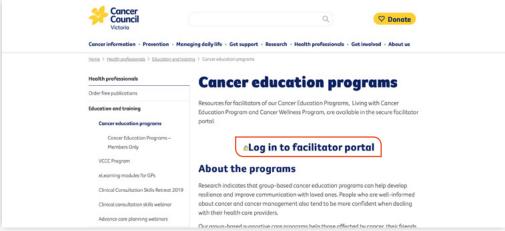
These resources are made available through the Facilitator Resource Portal located on the Cancer Council Victoria website (cancervic.org.au) through the Health Professionals tab.

1. Click on the Health Professionals tab of the website



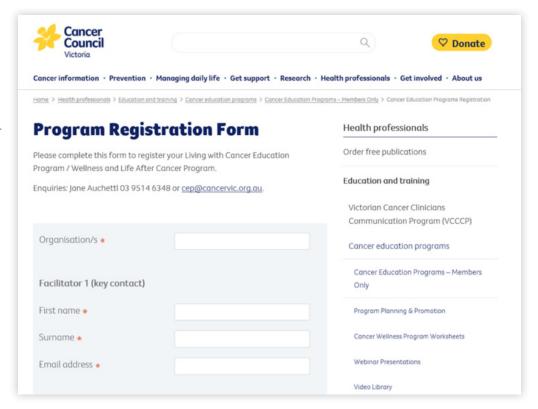
### 2. Log in to the portal

A login is required which is supplied by the Education and Training team after completion of facilitator training. If you have any problems logging in, please contact cep@cancervic.org.au or call 13 11 20.



### Program registration

All cancer education programs should be registered using the Program Registration Form link on the facilitator resource portal.



### Program templates and resources

A number of documents are available on the facilitator portal that will assist in the implementation and delivery of the cancer wellness and exercise program.

The following table lists the resources available under the **Program Planning & Promotion**section and their intended purposes (resources marked with a tick are required for optimal program delivery).

Required	Resource
<b>√</b>	Program planning and preparation checklist
	Program planning flowchart
	Letter to caterer
	Contact list template
✓	Ice breakers and activities
	Marketplace setup
✓	Invitation to participants
✓	Participant registration form
	Guidelines for working with interpreters
✓	Participant evaluation
✓	Program promotion checklist
	Sample participant testimonial and photo permission form
✓	Guest presenter information
	Thank you letter to presenters
	Internal communication template for after the program
✓	Facilitator program reflection and feedback

### **Program delivery**

### **Facilitation guidelines**

- Take a conversational approach to facilitate behavioural change.
- Introduce each topic by asking questions.
- Listen and reflect back answers by summarising or paraphrasing.
- Listen for language which shows that participants are ready to make changes.
- Use the notes on each of the presentation slides to assist with drawing responses from the participants.
- Focus on the now and the future using words such as: recovery, getting back to life, going forward, now treatment is finished etc.

### Setup

- Layout is important to ensure that everyone has eye contact and a comfortable space is created.
- Have tea and coffee accessible for early arrivals and have the resource table set up so that if people don't want to interact immediately, they have something to browse through if needed.

### **Program Delivery**

- Avoid being the expert and telling participants what other 'survivors' experience and what they should do now.
- When describing the program, emphasise the change from being receivers of treatment to regaining more say in their health and life from now on.
- Guide the conversations to assist participants to identify changes they want to make.
- Encourage peer support.
- Look for opportunities in the topics and agenda to link content and support strategies with community networks and providers for participants.
- Print off the required worksheets.

More information on program facilitation can found in the *Cancer Wellness Facilitator Manual* available for download on the CEP facilitator portal.

### Telehealth for program delivery

The cancer wellness and exercise program can be delivered using telehealth.

Telehealth refers to the use of telecommunication techniques to deliver health services, exchange health information and provide health education. The goal of telehealth is to transmit audio, images and information over distances, rather than moving care recipients, educators or health professionals to a central location. Video-conferencing is a key mechanism of telehealth which allows in-sync communication and broadcasting from a primary site to a single or to multiple remote settings.

The use of telehealth to deliver the *Telehealth for* supportive survivorship care pilot project increased access to education for cancer patients and their carers living in smaller regional locations and gave participants greater access to health professionals and experts. The use of telehealth also enabled sole facilitators the opportunity to deliver the program with a co-facilitator at other sites, increasing program capacity.

The *telehealth manual* (page 13) can be used to facilitate the use of telehealth in the delivery of cancer education programs.



Participants and facilitators from the Telehealth for supportive survivorship care pilot project delivered in the Grampians region receiving education via telehealth.

## Cancer Wellness & Exercise TELEHEALTH MANUAL

**Cancer Education Programs** 

### Telehealth for program delivery

### What is telehealth?

Telehealth is defined as the use of telecommunication techniques to exchange health information and provide health care and health education over a distance. Since 1998, the Victorian Department of Health have been investing in infrastructure and models of delivery to enable telehealth across Victoria to be incorporated into models of care.

This has led to the significantly increased use of telehealth to support cancer patients in regional and remote Victoria over the past five years through the development and coordination of infrastructure by the Integrated Cancer Support Services (ICS).<sup>2</sup> This infrastructure has included the development of video conferencing facilities in regional hospitals. Videoconferencing allows for in-sync broadcasting from a primary site to single or multiple-remote settings.3

"Just talking to other people who could relate to what she had been through and hearing their stories was a benefit. Feeling part of a larger group, not just in the same room, of likeminded people in a similar situation was great."

- Survivorship Project Participant

### Requirements

To deliver a Cancer Education Program via telehealth you will need:

- Appropriate Video Communication and Information Technology equipment including microphone, camera and where possible a double screen, as this will allow for easier use of the PowerPoint presentations
- Efficient bandwidth
- IT support
- Capacity to share PowerPoint presentations across multiple sites
- A venue that will accommodate 10 or more participants

### **Facilitator Role**

Delivery of cancer education programs through telehealth is by trained facilitators who are supported by quest presenters. Most communication techniques used in face-to-face facilitation are applicable to using telehealth:

- 1. Two facilitators will deliver at the lead site.
- 2. One facilitator and a local health professional will be located at the secondary site/s.
- 3. The facilitator at the lead site takes the lead during the education session.
- 4. The program agenda will identify which site will be the lead for each specific session – depending on the topic specific guest presenter for that week.
- 5. During the session, facilitators may need to communicate across sites which can be done through the use of signs (icons) if needed.

**Telehealth icons** can be used to help with communication during the session. There are templates of the following icons located at the end of this manual that should be used to print multiple copies of each icon on A3 paper (one icon per page):



The ACTIVE icon shows that the video camera is turned on.



The MUTE icon shows that the microphone has been turned off.



The QUESTION is an easy way to let the other site know that there is a question.

<sup>1.</sup> Clinical Oncology Society Australia - Teleoncology Guidelines Working Group, 2014.

<sup>2.</sup> Kelly, P. Embedding telehealth in rural Victoria – choosing appropriate practice models. 2013: 12th National Rural Health Conference 3. Tipton, P.H. Lessons learned: Pointers for successfully teaching via videoconferencing. Teaching and Learning in Nursing. Vol 6 Issue 1 2011, Pages 27–30.

### Six top tips for presenting using telehealth

### 1. Present yourself well for the camera

Research shows that most people form their first impressions within about seven seconds of viewing something. Therefore, consider how the way that you dress will impact your audience. Avoid noisy patterns and loud accessories. This might include earrings or jewellery that will dangle and catch the light.

### 2. Inhale, exhale and repeat

To stay as engaging as possible, take a breath or two between slides. This will help you to communicate well and maintain a high level of engagement with your audience.

### 3. Know your content

Ensure that all presenters are familiar with the presentation content as reading in front of the group and the camera can be disastrous.

### 4. Make sure that you can be heard

When testing the equipment, ensure that the position of the microphone and volume control are effective.

### 5. Be aware of your body language

The majority of communication takes place in a non-verbal manner. This means that your posture, gestures, and facial expressions can change the ways that you engage with your audience. Think about the way that you will sit or stand.

### 6. Stay hydrated

Not only will this help you to maintain the focus and clarity that you need in order to speak well, but it can also cut down on unexpected verbal clicks and mouth sounds that can occur when you become hungry or thirsty.

### **Telehealth process**

### 1. Logistics and setting up

- Book the VC room and VC equipment (including data projector; laptop, and whiteboard) as soon as possible. Where possible, make a recurrent booking.
- Start the booking time 15 minutes earlier so that you can test between sites and set up the room. If for some reason, the session won't be on, let others in the workplace know so others can use the room.
- Do a short VC test run the week prior to your first session.
- Make sure that you have a back-up plan for IT support and if it fails completely. This should include:
  - Contact details for emergency IT support on the day
  - Make sure that you have contact numbers for the OTHER site/s
  - All program material, resources and PowerPoint presentations saved on a memory stick and in hard copy
  - Extra ice-breakers and activities to use with the group if needed

### 2. On the day

- Make sure you have your basics sorted
  - 10 minutes PRIOR to the telehealth session turn the unit on, TV screen on and set the volume
  - Turn your microphone to MUTE until the session starts
  - Organise the camera so that you fill the screen don't have yourself zoomed right out in a corner, people need to see you
  - Getting the light right you may need to use the blinds if there is a lot of glare, or turn the lights on
- If the other site/s don't appear on the screen as booked, phone your support person on
- If possible, include the VC unit in the circle of participants position the VC Unit as if it were a person in the room.
- Position the microphone closer to the end where the presenter will be speaking (if mic too close to VC unit it makes feedback noise)
- When the other site/sites come onto the screen, make sure they are welcomed and that you interact to set volume and everyone can hear clearly.
- Make sure you know the participants names and which site they are from. Nametags can help

### 3. When the session starts

- Introduce the VC site/s to the group and vice versa
- Ensure the other site has their heads at the top of the screen – they will need to use their remote to move their camera or you can use the remote site camera option on the remote.
  - Ask the other sites to MUTE their microphone until they need to ask questions or interact



- Ask all participants to speak one at a time so that the VC participants can follow the discussion.

### 4. During the session

• Mute the microphone until the session begins



- Ensure the microphones at the other sites are MUTED at all times unless addressing a question / or participating in a discussion, this will minimise the background interference noise
- Interact with participants at both sites.
- The presenter should ensure eye contact is made at the host site and look directly in the camera at the remote site
- Ensure that the facilitators and presenters don't have their back to the participants at the other site nor wander around the room
- Ensure that guest presenters:
  - are aware of where the camera is
  - speak in a clear and audible voice
- Regularly check in with participants at the other sites
- Use the Telehealth ICONS during the program to ensure communication between sites
- The program will be delivered in small segments

   two separate presentations which allow a few minutes for movement between topics if needed.
   This has been built into the program design and content

### 5. At the end of the session

- Check that all participants were comfortable with the technology
- Where possible address any concerns prior to the next session
- Turn off equipment and follow lock up procedures







# EXERCISE & EXERCISE PHYSICAL ASSESSMENT PROCEDURES MANUAL

**Cancer Education Programs** 

### **Assessment Procedures**

The following procedures should be applied to conducting and evaluating assessment, recorded via the Assessment Form template.

### **Checklist**

- ParQ
- FACT-G & FACIT Fatigue scale
- Doctors clearance if needed
- Risk Assessment
- Exercise Physiology Oncology Assessment Form

### Note

- The exercise physiology assessment must be preceded by a Par Q.
- Please ask all participants to complete the FACT-G and FACT-F prior to their initial assessment appointment to free up some time.
- FACT G (Functional Assessment of Cancer Therapy) 'G' general. Version 4 is a 2-page document that covers physical well-being, social/family well-being, emotional well-being, and functional well-being.
- FACIT Fatigue Scale should be administered at the same time and following FACT-G.

### History

Please record the considerations identified from the ParQ on the top of the assessment form. This will ensure that contraindications, cancer situation, response to treatment, and side effects are prioritised.

Use the body chart to visually note bone mets, peripheral neuropathy, surgical incisions, joint pain, lymphedema, & ports.

Go through lifestyle questions.

**Note:** continence is relevant to prostate, genital and urinary cancers.

Take a detailed exercise history.

### Outcome Measures and Normative Data

Perform clinically relevant outcome measures that you can complete within the hour. The outcome measures that **must be completed** for every client are **highlighted in terracotta** – the rest are up to your clinical discretion and time available.

Please note that considerations and expected methodology for each test is provided in the notes that follow.

1.	Blood pressure	21
2.	Oxygen saturation	22
3.	6-minute walk	22
4.	Waist circumference	24
<b>5</b> .	Waist to hip ratio.	24
6.	Arm circumference	25
<b>7</b> .	Grip Strength	25
8.	Modified Push ups	26
9.	30-sec sit to stand	27
10.	Timed up and go	29
11.	Modified - Clinical Test of Sensory Interaction for Balance (CTSIB)	30
12.	15-second step test	30
13.	Single leg stance	31

### 1. Blood Pressure (BP)

### **Oncology Note**

Do not perform BP on an arm that lymph nodes have been removed from, or there is a line/port in that arm.

### **Purpose of test**

Blood Pressure can be monitored routinely to acquire a baseline, aid in diagnosis of disease, assess the cardiovascular system, monitor fluctuations and monitor the effect of antihypertensive drugs (Jevon, 2007).

### **Test procedure**

How to accurately measure Blood Pressure:

Client should be relaxed and seated with feet flat on the ground, back supported and arm supported to level of heart.

- The arm used for measurement should be free from constrictive clothing so that the cuff can be wrapped around the arm.
- Appropriate cuff size should be measured for the client: bladder length at least 80% and width 40% of the mid-upper arm.
- Wrap the cuff around the upper arm, with the center of the cuff positioned over brachial artery and the lower border of the cuff about 2 cm above the bend in the elbow.
- Ensure that the cuff is at heart level by supporting the arm.
- Palpate the radial pulse and begin to inflate the cuff. Note the pressure at which the radial pulse is palpable and continue to inflate cuff 30 mm Hg above this pressure.
- Deflate the cuff at a rate of 2–3 mm Hg/beat or less while palpating and note the pressure at which the radial pulse reappears.
- Fully deflate the cuff, wait approximately 30 seconds, and inflate the cuff to at least 30 mm Hg above that at which the radial pulse reappeared.
- While deflating the cuff at a rate of 2–3 mm Hg/ beat or less, auscultate over the brachial artery in the antecubital fossa.
- Record the result for systolic and diastolic BP to the nearest 2 mm Hg:
  - systolic: record level at which two beats are heard
  - diastolic: use disappearance of sound
- Wait 30 seconds before repeating the procedure in the same arm.
- Average the two readings.

(Heart Foundation, 2010; Turner, Burns, Chaney, et al., 2008)

**Note:** If the first two readings differ by more than 10 mm Hg systolic or 6 mm Hg diastolic, or if initial readings are high, have the client rest quietly for 5 minutes and then take several readings until consecutive readings do not vary by greater than these amounts (Heart Foundation, 2010).

### Normative data

Table 1. Classification of blood pressure levels in adults

Diagnostic Category	Systolic (mm Hg)	Diastolic (mm Hg)	
Normal	< 120	< 80	
High-normal	120-139	80-89	
Grade 1 (mild) hypertension	140-159	90-99	
Grade 2 (moderate) hypertension	160-179*	100-109*	
Grade 3 (severe) hypertension	>/ 180*	>/ 110*	

<sup>\*</sup> Above this resting BP level – the client must get a doctor's clearance.

**Note:** data from 4,577 participants from an international database of 24 research groups with repeated, normal, casual blood pressure readings less than 140/90 mm Hg (Heart Foundation, 2010).

### **Blood Pressure Response to Exercise**

Blood pressure response to exercise ACSM 2010.

### Systolic blood pressure (SBP)

- Normal response to exercise is a progressive increase in SBP, typically 10 +/- 2 mm Hg MET -1
- Exercise testing should be discontinued with SBP values of > 250 mm Hg
- Exertion hypotension (SBP that fails to rise, or falls
   10 mm Hg, may signify myocardial ischemia and/ or left ventricle dysfunction

### Diastolic blood pressure (DBP)

- The normal response to exercise is no change, or a decrease in DBP
- A DBP of > 115 mm Hg is considered an endpoint for exercise testing

**Note:** MET -1 = Metabolic Equivalent of Task; based on ACSM (2010).

### 2. Oxygen saturation

Oxygen saturation measures how much oxygen the blood is carrying compared with its full capacity.

- An SpO<sub>2</sub> of greater than 95% is generally considered to be **normal**.
- An SpO<sub>2</sub> of 92% or less (at sea level) suggests **hypoxemia**.

In a patient with acute respiratory illness (e.g., influenza) or breathing difficulty (e.g, an asthma attack), an  ${\rm SpO_2}$  of 92% or less may indicate a need for oxygen supplementation.

In a patient with stable chronic disease (e.g., COPD), an  ${\rm SpO_2}$  of 92% or less should prompt referral for further investigation of the need for long-term oxygen therapy.

Pulse oximetry can be a useful aid in decision–making but is not a substitute for a clinical assessment nor sufficient for diagnosis by itself. Arterial blood gas measurements, obtained by arterial puncture, remain the gold standard for measurement of oxygen saturation.

### 3. 6-Minute Walk Test (6MWT)

### **Purpose of test**

To assess aerobic endurance.

### **Equipment required**

- Stop watch
- Measuring tape (or premeasured track of at least 30m)
- Pulse oximeter
- BORG scale

### **Test procedure**

Procedure for cardiovascular clients (American Thoracic Society [ATS], 2002):

The 6MWT should be performed prior to the strength test, after a period of rest.

The 6MWT should be performed indoors, along a long, flat, straight, enclosed corridor with a hard surface that is seldom travelled. If weather permits, the test may be completed outdoors. The walking track must be 30 metres in length and marked every 3 metres, with the turn-around points marked with a cone. Mark the start and finish lines with brightly coloured tape.

- **1.** Repeat testing should be completed at the same time of day to minimise intraday variability.
- **2.** A 'warm-up' period before the test should not be performed.
- 3. The client should sit and rest in a chair for at least 10 minutes before the test. During this time, check for contraindications, measure pulse and blood pressure and ensure clothing and footwear are appropriate.
- **4.** Pulse oximetry should be portable. Make sure the readings are stable before recording. Note pulse regularity.
- **5.** Set the timer to 6 minutes, assemble all necessary equipment and move to the starting point.
- **6.** Instruct the client as follows:
  - The objective of this test is to walk as far as possible for 6 minutes. You will walk back and forth in this hallway. Six minutes is a long time to walk, so you will be exerting yourself.
  - You will probably get out of breath or become exhausted. You are permitted to slow down, to stop and to rest as necessary. You may lean against the wall while resting but resume walking as soon as you are able.
  - You will be walking back and forth around the cones. You should pivot briskly around the cones and continue back the other way without hesitation. Now I'm going to show you. Please watch the way I turn without hesitation.
  - Demonstrate by walking one lap yourself. Walk and pivot around the cones briskly without hesitation.
  - Are you ready to do that? I am going to use this counter to keep track of the number of laps you complete. I will click it each time you turn around at this starting line. Remember that the object is to walk AS FAR AS POSSIBLE for 6 minutes, but don't run or jog.
  - Start now, or whenever you are ready.

### **Evaluating cardiorespiratory capacity**

- 7. Do not talk to anyone during the test.
- **8.** Use a standard tone of voice during encouragement:
  - After the first minute You are doing well. You have 5 minutes to go.
  - **After 2 minutes** Keep up the good work. You have 4 minutes to go.
  - **After 3 minutes** You are doing well. You are halfway done.
  - **After 4 minutes** Keep up the good work. You have only 2 minutes left.
  - **After 5 minutes** You are doing well. You have only 1 minute to go.
  - When the timer is 15 seconds from completion

     In a moment I'm going to tell you to stop.
     When I do, just stop right where you are, and
     I will come to you.
  - At the completion Stop!

    Note: Do not use other words of encouragement (or body language) to encourage the client to walk faster.
  - If the client stops walking or needs a rest during the test, say: You can lean against the wall if you would like; then continue walking whenever you feel able. Do not stop the timer.
  - If the client stops before the 6 minutes are up and refuses to continue (or the clinician decides that they should not continue), allow the client to sit down and note the distance, the time stopped and the reason for stopping prematurely.
- **9.** Post-test: Record the post-walk Borg and fatigue levels and ask: What, if anything, kept you from walking further?
- **10.** If using a pulse oximeter, measure oxygen saturation (SpO2) and pulse rate on the oximeter and then remove the sensor.
- 11. Record the number of laps and any additional distance covered by using the markers on the wall. Calculate the total distance walked, rounding to the nearest metre.
- **12.** Have the client sit quietly and record their heart rate at 1 and 2 minutes post exercise.

### Note:

- A practice test is not required in most clinical settings; however, it should be considered. If a practice test is completed, wait for at least 1 hour before the second test and report the highest 6MWD as the client's baseline (ATS, 2002).
- Record the flow rate and the source of oxygen used by client. Note how the oxygen source was carried by the client (e.g. carried oxygen bottle, pushed or pulled cylinder) (ATS, 2002).
- The type of medication, dose and number of hours taken before test should be recorded.

Reasons for immediately stopping a 6MWT include the following: (1) chest pain, (2) intolerable dyspnoea, (3) leg cramps, (4) staggering, (5) diaphoresis, and (6) pale or ashen appearance.' (ATS, 2002).

### Converting 6MWT results into exercise intensity

- 6-minute walk distance (6MWD)/6 = Distance in 1 minute
- Distance in 30 minutes = 1-minute distance x 30

**Note:** The client would not be expected to keep up the same walking pace throughout the walking training session that they achieved in the 6MWT. Therefore, prescribe approximately 80% of the calculated distance.

### For example:

If the client walked 220 m in 6 minutes:

- 1-minute distance = 220/6 = 36.7 m
- 30-minute distance = 36.7 x 30 = 1100 m
- 80% of 1100 = 880 m target distance in 30 minutes

(Australian Lung Foundation & Australian Physiotherapy Association, 2009).

### Normative data

- The median 6MWD was approximately 580 metres for 117 healthy men and 500 metres for 173 healthy women (Miyamoto et al., 2000).
- A mean 6MWD of 630 metres was reported by another study of 51 healthy adults (Stevens et al., 1999).

### 4. Waist Circumference (WC)

### **Purpose of test**

Used as a measure of body composition (ACSM, 2006). Important as an indicator of health risk because abdominal obesity is a primary issue (ACSM, 2010).

### **Equipment required**

- Tape measure

**Note:** for all girth measurements use a standardised pull on the tape; it should be placed horizontal to the skin surface, without compressing the subcutaneous adipose tissue.

### **Test procedure**

To obtain a client's waist circumference use the following steps:

- 1. Mark the site to be measured.
- **2.** Use a standardised pull on the tape, not too tight and not too loose.
- **3.** Place tape horizontal and ensure that it is in contact with the skin where possible.
- **4.** The waist measurement is taken at the narrowest point, or at the midpoint between lowest rib and top of iliac crest if midpoint is not apparent. (Reiman & Manske, 2009)

### **Normative data**

Table 2. Criteria for waist circumference in adults

Risk Category	Women (cm)	Men (cm)	
Very Low	< 70	< 80	
Low	70 – 89	80 – 99	
High	90 – 109	100 - 120	
Very High	> 110	> 120	

**Note:** based on Bray (2004); N = 14,924 adult participants from the Third National Health and Nutritional Examination Survey.

### 5. Waist to Hip Ratio (WHR)

### **Purpose of test**

Provides an index of the distribution of body fat and may be used as a guide to health risks. (Bray & Gray, 1988)

### **Equipment required**

- Flexible tape measure
- Calculator

### **Test procedure**

To determine a client's WHR use the following steps:

- 1. Waist circumference should be taken around the smallest part of the waist, usually around 1 inch (2.54 cm) above navel. Note: See Waist Circumference for further details on test procedure.
- **2.** Hip circumference is taken around the largest area of the buttocks.
- **3.** WHR is calculated using the formula below (numerically and using the same unit of measurement).
- **4.** Multiple measurements should be taken and should be within 0.25 inches (0.6 cm) of each other. (Miller, 2012).

Figure 1. Hip circumference measurement

Waist to Hip Ratio = circumference of the waist / circumference of the hips

(ACSM, 2010)

### **Normative data**

Table 3. Waist to hip normative values

	Males	Females
Excellent	< 0.85	< 0.75
Good	0.85 – 0.90	0.75 – 0.80
Average	0.90 – 0.95	0.80 - 0.85
High	0.95 – 1.00	0.85 – 0.90
Extreme	> 1.00	> 0.90

**Note:** Unpublished normative data; results should be interpreted with caution (Reiman & Manske 2009).

### 6. Girth Measurement of Arm

Circumference measures to test for any swelling or atrophy in breast cancer affected arm.

• **Biceps:** With arm relaxed and by side, measurement is taken at the midpoint between the acromion and olecranon processes.

The following girths are for breast cancer only:

- Below elbow: at widest point below elbow
- Wrist circumference: Narrowest point

### 7. Grip Strength Test

### **Purpose of test**

To assess the static (isometric) strength of gripping muscles (Lacy, 2011).

### **Equipment required**

- Hand grip dynamometer

### **Test procedure**

Complete the grip strength test using the following steps:

- **1.** Adjust hand dynamometer to fit the client's handgrip size, if necessary.
- **2.** Client should lean forward slightly, with the hand to be tested in front, not touching the body; arm may be slightly bent.
- **3.** Client should perform a maximum gripping effort for a few seconds, whilst keeping the arm stationary.
- **4.** Have the client perform 2 trials for each arm allowing a minimum of 60 second recovery between each trial. (Swap hands to save time).

### Normative data

Table 4. Normative data for older adults

### **MALES**

Age	Weak	Normal	Strong
10-11	< 12.6	12.6-22.4	> 22.4
12-13	< 19.4	19.4-31.2	> 31.2
14-15	< 28.5	28.5-44.3	> 44.3
16-17	< 32.6	32.6-52.4	> 52.4
18-19	< 35.7	35.7-55.5	> 55.5
20-24	< 36.8	36.8-56.6	> 56.6
25-29	< 37.7	37.7-57.5	> 57.5
30-34	< 36.0	36.0-55.8	> 55.8
35-39	< 35.8	35.8-55.6	> 55.6
40-44	< 35.5	35.5-55.3	> 55.3
45-49	< 34.7	34.7-54.5	> 54.5
50-54	< 32.9	32.9-50.7	> 50.7
55-59	< 30.7	30.7-48.5	> 48.5
60-64	< 30.2	30.2-48.0	> 48.0
65-69	< 28.2	28.2-44.0	> 44.0
70-99	< 21.3	21.3-35.1	> 35.1

### **FEMALES**

Age	Weak	Normal	Strong
10-11	< 11.8	11.8-21.6	> 21.6
12-13	< 14.6	14.6-24.4	> 24.4
14-15	< 15.5	15.5-27.3	> 27.3
16-17	< 17.2	17.2-29.0	> 29.0
18-19	< 19.2	19.2-31.0	> 31.0
20-24	< 21.5	21.5-35.3	> 35.3
25-29	< 25.6	25.6-41.4	> 41.4
30-34	< 21.5	21.5-35.3	> 35.3
35-39	< 20.3	20.3-34.1	> 34.1
40-44	< 18.9	18.9-32.7	> 32.7
45-49	< 18.6	18.6-32.4	> 32.4
50-54	< 18.1	18.1-31.9	> 31.9
55-59	< 17.7	17.7-31.5	> 31.5
60-64	< 17.2	17.2-31.0	> 31.0
65-69	< 15.4	15.4-27.2	> 27.2
70-99	< 14.7	14.7-24.5	> 24.5

### 8. The Maximal Push Up Test

### **Oncology considerations:**

Do not perform if someone experiences shoulder pain or tendinopathies, or if someone has recently had a port inserted (up to 3 weeks ago) or is currently hooked up to a chemotherapy bottle, or is post breast cancer surgery.

### **Purpose of test**

To assess upper body muscular endurance (Mackenzie, 2005).

### **Equipment required**

- Flat surface
- Mat

### **Test procedure**

The protocols for the Maximal Push Up Test and the Modified Push Up Test are as follows:

### **Push-Up Test**

Completed with the client on their toes.

- 'Lie on the mat, hands shoulder-width apart & fully extend the arms.
- Lower the body until the elbows reach 90 degrees.
- Return to the starting position with the arms fully extended.
- The feet are not to be held for the client.

- The push up action is to be continuous with no rest.
- Complete as many press-ups as possible.
- Record the total number of full body press-ups' (Mackenzie, 2005)

### **Modified Push-Up Test**

Completed with the client on their knees; often used for females and clients with reduced upper body strength.

- 'Lie on the mat, hands shoulder width apart, bent knee position & fully extend the arms.
- Lower the upper body until the elbows reach 90 degrees.
- Return to the starting position with the arms fully extended.
- The feet are not to be held for the client.
- The push up action is to be continuous with no rest.
- Complete as many modified press-ups as possible.
- Record the total number of modified press-ups' (Mackenzie, 2005).

The stomach should not touch the mat at any time.

Instruct both men and women that the back must be straight at all times and the pushup must be to a straight-arm position.

Count the maximal number of push-ups performed in good form without rest. Stop the test when the client cannot maintain good form on two consecutive reps, or strains forcibly and cannot continue. (ACSM, 2006).

### Normative data

Table 5. Standard scores for the Push Up Test and the Modified Push Up Test

	Age (years)				
	20-29	30-39	40-49	50-59	60+
Rating		Push Up	Test (number con	ıpleted)	
Excellent	>54	>44	>39	>34	>29
Good	45-54	36-44	30-39	25-34	20-29
Average	35-44	25-34	20-29	15-24	10-19
Fair	20-34	15-24	12-19	8-14	5-9
Poor	<20	<15	<12	<8	<5
		Push Up	Test (number con	npleted)	
Excellent	>48	>39	>34	>29	>19
Good	34-48	25-39	20-34	15-29	5-19
Average	17-33	12-24	8-19	6-14	3-4
Fair	6-16	4-11	3-7	2-5	1-2
Poor	<6	<4	<3	<2	<1

### 9. The 30 second Sit-to-Stand Test (30sSTS)

### **Purpose of test**

To evaluate lower limb strength and the ability to perform activities of daily living.

### **Equipment required**

- Stopwatch
- Armless chair of standardised height (43 cm) (Rikli & Jones, 2001).

### **Test procedure**

Ensure the back of the chair is against a wall so that the chair doesn't slip. Before completing the test, ensure that the client can complete a single sit to stand.

Then instruct the client to fold their arms across their chest and when you say 'go', ask them to stand up and sit down as many times as they can in 30 seconds.

### Ensure that:

- The client sits with their back against the chair
- The arms are folded across the chest
- The feet remain on the floor throughout the test
- When the client stands, the knees and hips are extended.

Record the time when 'go' is said and say 'stop' when 30 seconds have passed.

**Note:** If a client uses their hands during the test, either to push off their thighs or the chair, the test can continue; however, the results cannot be compared to age-related norms.

(Adapted from Rikli & Jones, 2001).

### Normative data

Table 6. Normative data for females aged 60-94 - 30 second sit to stand

		Age (years)					
Percentile rank	60-64	65-69	70-74	75-79	80-84	85-89	90-94
95	21	19	19	19	18	17	16
90	20	18	18	17	17	15	15
85	19	17	17	16	16	14	13
80	18	16	16	16	15	14	12
75	17	16	15	15	14	13	11
70	17	15	15	14	13	12	11
65	16	15	14	14	13	12	10
60	16	14	14	13	12	11	9
55	15	14	13	13	12	11	9
50	15	14	13	12	11	10	8
45	14	13	12	12	11	10	7
40	14	13	12	12	10	9	7
35	13	12	11	11	10	9	6
30	12	12	11	11	9	8	5
25	12	11	10	10	9	8	4
20	11	11	10	9	8	7	4
15	10	10	9	9	7	6	3
10	9	9	8	8	6	5	1
5	8	8	7	6	4	4	0

**Note:** based on Riki & Jones, (2001), sample selection not reported.

Table 7. Normative data for males aged 60-94 – 30 second sit to stand

				Age (years)			
Percentile rank	60-64	65-69	70-74	75-79	80-84	85-89	90-94
95	23	23	21	21	19	19	16
90	22	21	20	20	17	17	15
85	21	20	19	18	16	16	14
80	20	19	18	18	16	15	13
75	19	18	17	17	15	14	12
70	19	18	17	16	14	13	12
65	18	17	16	16	14	13	11
60	17	16	16	15	13	12	11
55	17	16	15	15	13	12	10
50	16	15	14	14	12	11	10
45	16	15	14	13	12	11	9
40	15	14	13	13	11	10	9
35	15	13	13	12	11	9	8
30	14	13	12	12	10	9	8
25	14	12	12	11	10	8	7
20	13	11	11	10	9	7	7
15	12	11	10	10	8	6	6
10	11	9	9	8	7	5	5
5	9	8	8	7	6	4	3

**Note:** based on Riki & Jones, (2001), sample selection not reported.



 $Participants\ from\ the\ Telehealth\ for\ supportive\ survivorship\ care\ pilot\ project\ delivered\ in\ the\ Grampians\ region\ taking\ part\ in\ an\ exercise\ session.$ 

### 10. The Timed Up and Go (TUG)

### **Purpose of test**

Assessment tool used to measure agility and dynamic balance (Rikli & Jones, 2001).

### **Equipment required**

- Measuring tape
- Stopwatch
- Cone markers (Rikli & Jones, 2001)
- A chair with a seat height of approximately 46cm (Podsiadlo & Richardson, 1991).

### **Test procedure**

 Test procedures vary in respect of seat height: 40–50 cm (Heyward, 2010), and 46 cm (Podsiadlo & Richardson, 1991); style (armchair or armless);
 For standardisation, record chair.

- Place the chair against a wall for stability, have the client sit in the middle of the chair, with hands on thighs, one leg slightly ahead of the other, and body leaning slightly forward.
- On the signal 'go' have the client get up from the chair, walk as quickly as safely possible around a cone placed 10 ft (3 m) away, and return to the chair.
- Administer one practice trial, followed by two test trials.
- Start the stopwatch on the signal 'go'; stop it at the exact time the client sits in the chair. Record time to the nearest tenth of a second.
- Use the best score of the two trials. (Rikli & Jones, 2001)

**Note:** Client is allowed to use customary walking aid (e.g. single-point stick or walker) during the test. However, no physical assistance is to be provided (Podsiadlo & Richardson, 1991).

### Normative data

Table 8. Age-Gender norms for the 3m (10ft) Time Up and Go Test

	Age (years)							
	71-75	years	76-80 years		81-85 years		86-99 years	
Percentile	М	F	М	F	М	F	М	F
95	13.3	15.0	14.3	18.6	19.5	20.0	21.0	22.0
90	11.0	14.0	13.6	15.2	14.0	17.6	18.2	19.6
80	10.0	13.0	11.0	13.0	13.0	15.0	13.8	16.0
70	9.0	12.0	10.0	12.0	12.0	14.2	12.0	15.0
60	9.0	11.0	10.0	11.0	10.0	12.0	11.2	13.8
50	8.0	10.0	9.0	10.0	9.0	12.0	11.0	12.0
40	8.0	10.0	8.0	9.4	8.0	11.0	10.6	12.0
30	7.0	9.0	7.0	9.0	8.0	10.0	8.1	10.4
20	7.0	9.0	7.0	8.0	8.0	10.0	7.4	9.8
10	6.4	7.5	7.0	6.6	7.0	8.0	6.7	9.0
5	5.7	7.0	6.0	5.8	6.0	8.0	6.0	9.0
1	5.0	6.0	5.0	5.0	5.0	8.0	6.0	9.0

### 11. Modified - Clinical Test of Sensory Interaction for Balance (CTSIB)

### **Purpose of test**

To assess the reliance on various sensory systems in maintaining static balance (Shumway-Cook & Horak, 1986).

### **Equipment required**

- Stopwatch
- A square of foam approximately 8cm thick (Shumway-Cook & Horak, 1986)

### **Test procedure**

The test requires the subject to maintain stability under four conditions.

- 1. Standing on a firm surface with eyes open.
- 2. Standing on a firm surface with eyes closed.
- **3.** Standing on an unstable surface with eyes open.
- **4.** Standing on an unstable surface with eyes closed.

The client is instructed to remain standing for 30 seconds in each condition, with their arms close to their body, looking straight ahead, feet together and barefoot. Record the time for each condition to a maximum of 30 seconds.

The test is terminated if the client steps to compensate for instability, open their eyes during a closed eye trial, or moves upper limbs, heels or feet from the starting position (Ricci, Goncalves, Coimbra, & Coimbra, 2009).

### **Normative data**

Table 9. Mean Balance Scores for healthy adults

Age (years)	Time (seconds)	Conditions	
25–44	30	4	
45–64	30	4	
65–84	26–28	4	
65–84	13–19	4	

### 12. Step Tap Test (15 Second Step Test)

### **Purpose of test**

To evaluate dynamic single leg stance balance.

### **Equipment required**

- Step (7.5 cm height)
- Stopwatch (Bernhardt, Ellis, Denisenko, & Hill, 1998).

### **Test procedure**

The client stands with their feet comfortably apart with a block 7.5 cm high positioned 5cm in front of their feet. The number of times the client places their foot fully on, then off, the block in 15 seconds is recorded. During these repeated steps with one leg, the opposite stance leg remains stationary. The test is then repeated with the opposite leg. If the client overbalances or needs steadying during the test, counting of steps is stopped and the number of steps recorded before this point is recorded. Clients are given a short practice period before each test procedure. (Bernhardt et al., 1998).

### **Normative data**

Table 10. Normative values for women ages 20-80

Age (years)	Normative value (repetitions)				
20-29	20.72 + 0.48				
30-39	20.17 + 0.45				
40-49	18.77 + 0.33				
50-59	17.13 + 0.33				
60-69	15.59 + 0.33				
70-79	13.73 + 0.34				

### 13. Single Leg Stance Test (SLS)

### **Purpose of test**

To examine postural stability.

### **Equipment required**

• Stopwatch

### **Test procedure**

The client is asked to stand on one foot without hand support and without their legs touching. The time is measured with a stopwatch, with the maximum score being 30 seconds, after which the test is stopped.

The test is terminated if the client is unable to maintain this position by

- the foot touching the support leg
- hopping
- the non-supporting foot touching the floor
- the client's arm touching something for support. (Lewis & Shaw, 2006).

### Normative data

### Normal ranges with eyes open are:

**60–69 years:** 22.5 + 8.6 s **70–79 years:** 14.2 + 9.3 s

### Normal ranges for eyes closed are:

**60–69 years:** 10.2 + 8.6 s **70–79 years:** 4.3 + 3.0 s

**Sample:** 184 male and female American adult volunteers (Bohannon, Larkin, Cook, Gear, & Singer,

1984).

### **Range of Movement**

### **Shoulder Flexion**

Axis of rotation: Acromion Process Stationary Arm: Midline of thorax Moving arm: midline of humerus Normal range: 180 degrees

### **Shoulder Abduction**

Axis of rotation: Acromion process
Stationary arm: Parallel to sternum
Moving arm: midline of humerus
Normal range: 180 degrees

ESSA outcome measures book. 2014.

### **Goal setting**

- Please discuss the goals the client has entering into the program and ask them to rate the importance of these goals out of 10.
- After the assessment is completed, you, as the practitioner, will have developed some goals for the client. Please explain these goals.
- Then break down goals into short term, specific goals.
- Then discuss potential barriers to achieving these goals, motivators to achieving these goals and opportunities to achieve the goals.

### Goals setting should also follow the SMART principle:

- Specific
- Measurable
- Attainable
- Relevant
- Timely

### **Exercise Program Processes and Documents**

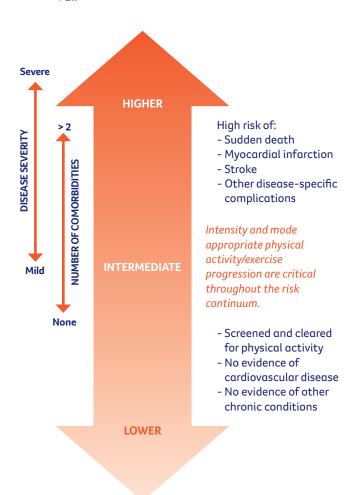
Process	Attachment			
Risk assessment criteria	1. Risk assessment			
ParQ & FACT-G & FACIT Fatigue scale	<ul><li>2. Par Q</li><li>3. FACT-G (version 4)</li><li>4. FACIT fatigue scale (version 4)</li></ul>			
Send doctors guidance request if needed	5. Letter and Guidance request form			
Initial assessment , goal setting & exercise plan	<ul><li>6. Assessment form</li><li>7. Normative Data</li></ul>			
Write report, including norms and goals	8. Report template			
Exercise prescription planning	<ul><li>9. Considerations &amp; contraindications</li><li>10. EP tracking sheet</li></ul>			
Program delivery	10. EP Tracking sheet			
Education component	<ul><li>11. When I should stop exercising and go and see my doctor?</li><li>12. Exercise Intensity Guidelines</li></ul>			
Re-assessment Repeat outcome measures and write report	6. Assessment form 13. Report template for Re-assessment report.			
Home Exercise Program	14. Home Exercise Program sheets			

### **Attachments**

- Attachment 1. Risk Assessment
- Attachment 3. FACT-G
- Attachment 4. FACIT Fatigue Scale
- Attachment 5. Letter to GP or Oncologist (medical guidance request form)
- Attachment 6. Exercise physiology Oncology Assessment Form
- Attachment 7. Normative data for assessments
- Attachment 8. Exercise Physiology Assessment Report
- Attachment 9. Exercise Prescription Contraindications and Considerations
- Attachment 10. Exercise Oncology Tracking Sheet
- Attachment 11. Exercise Oncology Information Sheet When should I stop exercising?
- Attachment 12. Exercise Intensity Guidelines
- Attachment 13. Exercise Physiology Re-assessment Report

### **Attachment 1. Risk Assessment**

- 1. A risk assessment is especially important if clients are self-referred through the 131120-phone number. Most facilities will have a risk assessment process in place.
- 2. ALL participants must fill out The Par Q. It is designed to alert you to any possible risks and identify goals If not already referred by a medical practitioner, the ParQ will identify if a medical referral is necessary to minimise risk.
- **3.** Possible risks:
  - Cardiovascular event.
  - Fracture (bone metastases fracture)
  - Stroke
  - Fall



- **4.** Risks are to be identified and minimised in exercise prescription and execution.
- **5.** Exclusion criteria People with any of the below issues will not be allowed to participate in this program.

### **Absolute Contraindications to Exercise**

- Uncontrolled cardiac dysrhythmias
- Unstable angina
- Uncontrolled symptomatic heart failure
- Symptomatic severe aortic stenosis
- Acute myocarditis or pericarditis
- Acute systemic infection with fever, body aches or swollen lymph glands
- Suspected or known dissecting aneurysm
- Acute pulmonary embolism or pulmonary infarction
- Shortness of breath with minimal excursion
- Uncontrolled diabetes
- Uncontrolled hypertension
- Resting HR greater than 100
- Cognitive issues that prevent participation in a group setting

### Note:

- Many chemotherapy agents can cause cardiomyopathies. Always watch out for symptoms of cardiomyopathies, such as: ankle swelling, neck swelling, and shortness of breath, chest pain.
- Any issue that prevents independent participation in a group setting could be resolved by bringing a carer.
- **6.** General questions:
  - Can they get to the group sessions?
  - Transport issues?

### **Attachment 2. Exercise Physiology Pre-program Questionnaire (Par Q)**

UR number			DOB		Age
Surname			Main treating	practitioner	
Given Names					
1. CONTACT DETAILS	5				
Client name					
Address					
Phone			Email		
Occupation			Current work situd	ation	
EMERGENCY CONTACT Name	Г	Phone		Relation	nship
<b>2. TRANSPORT</b> Are you or a friend or fam	nily member able to	bring you to the gro	oup sessions once per	week?	Yes No
3. REFERRAL SOURCE	E _				
How did you find out abo	ut this service?				
Has your doctor referred	you to this service?				
	NAME	CLI	INIC NAME		PHONE NUMBER
Usual GP					
Oncologist					
Surgeon					
<b>Other</b> (Haematologist radiation oncologist etc)					
4. MEDICAL INFORM DO YOU SUFFER FROM, O		A HISTORY OF ANY	OF THE FOLLOWING	CONDITIONS? Plea	se answer YES or NO.
Chest pain or discomfort		Yes No	Details		
Know heart condition or	heart murmur	Yes No	Details		
Palpitations or irregular h					
	neart beat	Yes No	Details		
Dizziness, feeling faint, o		Yes No	Details  Details		
Dizziness, feeling faint, o	r blacking out				

4. MEDICAL INFORMATION cont.					
Leg/calf pain with exercise	Yes No	Details			
Stroke/aneurysm	Yes No	Details			
Low blood count	Yes No	Details			
Ankle swelling	Yes No	Details			
Bone Metastases	Yes No	Details			
Acute systemic infection	Yes No	Details			
Epilepsy	Yes No	Details			
Uncontrolled Diabetes	Yes No	Details			
<b>If you answered yes to any questions above</b> , you need to have a referral from your doctor in order to participate in the exercise program. Your exercise physiologist will provide you with a form for your doctor to fill out.					
DO YOU SUFFER FROM, OR HAVE YOU HAD	A HISTORY OF ANY OF	THE FOLLOWING CONDITIONS? Please answer YES or NO.			
High blood pressure or on medication for high blood pressure	Yes No	Details			
High Cholesterol or on medicαtion for high cholesterol	Yes No	Details			
Tobacco smoking (past/present)	Yes No	Details			
Asthma or other respiratory disorder	Yes No	Details			
Anxiety or depression	Yes No	Details			
Arthritis	Yes No	Details			
Diabetes Please circle: Type 1 or 2, Insulin/Non-insulin dependent	Yes No	Details			
Pregnancy or recent birth	Yes No	Details			
Other joint problems	Yes No	Details			
Family history of heart disease?	Yes No	Details			
Osteoporosis or low bone density (osteopenia)	Yes No	Details			
Lymphedema	Yes No	Details			
Vision or hearing impairment	Yes No	Details			
Do you need any assistance to walk?	Yes No	Details			
Have you experienced any falls in the past 12 months?	Yes No	Details			
If you answered yes to any questions above program. Your exercise physiologist will prov	=	eferral from your doctor in order to participate in the exercise your doctor to fill out.			

## **CURRENT MEDICATION MEDICATION DOSE REASON FOR TAKING IT** Yes No Do you know if any of these medications affect your heart rate or immune system? **5. CANCER RELATED QUESTIONS** Cancer diagnosis Stage Grade Date of diagnosis Secondary cancers Bone metastases (Must provide scan and/or report from doctor) **Current Cancer situation** (In remission/reoccurrence) **CANCER TREATMENT** Surgery details Chemotherapy details (Past or current) Radiation details Hormone therapy details Yes No Are you now in menopause? **CANCER TREATMENT SIDE EFFECTS** Please give details of any residual side effects. Such as; heart problems, fatigue, peripheral neuropathy, low bone density, low blood counts, lymphedema, chronic diarrhoea or vomiting? Is there anything you can't do now, that you used to be able to do?

o. FAI IGUE INDEX			
Please rate your current level of fatigue.			
0 1 2 3 4 5 6 7	8	9	10
NO FATIGUE		WOF	SE FATIGUE
Visual Analogue scale for pain. Please rate your pain.			
0 1 2 3 4 5 6 7	8	9	10
NO PAIN		WORST PAIN I	MAGINABLE
7. YOUR GOALS FOR THE PROGRAM			
What do you hope to achieve by participating in this exercise program? (Please rate these goals as to how important they are to you by giving them a score out of 10	))		
(			
8. CONSENT			
Please sign the following statement.			
I acknowledge the information I have given above it true and accurate. I give the Exercise Ph	ysiologists in	this program,	
permission to discuss my medical history with my treating practitioners.			
Signed			
Print name	Date		
Print name	] Date		
EP USE ONLY			
Medical clearance required? Yes No			
Medical clearance requested? Yes No			
Medical guidance received? Yes Wo Date			

## **Attachment 3. FACT-G**

Below is a list of statements that other people with your illness have said are important.

Please circle or mark one number per line to indicate your response as it applies to the past 7 days.

PHYSICAL WELL-BEING	NOT AT ALL	A LITTLE BIT	SOME- WHAT	QUITE A BIT	VERY MUCH
GP1 I have a lack of energy	0	1	2	3	4
<sub>GP2</sub> I have nausea	0	1	2	3	4
Because of my physical condition, I have trouble meeting the needs of my fo	amily 0	1	2	3	4
<sub>GP4</sub> I have pain	0	1	2	3	4
GP5 I am bothered by side effects of treatmen	t 0	1	2	3	4
GP6 I feel ill	0	1	2	3	4
GP7 I am forced to spend time in bed	0	1	2	3	4
SOCIAL/FAMILY WELL-BEING	NOT AT ALL	A LITTLE BIT	SOME- WHAT	QUITE A BIT	VERY MUCH
GS1 I feel close to my friends	0	1	2	3	4
GS2 I get emotional support from my family	0	1	2	3	4
6S3 I get support from my friends	0	1	2	3	4
654 My family has accepted my illness	0	1	2	3	4
I am satisfied with family communication about my illness	0	1	2	3	4
os6 I feel close to my partner (or the person who is my main support)	0	1	2	3	4
Regardless of your current level of sexual If you prefer not to answer it, please mark			<b>.</b>		
GS7 I am satisfied with my sex life	0	1	2	3	4
EMOTIONAL WELL-BEING	NOT AT	A LITTLE BIT	SOME- WHAT	QUITE A BIT	VERY MUCH
GE1 I feel sad	0	1	2	3	4
GE2 I am satisfied with how I am coping with r	my illness 0	1	2	3	4
GE3 I am losing hope in the fight against my il	lness 0	1	2	3	4
GE4 I feel nervous	0	1	2	3	4
GES I worry about dying	0	1	2	3	4
GE6 I worry that my condition will get worse	0	1	2	3	4

## **Attachment 3. FACT-G cont.**

FUN	NCTIONAL WELL-BEING	NOT AT ALL	A LITTLE BIT	SOME- WHAT	QUITE A BIT	VERY MUCH
GF1	I am able to work (include work at home)	0	1	2	3	4
GF2	My work (include work at home) is fulfilling	0	1	2	3	4
GF3	I am able to enjoy life	0	1	2	3	4
GF4	I have accepted my illness	0	1	2	3	4
GF5	I am sleeping well	0	1	2	3	4
GF6	I am enjoying the things I usually do for fun	0	1	2	3	4
GF7	I am content with the quality of my life right now	0	1	2	3	4

## **Attachment 4. FACIT Fatigue Scale**

Below is a list of statements that other people with your illness have said are important.

Please circle or mark one number per line to indicate your response as it applies to the past 7 days.

PHY	SICAL WELL-BEING	NOT AT ALL	A LITTLE BIT	SOME- WHAT	QUITE A BIT	VERY MUCH
HI7	I feel fatigued	0	1	2	3	4
HI12	I feel weak all over	0	1	2	3	4
An1	I feel listless ("washed out")	0	1	2	3	4
An2	I feel tired	0	1	2	3	4
An3	I have trouble starting things because I am tired	0	1	2	3	4
An4	I have trouble finishing things because I am tired	0	1	2	3	4
An5	I have energy	0	1	2	3	4
An7	I am able to do my usual activities	0	1	2	3	4
An8	I need to sleep during the day	0	1	2	3	4
An12	I am too tired to eat	0	1	2	3	4
An14	I need help doing my usual activities	0	1	2	3	4
An15	I am frustrated by being too tired to do the things I want to do	0	1	2	3	4
An16	I have to limit my social activity because I am tired	0	1	2	3	4

English (Universal) 16 November 2007 Copyright 1987, 1997

## Attachment 5. Letter to GP or Oncologist (medical guidance request form)

Service Letterhead

Service Letternedd	
Medical Guidance Request	Attached: Program Information Sheet.
(Letter to GP / Oncologist)	
Date	
Dear Dr Address	
Re: Pt name & DOB	
Your patient above would like to participate in the Exercise and Supportive Please find attached an information sheet detailing the program.	e Care Cancer Survivorship Program.
The program pre-activity questionnaire has identified the following issues	:
(List the areas of concern identified on the Par Q)	
The exercise physiology assessment and exercise program will involve light strength components.	t to moderate intensity cardiovascular and
<ul> <li>Clients are unable to participate in our exercise program if they experience</li> <li>Uncontrolled cardiac dysrhythmias</li> <li>Unstable angina</li> <li>Uncontrolled symptomatic heart failure</li> <li>Symptomatic severe aortic stenosis</li> <li>Acute myocarditis or pericarditis</li> <li>Acute systemic infection with fever, body aches or swollen lymph gle</li> <li>Suspected or known dissecting aneurysm</li> <li>Acute pulmonary embolism or pulmonary infarction</li> <li>Shortness of breath with minimal excursion</li> <li>Uncontrolled diabetes</li> <li>Uncontrolled hypertension &gt; 160/100 resting BP.</li> <li>Resting HR greater than 100</li> <li>Cognitive issues that prevent participation in a group setting</li> </ul>	ands
Please provide your professional guidance in support of the development [patient name] by returning the attached form to:	of an appropriate exercise program for
	(EP name, location & fax number)
Yes, I agree No, I don't agree due to (please provide an explanation	on):
And I recommend the following:	

Kind regards, (Insert name)

ESSA Accredited Exercise Physiologist

Re: Pt name & DOB

**Medical Guidance Request**For participation in the Exercise and Supportive Care Program Cancer Council Victoria

Diagnosis:
Contraindications/considerations to exercise:
Please provide us with any further medical information regarding medication, treatment and other comorbidities that may be relevant to exercise prescription.
Do you believe it is safe for the above-named client to participate in light to moderate physical activity provided the participant is closely monitored by an accredited exercise physiologist and above information is taken into consideration? Yes No
Medical Practitioner name:
Signed: Date:
Please fax back to the Exercise Physiologist on: (insert your fax number)

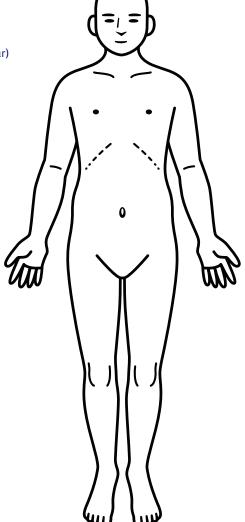
## **Attachment 6. Exercise physiology (oncology assessment form)**

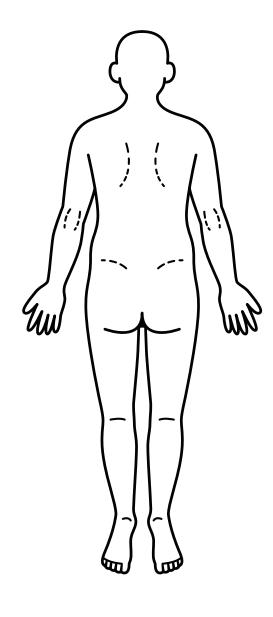
UR number	DOB	Age
Surname	Main treating practitioner	
Given Names		
Client name		
Date of Initial Assessment	Date of Re-assessment	
Cancer situation summary		
Considerations		
(identified from ParQ & referral)		

### **MUSCULOSKELETAL CONSIDERATIONS**

Mark the following:

- Bone mets (circle)
- PN (dots)
- Surgical incisions (scar)
- Joint pain (lines)
- Lymphedema (rings)
- Ports (cross)





## **LIFESTYLE QUESTIONS INITIAL AX** RE-AX Medications Sleep amount & quality Diet/caffeine/water Alcohol consumption Smoker Weight gain/loss Social support/ family situation Work situation Continence **EXERCISE HISTORY** TYPE/INTENSITY/FREQUENCY/DURATION **Current Exercise** Pre-cancer exercise **OUTCOME MEASURES INITIAL AX RE-AX** Date Time of Day Tester **GENERAL MEASUREMENTS INITIAL AX** RE-AX Weight (kg) Height (cm) & BMI: (kg/m²) Resting BP (mmHg) RHR (bpm) Resting Oxygen Saturation %

Notes

CARDIOVASCULAR	INITIAL	. AX						RE-AX					
6-minute walk test	1	2	3	4	5	6		1	2	3	4	5	6
BORG rating													
Heart rate													
O2 Sats													
Total distance covered													
Recovery HR 1 min post													
Recovery HR 2 mins post													
Notes													
GIRTHS (CM)	INITIAL	ΔX						RE-AX					
Waist													
Hips							$\exists$						
Thigh (15cm above patella)	R			L			$\exists$	R			L		
Calf (largest circumference)	R			L			$\exists$	R			L		
Upper Arm (mid point)	R			L			$\overline{\ }$	R			L		
Forearm (breast only)	R			L			$\overline{\ \ }$	R			L		
Wrist (breast only)	R			L				R			L		
Notes													
													·
STRENGTH /FUNCTION													
STRENGTH/FUNCTION	INITIAL	.AX						RE-AX					
Grip Strength	R		L		RATINO	G:		R		L		RATIN	G:
Dynamometer (kg)					DATING		$\neg$					D.A.T.IN.I	
30 second sit to stand					RATINO		$\dashv$					RATINO	
Seated Row 1RM					RATINO	i:						RATINO	3:
Modified Max Push up (use precaution)					RATING	i:						RATING	G:
Timed up & Go	1	2	3	3	RATING	:		1	2		3	RATING	i:

BALANCE				
	INITIAL AX		RE-AX	
Single leg stance eyes closed	R L		R	L
Single leg stance eyes open	R L		R	L
Four Square Step Test	Trial 1		Trial 1	
	Trial 2		Trial 2	
ROM	INITIAL AX		RE-AX	
Shoulder Flexion	R L		R	L
Shoulder Abduction	R L		R	L
QUESTIONNAIRE	INITIAL AX		RE-AX	
FACT-G				
FACT-F (Fatigue)				
(radgue)				
LATEST TEST RESULTS				
	DATE/RESULT	DATE/RESULT		DATE/RESULT
PET scan results				
Bone density				
Blood test results				
Bladder Leakage volume				
GOAL SETTING	. (10	DD 4 CTITIONI	FD COAL C	
	out of 10 as to how important it is)	PRACTITION	ER GUALS	
Short term and specific goals	RATING			
Identific barriers to achieving	goals RATING			
Identify barriers to achieving	godis RATING			
Identify motivators and oppo	rtunities			
to achieve goals	RATING			

## **EXERCISE PRESCRIPTION & PLAN**

	TYPE/INTENSITY/DURATION/FREQUENCY
Cardiovascular	
Strength	
Balance	
Flexibility	
Agility	
Impact	

## **Attachment 7. Normative data for assessments**

a) Blood Pressure

e) Grip Strength

i) Four Square Step Test

b) 6MWT

f) 30 second sit to stand

j) Shoulder Range of Movement

c) Waist Circumference

g) Seated Row 1RM

k) Timed Up & Go

d) Waist to Hip Ratio

h) Modified Push Up test

l) Single Leg Stance

#### **A. BLOOD PRESSURE**

## Table 1. Mean Balance Scores for healthy adults

Diagnostic Category	Systolic (mm Hg)	Diastolic (mm Hg)
Normal	< 120	< 80
High-normal	120-139	80-89
Grade 1 (mild) hypertension	140-159	90-99
Grade 2 (moderate) hypertension	160-179*	100-109*
Grade 3 (severe) hypertension	>/ 180*	>/ 110*

## B. 6MWT

**Healthy Men:** 580m – 630m

**Healthy Women:** 500m

## **C. WAIST CIRCUMFERENCE**

Table 2. Criteria for waist circumference in adults

Risk Category	Women (cm)	Men (cm)
Very Low	< 70	< 80
Low	70 – 89	80 – 99
High	90 – 109	100 – 120
Very High	> 110	> 120

### **D. WAIST TO HIP RATIO**

Table 2. Criteria for waist circumference in adults

	Excellent	Good	Average	High	Extreme
Males	< 0.85	0.85 – 0.90	0.90 – 0.95	0.95 – 1.00	> 1.00
Females	< 0.75	0.75 – 0.80	0.80 - 0.85	0.85 – 0.9	> 0.90

## **E. GRIP STRENGTH**

Table 4. Grip strength normative values

Age		Males	
10-11	< 12.6	12.6-22.4	> 22.4
12-13	< 19.4	19.4-31.2	> 31.2
14-15	< 28.5	28.5-44.3	> 44.3
16-17	< 32.6	32.6-52.4	> 52.4
18-19	< 35.7	35.7-55.5	> 55.5
20-24	< 36.8	36.8-56.6	> 56.6
25-29	< 37.7	37.7-57.5	> 57.5
30-34	< 36.0	36.0-55.8	> 55.8
35-39	< 35.8	35.8-55.6	> 55.6
40-44	< 35.5	35.5-55.3	> 55.3
45-49	< 34.7	34.7-54.5	> 54.5
50-54	< 32.9	32.9-50.7	> 50.7
55-59	< 30.7	30.7-48.5	> 48.5
60-64	< 30.2	30.2-48.0	> 48.0
65-69	< 28.2	28.2-44.0	> 44.0
70-99	< 21.3	21.3-35.1	> 35.1

Females					
	remules				
< 11.8	11.8-21.6	> 21.6			
< 14.6	14.6-24.4	> 24.4			
< 15.5	15.5-27.3	> 27.3			
< 17.2	17.2-29.0	> 29.0			
< 19.2	19.2-31.0	> 31.0			
< 21.5	21.5-35.3	> 35.3			
< 25.6	25.6-41.4	> 41.4			
< 21.5	21.5-35.3	> 35.3			
< 20.3	20.3-34.1	> 34.1			
< 18.9	18.9-32.7	> 32.7			
< 18.6	18.6-32.4	> 32.4			
< 18.1	18.1-31.9	> 31.9			
< 17.7	17.7-31.5	> 31.5			
< 17.2	17.2-31.0	> 31.0			
< 15.4	15.4-27.2	> 27.2			
< 14.7	14.7-24.5	> 24.5			

## F. 30-SEC SIT TO STAND FEMALES

Table 5. Normative date for females aged 60-94 years

Percentile				Age			
rank	60-64	65-69	70-74	75-79	80-84	85-89	90-94
95	21	19	19	19	18	17	16
90	20	18	18	17	17	15	15
85	19	17	17	16	16	14	13
80	18	16	16	16	15	14	12
75	17	16	15	15	14	13	11
70	17	15	15	14	13	12	11
65	16	15	14	14	13	12	10
60	16	14	14	13	12	11	9
55	15	14	13	13	12	11	9
50	15	14	13	12	11	10	8
45	14	13	12	12	11	10	7
40	14	13	12	12	10	9	7
35	13	12	11	11	10	9	6
30	12	12	11	11	9	8	5
25	12	11	10	10	9	8	4
20	11	11	10	9	8	7	4
15	10	10	9	9	7	6	3
10	9	9	8	8	6	5	1
5	8	8	7	6	4	4	0

## **30-SEC SIT TO STAND MALES**

Table 6. Normative data for males aged 60-94 years

Percentile	Age						
rank	60-64	65-69	70-74	75-79	80-84	85-89	90-94
95	23	23	21	21	19	19	16
90	22	21	20	20	17	17	15
85	21	20	19	18	16	16	14
80	20	19	18	18	16	15	13
75	19	18	17	17	15	14	12
70	19	18	17	16	14	13	12
65	18	17	16	16	14	13	11
60	17	16	16	15	13	12	11
55	17	16	15	15	13	12	10
50	16	15	14	14	12	11	10
45	16	15	14	13	12	11	9
40	15	14	13	13	11	10	9
35	15	13	13	12	11	9	8
30	14	13	12	12	10	9	8
25	14	12	12	11	10	8	7
20	13	11	11	10	9	7	7
15	12	11	10	10	8	6	6
10	11	9	9	8	7	5	5
5	9	8	8	7	6	4	3

## **G. SEATED ROW 1RM**

Table 7. Normative data for seated row male and female

Age Range	Male (kg)	Female (kg)
65-69	65 ± 16.2	40.1 ± 8.4
70-74	60.6 ± 15.2	38.5 ± 6.9
75+	51.4 ± 13.9	37.7 ± 10.6

### H. MODIFIED PUSH UP TEST

Table 8. Standard scores for the Push Up Test and the Modified Push Up Test

Rating	Age (years)						
Kutilig	65-69	70-74	75-79	80-84	85-89		
	F	Push Up Test (nu	mber completed	<del>l</del> )			
Excellent	>54	>44	>39	>34	>29		
Good	45-54	36-44	30-39	25-34	20-29		
Average	35-44	25-34	20-29	15-24	10-19		
Fair	20-34	15-24	12-19	8-14	5-9		
Poor	<20	<15	<12	<8	<5		
	Modif	fied Push Up Tes	t (number comp	leted)			
Excellent	>48	>39	>34	>29	>19		
Good	34-48	25-39	20-34	15-29	5-19		
Average	17-33	12-24	8-19	6-14	3-4		
Fair	6-16	4-11	3-7	2-5	1-2		
Poor	<6	<4	<3	<2	<1		

## I. FOUR SQUARE STEP TEST

<15 Seconds: Not at risk for falls
>15 Seconds: At risk for multiple falls

## J. SHOULDER RANGE OF MOVEMENT

**Flexion:** 180 degrees **Abduction:** 180 degrees

### K. TIMED UP & GO

Table 9. Age-Gender norms for the 3m (10ft) Timed Up and Go Test

		Age						
Percentile rank	71-75	years	76-80	years	81-85	years	86-99	years
	М	F	М	F	М	F	М	F
95	13.3	15.0	14.3	18.6	19.5	20.0	21.0	22.0
90	11.0	14.0	13.6	15.2	14.0	17.6	18.2	19.6
80	10.0	13.0	11.0	13.0	13.0	15.0	13.8	16.0
70	9.0	12.0	10.0	12.0	12.0	14.2	12.0	15.0
60	9.0	11.0	10.0	11.0	10.0	12.0	11.2	13.8
50	8.0	10.0	9.0	10.0	9.0	12.0	11.0	12.0
40	8.0	10.0	8.0	9.4	8.0	11.0	10.6	12.0
30	7.0	9.0	7.0	9.0	8.0	10.0	8.1	10.4
20	7.0	9.0	7.0	8.0	8.0	10.0	7.4	9.8
10	6.4	7.5	7.0	6.6	7.0	8.0	6.7	9.0
5	5.7	7.0	6.0	5.8	6.0	8.0	6.0	9.0
1	5.0	6.0	5.0	5.0	5.0	8.0	6.0	9.0

## L. SINGLE LEG STANCE

Table 9. Age-Gender norms for the 3m (10ft) Timed Up and Go Test

Age & Gender Groups	Eyes Open	Eyes Open	Eyes Closed	Eyes Closed
	Best of 3	Mean	Best	Mean
<b>18-39</b> Female (n = 44) Male (n = 54) Total (n = 98)	45.1 (0.1)	43.5 (3.8)	13.1 (12.3)	8.5 (9.1)
	44.4 (4.1)	43.2 (6.0)	16.9 (13.9)	10.2 (9.6)
	44.7 (3.1)	43.3 (5.1)	15.2 (13.3)	9.4 (9.4)
<b>40-49</b> Female (n = 47) Male (n = 51) Total (n = 98)	42.1 (9.5)	40.4 (10.1)	13.5 (12.4)	7.4 (6.7)
	41.6 (10.2)	40.1 (11.5)	12.0 (13.5)	7.3 (7.4)
	41.9 (9.9)	40.3 (10.8)	12.7 (12.9)	7.3 (7.0)
<b>50-59</b> Female (n = 50) Male (n = 48) Total (n = 98)	40.9 (10.0)	36.0 (12.8)	7.9 (8.0)	5.0 (5.6)
	41.5 (10.5)	38.1 (12.4)	8.6 (8.8)	4.5 (3.8)
	41.2 (10.2)	37.0 (12.6)	8.3 (8.4)	4.8 (4.8)
60-69 Female (n = 50) Male (n = 51) Total ( n = 101)	30.4 (16.4) 33.8 (16.0) 32.1 (16.2)	25.1 (16.5) 28.7 (16.7) 26.9 (16.6)	3.6 (2.3) 5.1 (6.8) 4.4 (5.1)	2.5 (1.5) 3.1 (2.7) 2.8 (2.2)
<b>70-79</b> Female (n = 45) Male (n = 50) Total (n = 95)	16.7 (15.0)	11.3 (11.2)	3.7 (6.2)	2.2 (2.1)
	25.9 (18.1)	18.3 (15.3)	2.6 (1.7)	1.9 (0.9)
	21.5 (17.3)	15.0 (13.9)	3.1 (4.5)	2.0 (1.6)
<b>80-99</b> Female (n = 22) Male (n = 37) Total (n = 59)	10.6 (13.2)	7.4 (10.7)	2.1 (1.1)	1.4 (0.6)
	8.7 (12.6)	5.6 (8.4)	1.8 (0.9)	1.3 (0.6)
	9.4 (12.8)	6.2 (9.3)	1.9 (1.0)	1.3 (0.6)
Total (all ages) Female (n = 258) Male (n = 291) Total (n = 549)	33.0 (16.8)	29.2 (17.4)	7.7 (9.6)	4.7 (6.0)
	33.8 (17.1)	30.2 (17.7)	8.2 (10.8)	4.9 (6.4)
	33.4 (16.9)	29.8 (17.5)	8.0 (10.3)	4.9 (6.2)

## **Attachment 8. Exercise Physiology Assessment Report**

(Template)

Date

Dear Dr Address

#### Re: Name, Address & DOB

Thank you for referring the above client to the Supportive Care Cancer Survivorship Program. An exercise physiology assessment was performed on (insert date) at (insert location) in order to devise the most appropriate exercise rehabilitation program to achieve the goals outlined below. The results of this assessment are as follows.

### **History**

(Cancer treatment side effects, previous exercise, current exercise, sleep, employment status, social support – anything relevant, but keep it brief)

#### **GENERAL MEASUREMENTS INITIAL AX** RE-AX Weight (kg) Height (cm) & BMI: (kg/m²) Resting BP (mmHg) RHR (bpm) Resting Oxygen Saturation % **CARDIOVASCULAR INITIAL AX** RE-AX 2 3 4 5 6 1 2 3 5 6-minute walk test Heart rate O2 Sats Recovery HR 2 mins post STRENGTH/FUNCTION **INITIAL AX RE-AX** L **RATING:** R L **RATING: Grip Strength** Dynamometer (kg) **RATING: RATING:** 30 second sit to stand **RATING: RATING:** Seated Row 1RM Modified Max Push up **RATING: RATING:** (use precaution) 3 **RATING: RATING:** Timed up & Go

BALANCE	INITIAL AX	RE-AX				
Single leg stance eyes closed	R L	R L				
Single leg stance eyes open	R L	R L				
Four Square Step Test	Trial 1	Trial 1				
	Trial 2	Trial 2				
ROM						
	INITIAL AX	RE-AX				
Shoulder Flexion	R L	R L				
Shoulder Abduction	R L	R L				
QUESTIONNAIRE						
	INITIAL AX	RE-AX				
FACT-G						
FACT-F (Fatigue)						
CLIENT GOALS (Include rating out of 10 as to how important it is)  Short term and specific goals  Identify barriers to achieving goals  RATING  Identify motivators and opportunities to achieve goals  RATING						
Assessment summary						
(Outline of assessment and any significant or contradictory findings.)						
(Client name) will be participating in an 8 week supervised exercise group as part of the Supportive Care Cancer Survivorship Program. This program also includes education sessions on topics such as fatigue, nutrition, relationships, and finances. The exercise component of the program includes a 1 hour supervised session per week and a complementary home program that aims to achieve the specific goals above, while taking the following considerations into account:						

(List considerations)

If you would like any further information on this program or have anything to contribute, please contact me on: (phone number and email address)

Kind regards, EP's signature, name, quals etc.

Cc:

## **Attachment 9. Exercise Prescription Contraindications and Considerations**

Consideration	What to avoid	Px
Bone Metastases	Rotation under load. Impact loading.	Prescribe exercise to avoid met.
Surgical scarring	Loading scar area too soon	Ax ROM of area Gradually restore ROM
Skin irritation	Clothes or activities that rub the area.	
Joint issues Tendinopathies OA & RA Arthralgia	Misalignment of joint under load. Avoid overload/overuse Minimise inflammation	Gently stretch & strengthen surrounding structures for support
Central Port	No upper body work in first 3 weeks or when attached to chemo agent.	No limits after first 3 weeks – unless it is attached to line.
PICC line	Compression and excessive load	
Severe anaemia	Delay exercise	
Low RBC/anaemia	Exercise at light level as tolerate – don't push	Low intensity. Exercise to tolerance. Allow longer rest periods. Use o2 sats monitor.
Low neutrophils/other WBC/compromised immune system	Avoid public pools/gyms or other areas of high infection risk. Don't exercise at high intensities for long periods of time.	Exercise to tolerance. Always wipe equipment and hands.
Peripheral Neuropathy	Falls. Dropping free weights if in hands.	
Fatigue		Exercise to tolerance and recovery If severe, focus on gentle stretching/ROM exercises.
Low Bone Density	Avoid falls & trip hazards	Aim to gradually load bones and progress to impact loading if tolerated. Improve balance
Weak pelvic Floor	Avoid strain, jumping, bearing down movements	Work on improving PF function & transferring contraction to functional movements.
Poor Balance	Avoid falls & trip hazards	Gradually challenge balance in safe way. Minimise risk.
Current Chemotherapy	Heart rate will be elevated. Do not over exert.	Adjust program according to where they are in cycle and how they are responding. Ax HR response. Use HR BORG as guide

Vomiting & Diarrhoea	Don't push through fatigue	Exercise to tolerance Replenish salts and other minerals.
Dizziness	Avoid falls.	Lay down if need be. Change posture slowly. Ensure they are well hydrated and fed.
Radiation treatment	Avoid Chlorine and rubbing the irritated skin with clothes or movement. Avoid UV light.	Gentle ROM to maintain function of radiated area.
Lymphoedema	Doing too much too soon may cause micro trauma, thus exacerbating.	Start low, progress slow. Aerobic and resistance exercise are both safe. Water exercise is useful in relieving symptoms.

## **Attachment 10. Exercise Oncology Tracking Sheet**

Client Name				Cancer situation							
Contraindications/considera	tions		Go	als							
(Progression of the program i	s entirely on an indivi	dual basis and up to t	the clinical discretion	of the EP)							
	We	eks 1-3 Light – Mode	erate		Weeks 7-8 Moderate to vigorous						
Week	1	2	3	4	5	6	7	8			
Date	1 1	/ /	/ /	1 1	/ /	/ /	/ /	1 1			
Notes How are you feeling? Home program?											
RHR											
R o2 sat	%	%	%	%	%	%	%	%			
Balance											
Static											
Dynamic											
Use as a warm up Leg swings etc.											
Cardiovascular		15-25 mins moderate		20 – 25 mir	ns mod + 5 mins intervo with 40 sec recovery	ıls 20 sec X 5	20-25 mins mod 30 sec on	. +5-10 intervals 30 sec off			
Bike – Level											
Bike – Mins											
HR & O2 sat	%	%	%	%	%	%	%	%			
BORG											
Treadmill- pace											
Treadmill -time											
HR & o2 sat	%	%	%	%	%	%	%	%			
BORG											

Strength	(Ir	1-2 sets 12-15 reps n grey as suggested onl	y.)	1 set 15	5, 1 set 10 reps heavier	1 set 12 reps, 1 set 10 reps 1 set at 8 reps – progressively heavier weight		
Upper								
W/R	x 15 x 12	x 15 x 12	x 15 x 12	x 15 x 10	x 15 x 10	x 15 x 10	x 12 x 10 x 8	x 12 x 10 x 8
Lower								
W/R	x 15 x 12	x 15 x 12	x 15 x 12	x 15 x 10	x 15 x 10	x 15 x 10	x 12 x 10 x 8	x 12 x 10 x 8
Upper								
W/R	x 15 x 12	x 15 x 12	x 15 x 12	x 15 x 10	x 15 x 10	x 15 x 10	x 12 x 10 x 8	x 12 x 10 x 8
Lower								
W/R	x 15 x 12	x 15 x 12	x 15 x 12	x 15 x 10	x 15 x 10	x 15 x 10	x 12 x 10 x 8	x 12 x 10 x 8
Strength								
Quads								
Hamstrings								
Calves								
Gluts								
Chest								
Lumbar								
Other								
Overall BORG								

Comments	 	 	 	 	 	

# Attachment 11. Exercise Oncology Information Sheet – When should I stop exercising?

## 1. When should I stop exercising and go and see my doctor?

If you experience any of the following that are not normal for you, please notify your Exercise Physiologist and see your doctor.

- Shortness of breath at rest or with a small amount of exertion
- Flare up of lymphedema symptoms
- Chest pain, irregular heartbeat, palpitations
- Unusual swelling in ankles, face, neck, or arms
- Seizures
- Headaches
- Sudden loss of appetite and fatigue
- Fatigue level of 10/10
- Haemoglobin levels are low
- Sudden onset of nausea during exercise
- Bone pain
- Unusual back pain
- Fever temperature of above 38°C
- · Chills/shakes
- Infection
- Severe diarrhoea or vomiting
- Unusual leg pain or cramps and bruising
- More than a 10% unintentional loss of body weight
- If there is a change in appearance, size, shape, or feel at original cancer site
- Lower abdominal bloating, cramping, pressure and difficulty urinating

### 2. Monitoring my Exercise Intensity

Your Exercise Physiologist will prescribe the appropriate Exercise Intensity for you. You can monitor this intensity either via your heart rate, your perceived rate of exertion or your blood oxygen saturation levels.

Signs that you may be exercising too hard when your oxygen levels are low (anemia) include:

- Fatigue
- Shortness of breath
- · Leg cramping
- Exercise intolerance
- Light-headedness or dizziness
- · Rapid heart rate
- Gait disturbance
- Tingling or numbness in arms or legs

Signs that you are over-exerting if your blood platelet levels are low include:

- Bleeding from your gums, mouth, nose, or ears, or in the whites of your eyes
- Easy bruising
- Blood in your urine, stool, or both
- Excessive menstrual bleeding

Take the precautions listed below to help prevent bleeding:

- Avoid forceful blowing of your nose.
- Avoid holding your breath during exercise or while having a bowel movement.
- Be very aware of your surroundings to avoid falls, cuts, or bumping into objects.
- Do not lift weights; do not carry or move heavy objects.
- If you feel weak or unsteady, use appropriate support (for example, a walker or cane), and do not get out of bed without someone to help you.

## **Attachment 12. Exercise Intensity Guidelines**

Exercise Intensity can be measured by your heart rate, your perceived rate of exertion, talk test or oxygen saturation levels. Your Exercise Physiologist will help you put these measures into practice.

### **Definition of "Moderate activity"**

Your target heart rate range for moderate

- Borg Rate of Perceived Exertion scale (it ranges from 6 to 20, where 6 means "no exertion at all" and 20 means "maximal exertion.")
  - Moderate exertion is around 12 14 on the Borg Scale.
- 50 70% of max heart rate (Max HR is 220 minus your age).
- Talk test. Breathing rate is such that you can talk, but not sing.

For example: walking, hiking, biking, swimming, dancing, gardening, housework.

#### **Definition of "Vigorous activity"**



- Borg Rate of Perceived Exertion scale (it ranges from 6 to 20, where 6 means "no exertion at all" and 20 means "maximal exertion.")
  - Vigorous excursion is around 15 18 on the Borg Scale.
- 70 90% of max heart rate (Max HR is 220 minus your age).
- Talk test. Breathing rate is such that you cannot hold a conversation
- You sweat

For example: jogging/running, cycling, hard swimming.

### **Oxygen Saturation Levels**

Measured with a finger pulse oximeter.

- Sp02 of > 95% is normal
- Sp02 on < 92% is low and requires medical attention.

	2000
BOR	RGSCALE
6	No exertion at all
7	Extremely light
8	
9	Very light
10	
11	Light
12	
13	Somewhat hard
14	
15	Hard (heavy)
16	
17	Very Hard
18	
19	Extremely hard
20	Maximal Exertion

© Gunnar Borg 1985

The Borg scale is simple to understand and very userfriendly. However, to use it effectively, it is necessary to adhere to the standard guidelines in measuring perceived exertion.

These guidelines are:

- 1. It should be clear to either the client, patient, or athlete that perceived exertion is a method to determine the intensity of effort, strain, and/or discomfort that is felt during exercise;
- 2. The range of sensations must correspond to the scale. For example, number 6 should be made in reference to the feelings during rest, whereas number 20 should refer to the maximal level of exertion.

## Attachment 13. Exercise Physiology Re-assessment Report

(Template)

Date					
Dear Dr Address					
Re: Name, Address & D	ОВ				
I performed an Exercise					
participation in the Sup	portive 5	urvivorsi	np Care	Program	. The spe
_					
The results of this re-ass	essment	t are as fo	ollows:		
GENERAL MEASUREMENTS					
OLIVERAL MEASOREMENTS	INITIAL	L AX			
Weight (kg)					
Height (cm) & BMI: (kg/m²)					
Resting BP (mmHg)					
RHR (bpm)					
Resting Oxygen Saturation	%				
CARDIOVASCULAR					
	INITIAL	L <b>AX</b>			
6-minute walk test	1	2	3 4	4 5	6
Heart rate					
Recovery HR 2 mins post					
STRENGTH/FUNCTION					
STRENGTH/TONCHON	INITIAL	L AX			
Grip Strength	R	L		RATIN	IG:
Dynamometer (kg)					
30 second sit to stand				RATIN	IG:
Seated Row 1RM				RATIN	IG:
Modified Max Push up					
Modified Max Push up (use precaution)				RATIN	IG:

BALANCE				
	INITIAL AX		RE-AX	
Single leg stance eyes closed	R I	-	R	L
Single leg stance eyes open	R	-	R	L
Four Square Step Test	Trial 1		Trial 1	
	Trial 2		Trial 2	
ROM				
	INITIAL AX		RE-AX	
Shoulder Flexion	R I	-	R	L
Shoulder Abduction	R	-	R	L
QUESTIONNAIRE				
	INITIAL AX		RE-AX	
FACT-G				
FACT-F (Fatigue)				
Goals achieved				
-				
-				
-				
Summary of program				
Future recommendations				
What you recommend this to maintain or continue to		the community or at ho	ome. Local resources a	vailable etc. in order
If you would like any furth	er information on this p	rogram, please contact	me on: (phone numbe	r and email address
It is a pleasure being a par			·	
Kind regards,				
EP's signature, name, qua	ls etc.			
Cc:				



