

Toronto Rehab's Experience with Designing and Implementing a Home-Based Model of Care

Cardiac Rehab @ Home Service
Toolkit

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May 2009

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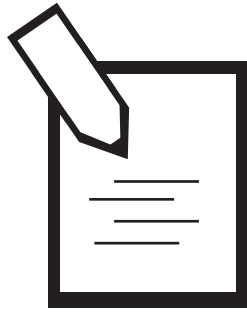
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Developing the Cardiac Rehab @ Home Service

PART I

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PART I

INTRODUCTION

Goal and Rational for Toolkit

This toolkit was developed with the purpose of sharing Toronto Rehab's experience with other Cardiac Rehab Professionals, in the development, evaluation and implementation of a comprehensive cardiac rehabilitation home program called the Cardiac Rehab @ Home Service.

The benefits of cardiac rehabilitation have been well documented showing both a reduction in morbidity and mortality by 20 to 25% and improving functional capacity by 20% in patients completing a program^{1,2,3}. Attendance and dropout rates with traditional onsite programs however are poor, showing regular attendance rates as low as 30-35%^{4,5} and dropout rates as high as 40 to 55%^{6,7}. The importance of access to cardiac rehabilitation services were highlighted in the Ontario Cardiac Rehabilitation Pilot Project which reported that fewer than 20% of the eligible population in Ontario was actually participating in a program⁸. Cardiac rehabilitation home-based programs are an emerging alternative model of care that has been adopted by many centres to help mitigate the issues of poor access, poor attendance and high dropout rates. These alternate programs have been endorsed as an appropriate model of care by the Canadian Association of Cardiac Rehabilitation as outlined in its Guidelines for Cardiac Rehabilitation and Cardiovascular Disease Prevention⁹. Cardiac rehabilitation home programs have proven to produce comparable outcomes to traditional programs^{10,11,12,13} and include similar improvements in exercise capacity, systolic blood pressure, total cholesterol¹¹, body composition¹⁴ and quality of life¹⁵. Cardiac Rehab programs including those at the Ottawa Heart Institute, Hamilton Health Sciences Centre, and many other sites in Ontario, have demonstrated great success in developing and providing home-based programs and have made significant contributions to the field of knowledge.

Toronto Rehab is committed to advancing rehabilitation knowledge through research, education and patient care and therefore decided to respond to local gaps in participation in cardiac rehabilitation by developing the Cardiac Rehab @ Home Service. The goals of the @ Home Service, implemented April of 2007, are to:

- reach individuals currently under-served by an onsite structure, and
- facilitate the development of a different patient-focused program to enhance participation.

The Canadian Institutes of Health Research (CIHR) defines knowledge translation as “a dynamic and iterative process that includes synthesis, dissemination, exchange and ethically sound application of knowledge to improve the health of Canadians, provide more effective health services and products, and strengthen the health care system”¹⁶. In keeping with Toronto Rehab’s mandate to advance rehabilitation knowledge, we have made a commitment to engage in a knowledge translation process around our experience with our Cardiac Rehab @ Home Service. This endeavour has been made possible through an award to Toronto Rehab from the Ministry of Health and Long-Term Care’s *Celebrating Innovations Health Care Expo* in April 2008.



In April of 2008, Toronto Rehab received the Celebrating Innovations Health Care Expo “*Improving Quality and Patient Safety*” award from The Ministry of Health and Long-Term Care for its Cardiac Rehabilitation @ Home Service. From left, Ontario Minister of Health and Long-Term Care George Smitherman presented the award to Kerseri Naidoo, Chantal Graveline, Anne Marie Shin and Dr. Paul Oh.

Overview of Toolkit

This toolkit is designed to share Toronto Rehab’s experience in planning and implementing a comprehensive home-based cardiac rehabilitation program and is divided into three parts:

- Part I: Developing the Cardiac Rehab @ Home Service
- Part II: Delivering Patient Care @ Home
- Part III: Supporting Information and Tools

The first Part contains information about the background and development of the @ Home Service and required human resources, technology and work environment for a successful program. It also includes information regarding research, important evaluative components and ideas regarding expansion of the @ Home Service.

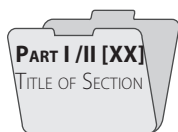
The second Part contains information related to patient care in the @ Home Service and includes topics on patient assessment, patient education and exercise prescription from a distance.

The third Part contains valuable tools and additional information that are essential to the delivery of the @ Home Service including documentation forms, data collection forms, satisfaction surveys and consent forms.

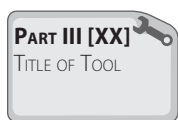
The Cardiac Rehab @ Home Service Patient Workbook accompanies this toolkit, and provides one of the ways in which patients receive education while participating in this program.

Navigating the Toolkit

Similar topics may be covered in several sections of the Toolkit and often build on one another. You will find the following icons in the page margins throughout the Toolkit to alert you to a topic that can be cross-referenced or has a corresponding tool.



The ‘**folder**’ icon directs you to additional information or a more detailed explanation of a particular topic in another **Section** found in **Part I** or **Part II** of the Toolkit, for example **PI [XX]** or **PII [XX]**.



The ‘**tool page**’ icon directs you to a particular form, worksheet, instruction sheet, etc. found in **Part III** of the Toolkit, for example, **PIII [XX]**.

PROGRAM ADMINISTRATION

1

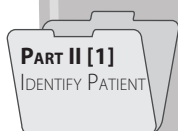
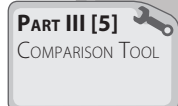
The Cardiac Rehab @ Home Service was designed to provide:

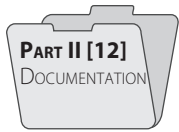
- cardiac rehabilitation services to patients unable to attend an onsite program,
- all aspects of a comprehensive cardiac rehabilitation program, as outlined by the Canadian Association of Cardiac Rehabilitation Guidelines for Cardiac Rehabilitation and Cardiovascular Disease Prevention (9), and
- a case-managed program for patients that facilitates good adherence to the program as well as to lifestyle changes, and achieves patient goals and positive clinical outcomes.

The Cardiac Rehab @ Home Service, like the traditional onsite cardiac rehab program, offers patient education, counseling and exercise to encourage long-lasting lifestyle changes to promote heart health. Through access to a multidisciplinary team of staff, patients work to improve their cardiovascular strength and fitness over a 6 month period.

As with many programs, strong administrative processes are the cornerstone to efficient and effective implementation. Toronto Rehab's Cardiac Rehab @ Home Service is supported by a number of administrative tasks including a well planned referrals process, clear patient entrance criteria, and a strong patient record documentation and management process.

Referrals are an important step in identifying patients who would benefit from a home-based rehab program. Patients in Toronto Rehab's Cardiac Rehabilitation Program can be referred to the @ Home Service by their Family Physician, Cardiologist, Cardiac Surgeon or other Specialist.





Patient care documentation practices at Toronto Rehab comply with legal and regulatory requirements and fulfill several purposes. The documentation:

- provides a record of patient care,
- facilitates continuity and consistency of care,
- supports communication and collaboration among healthcare providers,
- demonstrates accountability,
- supports quality improvement, and
- informs research.

Toronto Rehab's strong administrative processes combined with proven cardiac rehabilitation practices, result in a well run and well received home-based rehab program.

PROGRAM TEAM

Toronto Rehab utilizes the following staff positions when managing patients in its Cardiac Rehab @ Home Service:

Table 1: Cardiac Rehab Staff Positions

Staff Position	Responsibility
Medical Director	Leadership, Clinical Management
Program Manager	Leadership, Program Management
@ Home Service Coordinator*	Program Development & Data Collection
@ Home Cardiac Rehab Supervisor*	Patient Case Manager
Cardiac Technologist	Performs Cardiopulmonary Assessment
Physician	Oversees Cardiopulmonary Assessment
Intake Coordinator	Reviews referrals and coordinates intake
Appointment Assistant	Books cardiopulmonary assessments
Referral Assistant	Processes referrals and prepares patient files

**These positions are specific to the @ Home Service. All other positions are part of the traditional onsite cardiac rehabilitation program.*

Positions Specific to the Cardiac Rehabilitation @ Home Service

As indicated above, there are two unique staff positions in the Cardiac Rehab @ Home Service:

- 1) Cardiac Rehab @ Home Service Coordinator and
- 2) Cardiac Rehab @ Home Service Cardiac Rehab Supervisor.

These positions were developed in the planning stages prior to the design and implementation of the @ Home Service. Both positions have specific requirements and key responsibilities (refer to position descriptions next page).

NOTE: The Cardiac Rehabilitation Supervisor is a role title exclusive to Toronto Rehab. It denotes the same role as a Case Manager.

Cardiac Rehab @ Home Service Coordinator

Candidate Requirements:

- Baccalaureate Degree in a regulated health profession preferred
- ACSM Exercise Specialist certification preferred
- Clinical knowledge of cardiac rehabilitation and prevention
- Excellent clinical assessment and reflective listening skills
- Three years recent Cardiac Rehab experience
- Experience in assessing and coaching patients in an exercise program outreach model is an asset
- Working knowledge of adult learning principles
- Time management skills required to organize, coordinate and consistently oversee large volumes of patients
- Well developed negotiation and conflict resolution skills
- Excellent interpersonal communication skills both written and verbal
- Self directed individual with the ability to work both independently and within a multidisciplinary team
- Good working knowledge of Microsoft office and navigating the internet
- Good attendance is required

Key Responsibilities:

- Leads the development, implementation and evaluation of an outreach / home-based exercise program. This includes but is not limited to developing the intake process, educational information, prescribing and progressing exercise, monitoring, evaluation, scheduling of program and curriculum
- Liaises with community health partners to develop a seamless referral process
- In collaboration with the Intake Coordinator, plans and coordinates patient referrals and admissions to the home-based program
- Responsible for the coordination and case management of patients with cardiac risk factors and/or diagnosed heart disease
- Monitors patient progress on a regular basis and provides frequent coaching and support for optimal patient outcomes
- In conjunction with other members of the multidisciplinary team, ensures consistency in approach and optimum benefit for the patients by assessing, and identifying patient goals, planning, implementing, and evaluating the patient's progress in meeting his/her individual goals
- Maintains pertinent patient care documentation
- Participates, facilitates patient/family education utilizing adult education principles and web-based tools
- Responds to emergencies

Cardiac Rehab @ Home Service Cardiac Rehab Supervisor

Candidate Requirements:

- Baccalaureate Degree in a regulated health profession preferred
- ACSM Exercise Specialist certification preferred
- Wellness Coaching Certificate preferred
- Excellent clinical assessment and reflective listening skills
- Three years recent case management experience in a Cardiac Rehab setting
- Clinical knowledge of cardiac rehabilitation and prevention
- Experience in assessing and coaching patients in an exercise program outreach model is an asset
- Working knowledge of adult learning principles
- Time management skills required to organize, coordinate and consistently oversee large volumes of patients
- Well developed negotiation and conflict resolution skills
- Excellent interpersonal communication skills both written and verbal, performs timely accurate documentation
- Self directed individual with the ability to work both independently and within a multidisciplinary team
- Good working knowledge of Microsoft office and navigating the internet
- Good attendance is required

Key Responsibilities:

- Implements and evaluates an outreach / home-based exercise program. This includes but is not limited to, prescribing and progressing exercise, providing patient education, monitoring, evaluation, scheduling of program and curriculum
- Participates in the development of the home-based program including referral process, intake process, education and program evaluation
- Liaises with community health partners to develop a seamless referral process
- Responsible for the coordination and case management of patients with cardiac risk factors and/or diagnosed heart disease
- Monitors patient progress on a regular basis and provides frequent coaching and support for optimal patient outcomes
- In conjunction with other members of the multidisciplinary team, ensures consistency in approach and optimum benefit for the patients by assessing, and identifying patient goals, planning, implementing, and evaluating the patient's progress in meeting his/her individual goals
- Maintains pertinent patient care documentation
- Participates, facilitates patient/family education utilizing adult education principles and web-based tools
- Responds to emergencies

Staff Time Allocation Per Patient

The Cardiac Rehabilitation Supervisor allocates 885 minutes which is equivalent to 14.75 hours with each patient. **Table 2** provides a breakdown of the program steps and the corresponding time allocation. This breakdown aids program decision makers in determining resource allocations and setting goals for patient volumes.



Table 2: Breakdown of @ Home Service and Time Allocation

Service per Patient for 6 Month Program	Staff Time (minutes)	Frequency	Total Time (minutes)
Pre-Intake - Visit in lab, review file, document patient visit	30	1	30
Intake Preparation - Review file, create trial and care plan	30	1	30
Trial - Document Patient Visit	60	1	60
Resistance Training - Document patient visit	60	1	60
**Telemetry - Document patient visit	60	1	60
Weekly Call Preparation	10	12	120
Weekly Call x12 Weeks - Document call	30	12	360
Monthly Call Preparation	10	3	30
Monthly Call - Document call	30	3	90
Final Cardiopulmonary Assessment - Document patient visit, discuss results (If unable to see patient in lab then this would be a phone call)	45	1	45
Total	885 minutes (or 14.75 hours) per patient for a 6 month program		

Work Environment

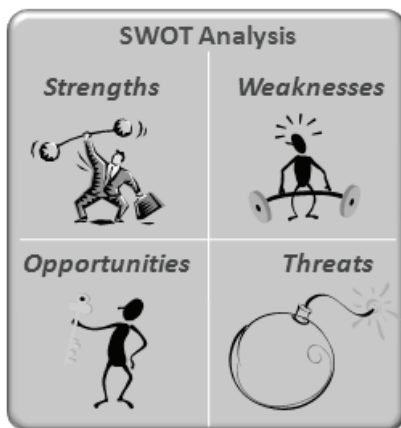
Cardiac Rehabilitation Supervisors spend the majority of their time speaking to patients over the telephone and in one day a Supervisor may schedule up to 14 patients and spend up to 5 hours on the telephone. Cardiac Rehabilitation Supervisors working in the Cardiac Rehab @ Home Service require the following furniture, technology and accommodations for a comfortable and safe work environment:

- desk
- chair
- telephone with an external line
- telephone headset for hands free use to allow for documentation and to reduce neck strain
- computer with Internet and e-mail access, clock to ensure calls are on time and are measured for length
- quiet area to ensure patient confidentiality and the Cardiac Rehab Supervisor's undivided attention



PERFORMANCE MEASURES AND QUALITY INDICATORS

Toronto Rehab recognizes the need for an alternative model of care to reach more patients living with heart disease. Implementing a program requires the proper resources and therefore begins with a formal proposal to the Hospital Board, Local Health Integration Network (LHIN) or Ministry of Health and Long-Term Care outlining the need, rationale, benefits and preliminary plan (including information on capital budgets, staffing and performance targets).



Toronto Rehab prepared such a proposal which included a comprehensive SWOT analysis (Strengths, Weaknesses, Opportunities and Threats). This planning tool was used to understand the strengths, weaknesses, opportunities and threats involved in a project. It allowed the team to specify the objective of the project and identify the internal and external factors that support the goal. This analysis aided Toronto Rehab in making project funding decisions.

Toronto Rehab was able to fund the Cardiac Rehabilitation @ Home Service as a pilot project for the first year. Due to the Service's success in the first year, Toronto Rehab reallocated funding within its Cardiac Rehabilitation Program in order to continue to offer this alternative model of care. Redesign of other services within the Cardiac Rehabilitation Program was required in order to achieve this.

The formal and systematic evaluation of any program is important and guides the team towards sound judgments and decisions about that program. Identifying and evaluating the structure, efficiency and effectiveness of the program allows the translation of findings, into improved practice.

Performance targets for the Cardiac Rehab @ Home Service were developed during the planning stages and included identifying goals and objectives to be achieved quarterly. These targets were to be achieved during the planning stage, the implementation stage and the outcome evaluation stage of the Service. Areas of focus during the Service's first few months included: needs assessments, environmental scans, interviews with other existing programs and development of care, design and marketing. Number of patients enrolled, improvement in functional capacity, patient satisfaction, staff satisfaction and patient adherence to the program were major themes for evaluation of the Service by the end of the first year.



Commitment to evaluating the outcomes listed in the research section of this Toolkit has recently become the focus of evaluation for the Cardiac Rehab @ Home Service.

MARKETING

To date, formal external marketing of the Cardiac Rehabilitation @ Home Service has been deliberately limited. However, as opportunities arise, promotion of the Service may include:

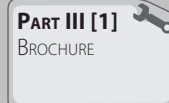
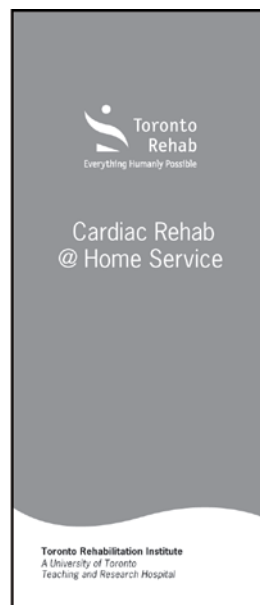
- submitting abstracts to conferences highlighting this alternative model of care,
- attending health fairs to promote cardiac rehabilitation services,
- increasing awareness by word of mouth through patients and professionals.

Future plans for marketing may include:

- adding specific information to Toronto Rehab's Cardiac Rehabilitation Referral Form,
- liaising with physician offices that refer patients to the traditional cardiac rehab program informing them of this home-based service,
- liaising with physician offices in rural areas where cardiac rehabilitation services do not exist and informing them of the service,
- developing relationships with other hospitals or rehabilitation hospitals that do not provide cardiac rehabilitation services, or community agencies.

Some marketing tools that can aid these marketing activities include:

- the Cardiac Rehabilitation @ Home Program Service brochure
- a poster developed for conferences, health fairs, etc. highlighting the rationale for the Service, its purpose as well as clinical outcomes to date






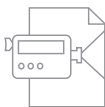
TECHNOLOGY

As outlined earlier, a main goal of the Cardiac Rehab @ Home Service is to provide a case-managed program for patients that ensure good adherence, achievement of patient goals and positive clinical outcomes. Cardiac Rehab @ Home Service Cardiac Rehab Supervisors play key roles in helping to achieve this goal, and the Service could not function without the Supervisor position. Technology is also a major key to the success of this home-based program. It aids Cardiac Rehab Supervisors and their patients in:

- maintaining consistent and clear two-way communication,
- assessing the accuracy of clinical measures such as heart rate,
- providing a venue for delivery of patient education, and
- ensuring there is a fast and easy mode of delivery of information.

The Cardiac Rehab @ Home Service uses the following Technologies:

Table 3: Technologies Used By the @ Home Service

	Item	Reason
	Telephone	To conduct weekly/monthly telephone consultations
	Computer	To view/create documents related to patient care
	Internet	To research, view cardiac rehab program webcasts
	E-mail*	To receive/send e-mails from/to patients (specifically their weekly exercise diary)
	Electronic Scheduler	To book patient's telephone consultations
	Fax*	To receive weekly exercise diaries
	DVDs	To store patient education material for patients to view on their computer
	Heart Rate Monitor	To ensure accuracy of resting and exercise heart rates for patients who struggle to measure their own
	Loop Monitor	To assess ECG (if necessary, patients can wear the loop monitor for 2 weeks)
	Web-Camera	To record patient's technique of exercises (if necessary)

* Consent for Electronic Communication is signed by the patient


RESEARCH

Toronto Rehab is committed to advancing rehabilitation knowledge and best practice and does so through its research. The Cardiac Rehab @ Home Service Team has established a list of important core clinical variables to collect since the program's inception. By collecting and analyzing important outcomes, Toronto Rehab has the potential of contributing to the body of knowledge regarding rehabilitation health services, clinical outcomes, quality of life and best practice guidelines for the home program field. **Table 4** provides a list of variables that are currently being collected by the @ Home Service:

Table 4: Variable Collected by the @ Home Service

Variables
intake date
access to e-mail/Internet
how patients are identified for the @ Home Service
reason for @ Home Service
discharge date, reason for discharge
age, gender
risk stratification
method of submitting exercise diaries
adherence to education modules & telephone consultations
duration of telephone consultations
initial and final (VO ₂ , weight, waist measurement, body fat, Centre for Epidemiological Studies – Depression (CES-D) score, exercise prescription)
nutrition service utilization, psychosocial service utilization
patient satisfaction
visits – resistance training, Telemetry, etc.
number of patients enrolled
dropout rates, reasons for drop outs

A Data Collection form with the above information is completed at the time of the patient's discharge by the patient's Cardiac Rehabilitation Supervisor and is then entered into a spreadsheet.

PART III [3] 
DATA COLLECTION
FORM

To satisfy specific research questions, other variables may be collected depending on the study's methodology.

The variables listed above not only ensure a commitment to increasing the knowledge base for the home service, but also provide Toronto Rehab and its overall cardiac rehab program important information for program evaluation.

Future areas of research for Toronto Rehab include:

- Comparison of adherence to cardiac rehabilitation in two different models of care: the traditional onsite program vs. the home service,
- Comparison of the outcomes and profiles of patients enrolled in the traditional onsite program vs. the home service
- Effective delivery modes of patient education
- Self-efficacy and exercise in two models of cardiac rehabilitation
- Comparison of a coaching model of home-based program vs. a non-coaching model
- Development of alternative models of outreach cardiac rehabilitation services to deal with issues of language, gender and age.

FUTURE DIRECTIONS

7

Toronto Rehab is committed to continue offering the Cardiac Rehab @ Home Service and ensuring the Service:

- is directed towards patients unable to attend a centre-based program
- has all aspects of a comprehensive cardiac rehabilitation program, as outlined by the Canadian Association of Cardiac Rehabilitation Guidelines
- is a case-managed program for patients, to facilitate good adherence to the program as well as to lifestyle changes, achievement of patient goals and positive clinical outcomes

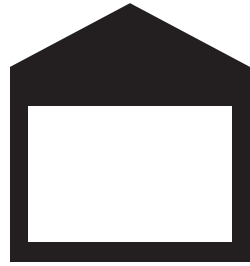
Future goals of the Cardiac Rehab @ Home Service include:

- increasing enrollment of patients
- allocating time and funds towards marketing
- developing and participating in research activities
- collaborating with other community and outreach health facilities
- continuing to enhance the education program
- continuing to evaluate the Service

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Delivering Patient Care @ Home

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PART II

THE @ HOME SERVICE AT A GLANCE

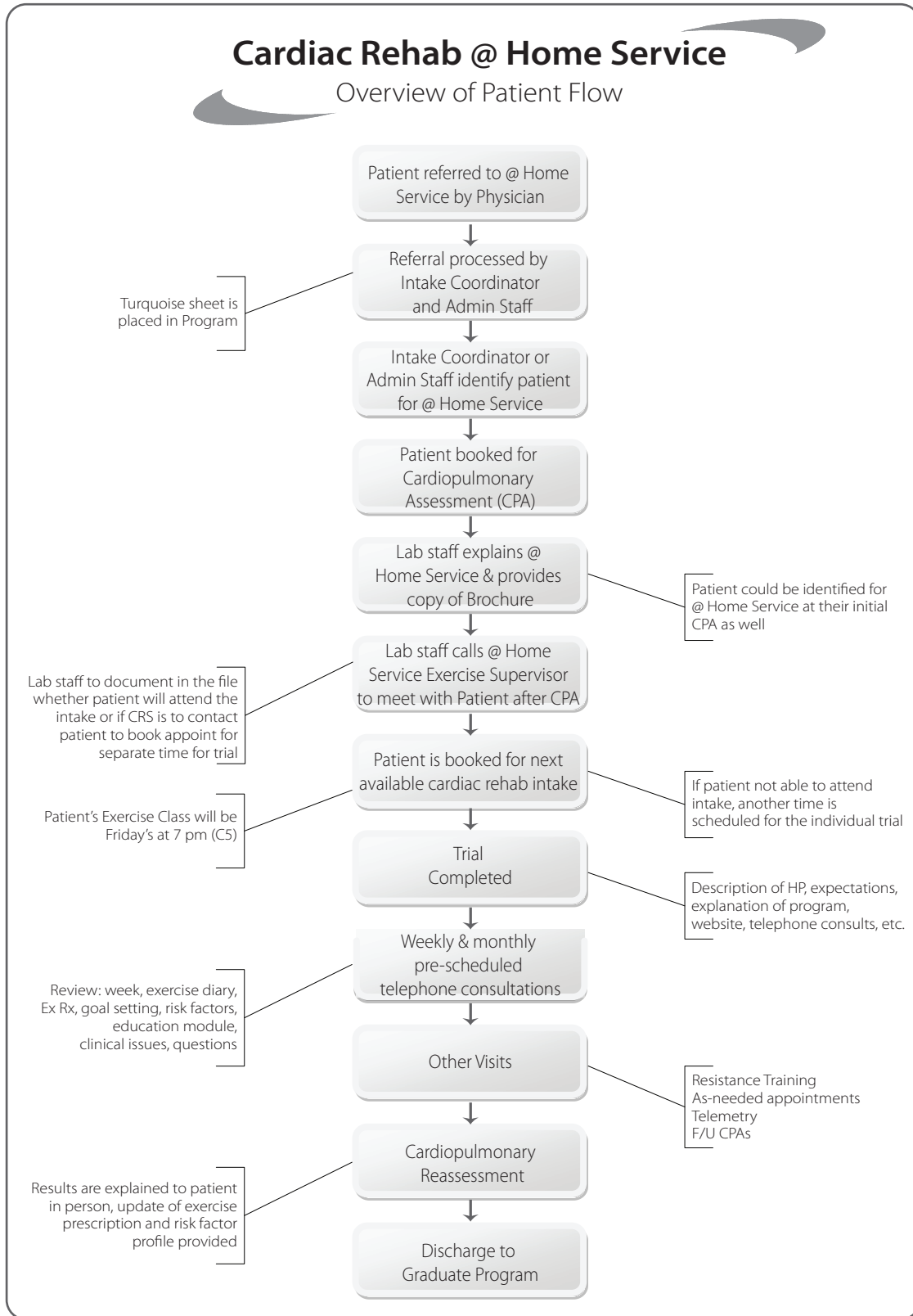
To date the success of Toronto Rehab's Cardiac Rehab @ Home Service is largely due to having clear program procedures that are informed by the well managed and long standing onsite cardiac rehabilitation program.

The @ Home Service involves the following steps or phases:

1. Identify Patient
2. Assess Patient
3. Use Coaching/Counseling Techniques to Support Patient Outcomes
4. Set Goals with Patient
5. Prescribe and Progress Aerobic Exercise Program
6. Prescribe and Progress Resistance Training Program
7. Pre-schedule Patient Telephone Consultations
8. Pre-schedule Patient Onsite Visits
9. Assess Patient Exercise from a Distance
10. Assess Patient Clinical Health from a Distance
11. Conduct @Home Service Rounds with Multidisciplinary Team
12. Maintain Patient Documentation
13. Provide Patient Education
14. Provide Nutrition and Psychosocial Counseling
15. Monitor Patient Adherence to the Program
16. Re-assess Patient
17. Graduate Patient

The following diagram illustrates the patient's flow through the *Cardiac Rehab @ Home Service* beginning with the referral stage and ending with the patient's graduation to Toronto Rehab's *Heart Health for Life Program*.

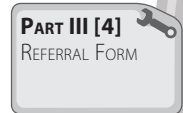
Figure 1: Patient Flow through Cardiac Rehab @ Home Service



IDENTIFY PATIENT

Referral Process

Patients in Toronto Rehab's Cardiac Rehabilitation Program are referred by their Family Physician, Cardiologist, Cardiac Surgeon or other Specialist. A referral form and supporting medical notes are reviewed by the Intake Coordinator in order to determine eligibility for the program and for patient care.



Entrance Criteria

Program eligibility criteria include individuals who:

- Have a history of:
 - Myocardial Infarction
 - Angioplasty
 - Bypass Surgery
 - Valve Disease
 - Valve Surgery
 - Stable Angina
 - Ischaemic Heart Disease
 - Arrhythmia
 - Heart Failure
 - Cardiomyopathy
 - Multiple risk factors for Cardiovascular Disease
- Can exercise independently
- Are motivated

Patients may be identified for the Cardiac Rehab @ Home Service at five occasions during the course of our overall program:

1. When the patient is initially referred to Toronto Rehab. The referral form indicates, by the referring physician, that the patient will require a home-based program.

2. While the patient referral is being processed by Toronto Rehab's referral assistant or intake coordinator. When the patient is contacted to book his/her initial appointments, the traditional onsite program is explained. If patients identify a barrier for participation in the traditional onsite program, the Cardiac Rehab @ Home Service is offered to the patient at this time.
3. During the patient's appointment at Toronto Rehab's Post Surgical Clinic. One of the objectives of this clinic is to ensure cardiac rehabilitation services are implemented for the patient earlier than usual outpatient rehab. Patients are seen in this clinic within 4 weeks of their surgery by a nurse and cardiac surgeon for assessment. Cardiac rehabilitation appointments are facilitated, and identification of patients for the Cardiac Rehab @ Home Service may occur.
4. During the patient's initial assessment. When patients receive an overview of the expectations of the onsite program, they may identify a barrier for participation. At this time the Cardiac Rehab @ Home Service is offered to the patient.
5. Within one month of participating in the traditional onsite program. Patient's attendance patterns are identified as being an issue by the Cardiac Rehabilitation Supervisor and the Cardiac Rehab @ Home Service is offered to the patient to help facilitate better participation.



Patients who are considered high risk or have a complicated medical history are presented in Home Program Rounds to discuss suitability for the program.

ASSESS PATIENT

The assessment of patients in a cardiac rehabilitation program is essential to ensure safe, appropriate and optimal care. In the Cardiac Rehab @ Home Service, assessment of the patient occurs through various mediums.

Cardiopulmonary Assessment

Patients attend the centre for an initial assessment where a medical exam, anthropometric measurements, 12-lead ECG and cardiopulmonary assessment are performed. The cardiopulmonary assessment is completed on either a cycle ergometer or treadmill using graded exercise protocols. VO_2 testing, (analyzing oxygen consumption), is utilized to determine the patient's cardiovascular fitness for aerobic exercise prescription and progression.

An assessment report to all referring Physicians regarding the results of the test is sent out. Here, the Physician is informed that the patient has chosen to participate in the @ Home service.

PART III [13]
ASSESSMENT LETTER



Home Service Patient Interview

The Cardiac Rehab @ Home Service Coordinator speaks with each patient who has been identified for the Cardiac Rehab @ Home Service. This takes place in person at the time of the patient's initial assessment or by telephone. The following information is exchanged during the interview:

- The Coordinator explains the program and the patient identifies the reason for participating in the home service
- The patient confirms his/her access to e-mail/fax
- The patient confirms availability for an onsite orientation session

Initial Aerobic Exercise Prescription and Care Plan

Once patients have completed their initial assessment, the Cardiac Rehabilitation Supervisor assigned to the patient reviews his/her file and develops an initial trial exercise prescription and care plan based on the patient's medical history, cardiopulmonary assessment and risk factor profile. A progressing and training heart rate is prescribed as well as a precise intensity depending on the mode of exercise (e.g., walk 1 mile in 18 minutes or cycle at 70 RPM for 20 minutes). An exercise trial occurs when the patient attends his/her orientation session.



Orientation

All patients in the Cardiac Rehab @ Home Service are scheduled (and expected) to attend an orientation session which includes:



- an introduction and welcome to Toronto Rehab's Cardiac Rehabilitation Program
- a lecture on exercise safety, exercise prescription and an orientation to the centre
- an exercise trial
- a panel discussion with Toronto Rehab's multidisciplinary team (Physician, Cardiac Rehabilitation Supervisor, Dietitian, Psychologist, Social Worker) and an opportunity to ask questions
- a meeting with his/her Cardiac Rehabilitation Supervisor

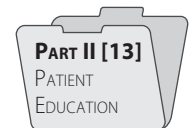
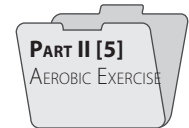
Aerobic Exercise Trial

Prescribing exercise for patients involves the review of their history, goals and cardiopulmonary assessment as well as assessing the patients' performance of the exercise. An exercise trial allows for this individual assessment. Patients are asked to exercise at the intensity prescribed by the Cardiac Rehabilitation Supervisor, as heart rate and rating of perceived exertion is assessed.

Adjustments are made to the aerobic exercise prescription based on the results of the trial and the Cardiac Rehabilitation Supervisor's assessment. Patients are then given a confirmed exercise prescription in writing to complete that week and are asked to record their exercise activities in an exercise diary.

There is great value in having patients who are in the Cardiac Rehab @ Home Service attend the centre for this aerobic exercise trial as it is usually the only time the Cardiac Rehabilitation Supervisor will directly observe patients engaging in their aerobic exercise. This visit:

- Initiates patient-supervisor communication. Patients are given an opportunity to meet their Cardiac Rehabilitation Supervisor, ask questions and develop a positive rapport.
- Ensures patient safety. The trial allows the Cardiac Rehabilitation Supervisor the opportunity to assess body mechanics, breathing, heart rate, blood pressure, perceived exertion and symptoms. The trial also teaches patients about pacing/intensity of exercise and pulse taking.
- Orients patients to the Cardiac Rehab @ Home Service. During orientation, patients can set up their pre-scheduled telephone consultations, sign the Consent for Electronic Communication, identify how they will submit their exercise diaries and learn how to use their Cardiac Rehab @ Home Service Workbook for education.



Telephone Consultations

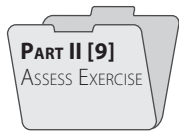
Telephone consultations are used as the primary source of communication with patients enrolled in the Cardiac Rehab @ Home Service. A total of 15 contacts are made with the patient over 6 months. Three months of weekly consultations and three months of monthly consultations are pre-scheduled with each patient.

“*The telephone consultation allowed me individual and direct attention – this was good for me and kept me on track*”.

- Graduate of the Cardiac Rehab @ Home Service

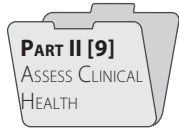


Thirty-minute time blocks are allotted for each patient in the Cardiac Rehabilitation Supervisor's schedule which allows time to prepare for the consultation, complete the consultation and document the consultation in the patient's file.



Preparing for the Telephone Consultation

Prior to the telephone consultation, the Cardiac Rehabilitation Supervisor reviews the notes of the previous consultation, ensures the patient's exercise diary has been received, reviews the diary, prepares questions for the patient and anticipates his/her potential learning needs.

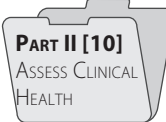
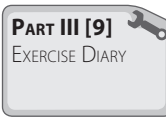
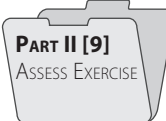
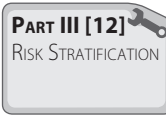
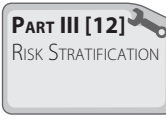
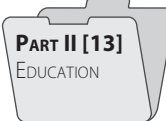



Telephone Consultation Structure

The telephone consultation has a structure which allows sufficient time for the Cardiac Rehabilitation Supervisor to prepare for the call, ensures all aspects of care are complete and provides consistency for the patient. The following chart details each component of the call.



Table 5: Telephone Consultation Structure

Structural Component	Details	
Opening	<ul style="list-style-type: none"> - Ask: "How was your week?" "What went well?" "What was your highlight of the week?" "What did not go well?" "How do you feel today?" - These types of questions allow the Cardiac Rehabilitation Supervisor to assess where the patient is emotionally and physically at the time of the consultation and usually sets the tone of the call. Helps to determine where the direction of the consultation will go. 	
Review of Goals from Previous Week	<ul style="list-style-type: none"> - Determine what the patient would like to focus on during the call as usually a specific issue will arise during this review. 	
Clinical Items	<ul style="list-style-type: none"> - Review the medications, symptoms, hospital visits, doctor's appointments, lab/diagnostic tests completed 	
Review of Exercise Diary Submitted	<ul style="list-style-type: none"> - Ensure the patient's diary was forwarded either via e-mail, fax, and postal mail or discussed verbally. - Assess patient's adherence to the prescribed exercises (e.g., intensity, duration, frequency). - Assess rating of perceived exertion and comments section of diary. 	
Review of Exercise Prescription	<ul style="list-style-type: none"> - Discuss the patient's current exercise prescription 	
Progression of Exercise	<ul style="list-style-type: none"> - Discuss the patient's progression of exercise (duration or intensity) – ensuring some form of progression is occurring at least every two weeks. 	
Risk Factor Review	<ul style="list-style-type: none"> - Review the patient's risk factors based on a risk factor profile. This should be reviewed on a consistent basis. 	
Review of Education Module	<ul style="list-style-type: none"> - Encourage the patient each week, to review a specific education module in his/her Cardiac Rehabilitation @ Home Workbook and if able, to watch the webcast on Toronto Rehab's Website regarding that module. - Encourage the patient to write down his/her questions once a module is reviewed and discuss it during the telephone consultation. - Assess whether the patient has reviewed and comprehend the information, by asking two questions: What was the most important piece of information you learned? Was there any action/step you feel confident and ready to take now, based on the information you learned? 	
Questions	<ul style="list-style-type: none"> - Ensure the patient is asked whether he/she has any questions/concerns that were not covered in the consultation. 	
Set Goals for Next Week	<ul style="list-style-type: none"> - Set goals with the patient for the next week regarding exercise, education, stress management, nutrition, etc. based on what the patient is ready for. 	
Confirmation of Next Telephone Consultation	<ul style="list-style-type: none"> - Ensure the next telephone consultation is set for the following week/month. 	

USE COACHING TECHNIQUES TO SUPPORT PATIENT OUTCOMES

The Cardiac Rehab @ Home Service provides a case-managed program for patients and lifestyle changes and facilitates the achievement of patient goals and positive clinical outcomes.

Through the process of coaching, the Cardiac Rehabilitation Supervisor:

- uses questioning techniques to facilitate behaviour change through the patient's identification of his/her own needs and goals
- facilitates a supportive environment where the patient can move toward his/her goals
- applies counseling techniques to guide patients toward success

“
...the staff never
made me feel bad about
myself, in fact my
spirits were lifted”

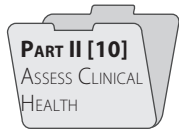
- Graduate of the Cardiac
Rehab @ Home Service

By applying a series of principles for coaching and counseling, Cardiac Rehabilitation Supervisors are able to better facilitate successful communications with their patients. Toronto Rehab chose to adapt principles from the WellCoaches® Coaching Certification Program and Training Manual¹.

Recommended coaching principles

Develop and build a positive rapport with the patient

- Use active listening techniques to provide feedback:
 - Use minimal responses to encourage continued dialogue – “ok”, “yes”
 - Paraphrase what was said – “what I hear you saying is...”
 - Reflection – restate exactly what was said
 - Clarify the patient's statement – “is this what you mean by...”
 - Summarize what was said
 - Use encouragement to reflect back on what was said
 - Avoid cutting off or interrupting
 - Ensure you are non-judgmental in your comments



- Inquire and ask open ended and probing questions at the right time:
 - Close ended questions will provide you with ‘yes’ or ‘no’ responses. Examples: “Did you achieve your goal this week?” “Did you exercise 5 times this week?”
 - Open ended questions provide you with much more detail regarding the patient’s experience. Examples: “How do you think you are doing in reaching this week’s goals?” “Tell me about what went well this week?” “What progress do you think you made this week?”

NOTE: there is an appropriate time to use close ended questions when inquiring about clinical situations where confirmation about symptoms, medications and information about clinical procedures are being collected.

- Reflect on what the patient tells you.
- Guide the consultations based on where the patient wants to go, not where the Cardiac Rehabilitation Supervisor believes the patient should go.

Understand the components of the Transtheoretical Model of Behaviour Change²

- Pre-Contemplation Stage (“I won’t/I can’t” stage)
- Contemplation Stage (“I may” stage)
- Preparation Stage (“I will” stage)
- Action Stage (“I am” stage)
- Maintenance Stage (“I still am” stage)

Use the appropriate counseling techniques for each stage of the Transtheoretical Model of Behaviour Change²

It is important to assess what stage of change the patient is in. This will direct the Cardiac Rehabilitation Supervisor in targeting the appropriate intervention or counseling technique that is most meaningful at that point in time. This is a dynamic process where the patient may fluctuate between stages. Examples of activities appropriate to each stage are described below.

- *Pre-Contemplation Stage:* Provide information including important facts about the benefits/pros of making the behaviour change. This will help to offset the “cons” that the patient focuses on. Help to analyse past failures the patient may have experienced and what he/she learned from these situations.
- *Contemplation Stage:* Identify the pros for change, encourage the patient to talk about the benefits of change, identify with the patient the barriers and challenges he/she might expect to face, develop small cognitive goals with the patient (e.g., gathering information, thinking about what he/she will do).

- *Preparation Stage:* Continue to talk about the motivators for change. Begin to develop coping strategies for the barriers or challenges that could arise. Write down short term goals using behavioural strategies.
- *Action Stage:* Continue to write down goals, develop coping strategies for challenging situations. Have the patient identify possible reward systems.
- *Maintenance Stage:* Develop coping strategies in anticipation of a lapse which may occur, discuss the issue of ‘boredom’ and strategies to overcome it.

NOTE: Verbal persuasion is an important technique in increasing self-efficacy and should be appropriately used in all stages.

Use Counseling Skills

- Discuss the patient’s decisional balance regarding the behaviour change. Decisional balance is about exploring the pros and cons of change and allows the patient to clearly see a comparison of the potential gains and losses for making a change. The balance between the pros and cons will vary depending on which stage of change the patient is in³. Encourage the patient to talk more about the pros to decrease his/her ambivalence about the situation.
- Facilitate the improvement of the patient’s self-efficacy. Self-efficacy is the belief in one’s capabilities to organize and execute the courses of action required to produce a goal⁴. Increasing the level of the patient’s self-efficacy can have a lasting change in behaviour⁵. Discuss what is challenging about the situation, what is getting in the way, what could be done differently or what skills are necessary to learn to help make the behaviour more successful. Guide the patient toward believing he/she can do it.
- Focus on cognitive processes when appropriate (the thinking).
- Focus on behavioural processes when appropriate (the doing).
- Use motivational interviewing skills:
 - Ask open ended questions and encourage the patient to talk more about the pros when exploring decisional balance.
 - Practice reflective listening to ensure you understand the patient’s point of view so he/she feels that you “get them”.
 - Assess importance and confidence for the behaviour change on a scale of 1 to 10 to ensure the patient is ready for change. If importance and confidence is less than 7 out of 10, continue with counseling techniques to increase self-efficacy.



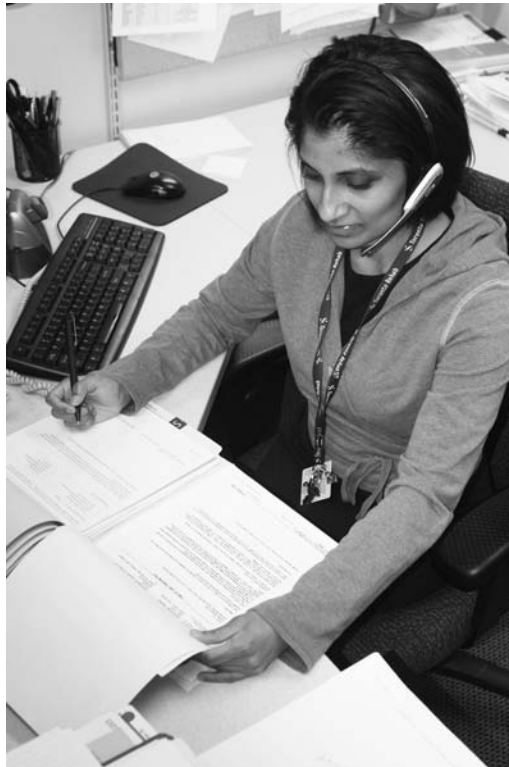
On a scale of 1 to 10, how important is it for you to accomplish this goal?									
1	2	3	4	5	6	7	8	9	10
not very important								very important	
On a scale of 1 to 10, what is your level of confidence in achieving your goal?									
1	2	3	4	5	6	7	8	9	10
not very important								very important	

Pay close attention to non-verbal communication

Although non-verbal communication is difficult to assess in the Cardiac Rehab @ Home Service since assessment and communication is predominantly over the telephone, silence during the conversation can give the Cardiac Rehabilitation Supervisor important information regarding how the patient feels about the issue being discussed.


Remember that you should not be working harder than the patient

Coaching skills are developed and mastered only through practice. It is important to look for the opportunities to use these strategies in all encounters with patients. Remember that listening effectively and asking the right questions will lead the patient to discover his/her own answers.



SET GOALS WITH PATIENTS

Week to week goal setting is an integral part of the Cardiac Rehab @ Home Service and the previously outlined coaching techniques are used on an on-going basis to promote a successful outcome. The following is the structure that is used to ensure that when ready, the patient sets a **SMART** goal. The acronym “SMART” stands for **S**pecific, **M**easurable, **A**ttainable, **R**elevant and **T**imely. SMART goals are written from patients’ perspectives, using language that is understandable to them. **Table 6** describes the components of a SMART goal and is used when educating patients about setting SMART goals.

PART III [7] 
SAMPLE REHAB
GOALS


PART III [6] 
GOAL FORM

Table 6: Components of a SMART goal

S - Specific

With a specific goal, you can clearly see what it is you want to achieve. In making your goal specific it is important that you actually write it down. A more specific goal is more likely to lead to success, and the path to reach it will be shorter.

To determine if your goal is **specific**, ask yourself the questions, “who”, “what”, “why”, “when”, “where”:

- Who is involved?
- What do I want to accomplish?
- Why do I want to accomplish this goal?
- When will this occur?
- Where am I going to do this?

M -Measurable

For a goal to be measurable, you need a way to measure your progress and some specific criteria that will tell you when you can stop and the goal is achieved. Feeling the progress is very important for you to stay motivated and enjoy the process of achieving the goal.

To determine if your goal is **measurable**, ask yourself the questions:

- How will I know if I reached my goal?
- How much?
- How many?

S -Achievable

An achievable goal is a goal for which you see a realistic path to attainment, and reasonable odds that you will get there. This does not mean that the lower you aim the more likely you reach success. It is well known that goals that work best have a challenge in them.

To determine if your goal is **achievable**, ask yourself the questions:

- Am I likely to be able to do what it takes to reach my goal?
- Is this a goal that I can reach?
- Is my goal too difficult to be met?
- Are there any barriers to my success?
- Can I overcome these barriers?

R -Relevant

Make sure to identify a goal that is your personal goal (not someone else's), that is important to you and that you can reach it. The more meaningful your goal is to you the more likely you will want to achieve it.

To determine if your goal is **relevant**, ask yourself the question:

- Is this goal meaningful to me?

T -Timely

Your goal should have a specific time limit.

To determine if your goal is **specific**, ask yourself the questions:

- Have I given myself a reasonable amount of time to reach the goal?
- What kind of time frame should be used?

NOTE: It is an appropriate time to explore and assess the level of confidence that patients have to pursue their goals when discussing the achievable components of their goals as well as the level of importance they place on their goals when discussing the relevance of their goals.



Cardiac Rehabilitation Supervisors help to facilitate the process of setting goals with patients and ensuring that goals are congruent with what patients want to achieve.

“I really appreciated the consultation process and regular communication with my Supervisor who was a great help”.

- Graduate of the Cardiac Rehab @ Home Service

Goal setting for many patients may be a new concept. To facilitate the cognitive process for goal setting, patients are asked to answer the following questions to help them think about the area they would like to focus their attention.

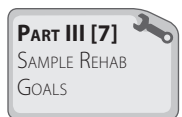
- What would you like to be doing consistently in the future?
- What are you not able to do now that you used to be able to do?
- What would you like to accomplish by the end of the program?
- Are there any behaviours that you would like to modify?
- What are your reasons for wanting to accomplish this goal?

- On a scale of 1 to 10, how important is it for you to accomplish this goal?
- What are the obstacles getting in the way of you accomplishing this goal or behaviour?
- What strategies do you have to overcome these obstacles?
- What are your ideas for ways to reach your goal or change your behaviour?
- What is your level of confidence in achieving your goal?

Both long term goals and short term goals are developed in the program. Regardless of their timeline, consistent re-evaluation of goals is encouraged throughout the program.

Some examples of short term goals set during a telephone consultation might be:

- “I will investigate the hours of the local community centre where there is a walking track this week so that the cold weather will not get in the way of my exercise”.
- “I will try adding flax seed to my cereal in the morning 3 times this week”.
- “I will watch the webcast presentation on risk factors for heart disease before my next call with my Cardiac Rehabilitation Supervisor”.



PRESCRIBE AND PROGRESS AEROBIC EXERCISE

Developed in accordance with the American College of Sports Medicine's Guidelines for Exercise Testing and Prescription⁶.

Participation in a cardiac rehabilitation program allows patients to receive a comprehensive exercise prescription based on their own medical history, cardiovascular fitness level and their personal goals. The aerobic exercise prescription is intended to be specific for a period of time and is expected to be progressed over time in order to achieve cardiovascular improvements.

Using the concept of the FITT principle, (Frequency, Intensity, Time and Type) the following are guidelines to determine the patient's aerobic exercise prescription once a cardiopulmonary assessment has been completed.

F **Frequency of Training**

- Improvements in VO_2 max increase as a function of the frequency of training
- 3 to 5 days per week is recommended
- Incidence of injury increases disproportionately beyond 5 days per week

I **Intensity of Training**

- Minimal level required to induce a "training effect," yet below the metabolic load that evokes abnormal clinical signs or symptoms
- Minimum (for de-conditioned patients) ~ 50% VO_2 max
- Should compensate low intensity with duration and/or frequency
- Development of a training heart rate (THR) range with a low and high end is favourable for exercise progression

Determining Intensity

There are 5 different methods of determining intensity based on a clinical exercise test or cardiopulmonary assessment. 1) Heart Rate Reserve Method, 2) Percent VO_2 Method, 3) Determining the Ventilatory Threshold if Using Gas Analysis, 4) VO_2 Reserve Method, and 5) Perceived Exertion Rated at Each Stage of the Exercise Test Protocol.

Method 1: Heart Rate Reserve (Karvonen)

$$\text{THR} = (\text{SLHR} - \text{RHR}) \times 60\% \text{ to } 80\% + \text{RHR}$$

Where:

THR = training heart rate in beats per minute (BPM)

SLHR = symptom limited heart rate in beats per minute– peak heart rate achieved on the cardiopulmonary assessment or heart rate which evoked symptoms on the cardiopulmonary assessment in beats per minute (BPM)

RHR = resting heart rate in beats per minute (BPM)

$$\text{Exercise Prescription HRR} = 60\% \text{ to } 80\%$$

Method 2: Percent of VO_2 Peak

$$\text{THR} = \text{HR achieved at } 60\% \text{ to } 80\% \text{ of measured } \text{VO}_2 \text{ peak}$$

Where:

THR = training heart rate in beats per minute (BPM)

HR = heart rate in beats per minute (BPM)

$$\text{Exercise Prescription } \text{VO}_2 = 60\% \text{ to } 80\%$$

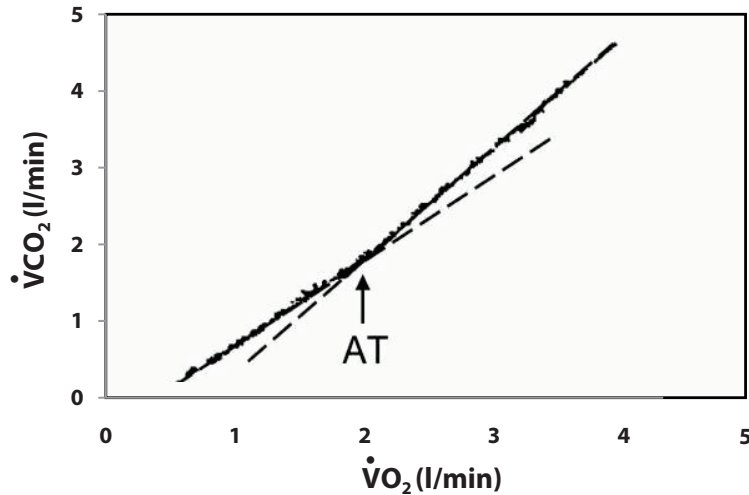
Method 3: Ventilatory Threshold (Tvent)/Anaerobic Threshold

- The peak work rate or oxygen consumption at which energy demands exceed circulatory ability to sustain aerobic metabolism
- Occurs when there is a non linear increase in:
 - Blood lactate
 - VCO_2
 - VE (minute ventilation)
- Ensure the Tvent is within the calculated THR range

$$\text{Exercise Prescription} = \text{Ventilatory Threshold}$$

Figure 2 shows $\dot{V}O_2$ vs $\dot{V}CO_2$ and the point of the aerobic threshold. At this point you see the deflection point where $\dot{V}CO_2$ increases disproportionately (slope becomes more steep) relative to $\dot{V}O_2$.

Figure 2: Example of Ventilatory Threshold/Aerobic Threshold



Pokan R et al. Journal für Kardiologie 2004; 11 (11):446-452 ©

Method 4: $\dot{V}O_2$ Reserve

Target $\dot{V}O_2 = (60\% \text{ to } 80\%) (\dot{V}O_2 \text{ max} - \dot{V}O_2 \text{ rest}) + \dot{V}O_2 \text{ rest}$

Where:

$\dot{V}O_2 \text{ max} = \dot{V}O_2$ achieved on the cardiopulmonary assessment

$\dot{V}O_2 \text{ rest} = 3.5 \text{ ml/kg/min}$

Exercise Prescription $\dot{V}O_2R = 60\% \text{ to } 80\%$

Using a percentage of $\dot{V}O_2$ Reserve for exercise prescription accounts for resting oxygen uptake and can be accurately reflected by heart rates calculated at the same percentage of heart rate reserve⁷.

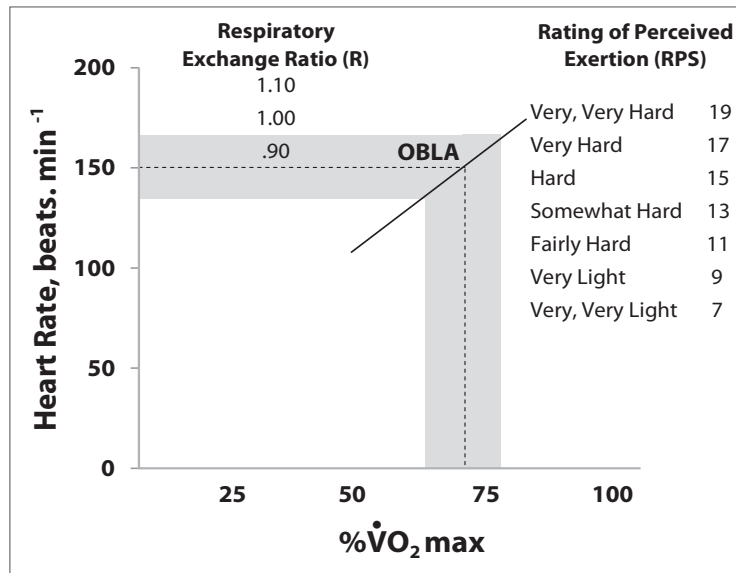
Method 5: Rating of Perceived Exertion (RPE)

Should be used in conjunction with other methods.

THR that corresponds to an RPE of 11 (fairly light) to 14 (between somewhat hard and hard work)

Exercise Prescription RPE = 11 to 14

Figure 3: Summary of Methods used to Determine Aerobic Exercise Intensity



A combination of the 5 methods may be used to determine the intensity of the patient's exercise in conjunction with the patient's medical history and any of the following important issues shown in **Table 7**.

Table 7: Considerations when Prescribing Aerobic Exercises

Considerations
- Is there a threshold for ischemia or other cardiovascular "overload"? <ul style="list-style-type: none"> • Onset of angina or ³ 1.0 mm ST-segment depression (horizontal or downsloping) • Increased frequency of ventricular arrhythmias or other significant ECG disturbances (e.g., atrial fibrillation, atrioventricular block, etc.) • Plateau or decrease in systolic blood pressure • Systolic blood pressure > 240 mmHg or diastolic blood pressure > 110 mmHg • Ensure patient is exercising at an intensity that is at least 10 bpm below the ischemic or other clinical threshold
- Monitoring of Training Heart Rate <ul style="list-style-type: none"> • Effects of cardiac medications (specifically beta blockers) • Timing of medication dose in relation to time of exercise • Telemetry monitoring if needed • Heart rate monitor if needed • Subjective and objective assessment
- Medications
- Musculoskeletal issues
- Co-morbid conditions
- Age
- Exercise experience
- Patient goals

VO₂ and HR increase proportionately, and when analyzing a patient's cardiopulmonary assessment, a training heart rate and a training VO₂ can be determined. This VO₂ can then be related to a specific walking or jogging speed, and is ideal when developing the patient's exercise prescription. The following chart relates VO₂ and the corresponding walking paces. These paces can also be determined through the use of the American College of Sports Medicine's metabolic equations⁶.

Table 8: Determining a Walking Speed

VO2 ml/kg/min	Minute per Mile Pace	Mile per Hour Pace	Kilometre per Hour Pace
10	23	2.60	4.16
11	22	2.70	4.32
12	21	2.85	4.56
13	20	3.00	4.80
14	19	3.15	5.00
15	18	3.30	5.28
16	17	3.50	5.60
17	16	3.75	6.00
18	15	4.00	6.40
21	14	4.25	6.80
23	13	4.60	7.40
25	12	5.00	8.00
30	11	5.45	8.70

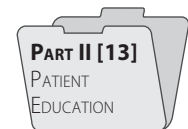
Source: Toronto Rehab

T Type of Exercise

For aerobic training, continuous exercise using large muscle groups are encouraged. The following are some examples of these modes of exercises as well as considerations to keep in mind to ensure safety and accuracy of the aerobic exercise prescription.

Table 9: Assessment Considerations for Common Modes of Aerobic Exercises

Mode of Exercise	Considerations
Outdoor Walking	<ul style="list-style-type: none"> - Ensure the route's distance is measured accurately using a vehicle odometer, a reliable website that maps routes or a pedometer (be cautious about the accuracy of the particular device) - Provide education regarding weather conditions in order to adjust the exercise prescription based on temperature, wind and terrain - Encourage a flat route for consistency of pace



Mode of Exercise	Considerations
Treadmill Walking	<ul style="list-style-type: none"> - Ensure the treadmill is motorized and not manually driven - Be aware of the measurement unit for the treadmill (e.g., miles per hour or kilometres per hour and slope/grade). - If it is a home treadmill, encourage its placement to be in a well ventilated area
Stationary Bicycle	<ul style="list-style-type: none"> - Be aware of the type of bike used <ul style="list-style-type: none"> - Upright - Recumbent - Wind trainer (assessment of intensity on this type is difficult) - Ensure a speed of cycling for warm-up, work-out and cool-down is specified in kilometres per hour, miles per hour or revolutions per minute - Patients should be aware of the targets for both their rating of perceived exertion and their heart rate and encouraged to check heart rate and exertion on a regular basis throughout their exercise sessions, adjusting the intensity accordingly - If it is a home stationary bike, encourage its placement to be in a well ventilated area
Elliptical	<ul style="list-style-type: none"> - Patients should be aware of the targets for both their rating of perceived exertion and their heart rate and encouraged to check heart rate and exertion on a regular basis throughout their exercise session, adjusting the intensity accordingly - Discuss whether the arm component of the elliptical should be used (depending on the patient's heart rate response)
Swimming	<ul style="list-style-type: none"> - The water temperature of the pool should be between 28 and 30 degrees Celsius (82 and 86 degrees Fahrenheit) - Assess the patient's proficiency of swimming is important for exercise prescription - Re-adjust the patient's training heart rate to account for upper body work with about a 10 BPM reduction in training heart rate as compared to the rate developed from the exercise stress test

***T* Time of Exercise**

To gain cardiovascular benefits, 20 to 60 minutes of continuous or non-continuous aerobic activity is recommended, starting with an appropriate time based on the patient's experience and tolerance.

Aerobic Exercise Progression

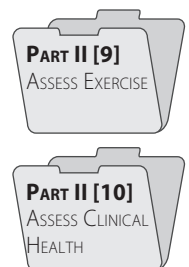
Exercise progression is an essential component of exercise training. The rate of progression in an exercise program depends on the patient's cardiovascular fitness, medical history (orthopedic and musculoskeletal status, other chronic conditions such as diabetes, obesity, etc.), age, the patient's previous experience with exercise and the patient's goals. There are usually two phases for progression; 1) improvement phase and 2) maintenance phase. The progressing and training heart rate range that is prescribed based on the patient's exercise assessment allows for exercise progression to occur through both of these phases.

The improvement phase usually lasts between 3 and 6 months from the start of aerobic training. Initially, the goal of achieving at least the progressing heart rate and a gradual increase of duration at least every 2 weeks is ideal. A balance between an increase of duration and intensity should follow with a goal to elicit at least 1000 kcal per week to start and progressing to 1500 to 2000 kcal per week later. Achievement of attaining the training heart rate should occur during this phase. With an improvement in cardiovascular fitness during this phase, intensity will need to be increased in order to continue to achieve the training heart rate. Guidance from the patient's Cardiac Rehabilitation Supervisor through this improvement stage is important to ensure both safe and optimal progression occurs.

During the maintenance phase the goal is for long-term maintenance of cardiovascular fitness. Changes in duration and intensity do not happen often, but may arise due to unforeseen circumstances such as changes in the patient's medical status, onset of musculoskeletal issues, etc. Changes in mode of exercise may occur in order to avoid boredom. Special attention to adherence to exercise should be made during this phase. Before patients graduate from the program, education is provided to them regarding progression of their own program.

NOTE: Prescribing intermittent bouts of shorter duration exercise distributed over the course of one day may be warranted for patients who fall in the low level exercise category or who live with conditions which do not allow for long duration continuous exercise (e.g., peripheral vascular disease, heart failure, etc.).

Determining the rate of progression for patients participating in the Cardiac Rehab @ Home Service requires the Cardiac Rehabilitation Supervisor to practice careful assessment of the patient's exercise.



PRESCRIBE AND PROGRESS RESISTANCE TRAINING

Developed in accordance with the American College of Sports Medicine's Guidelines for Exercise Testing and Prescription⁶.

Resistance training is an integral component of the patient's exercise program and should be prescribed as a complement to the aerobic exercise prescription for patients who are eligible. Benefits of resistance training include improved muscular strength, reduction in body fat, improved blood sugar control, the enhancement of self image and confidence, the delay or prevention of osteoporosis, stabilization of joints, prevention of injury and the promotion of independent living.

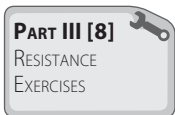
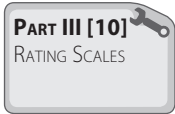
The establishment of the patient's aerobic exercise prescription is recommended prior to engaging patients in a resistance training program. Patients who are eligible to participate in aerobic exercise are also eligible for resistance training, however the following issues are reviewed with the patient: unstable/unrepaired hernias, uncontrolled glaucoma, eye complications from diabetes mellitus and history of joint/muscle problems which may preclude them from participating. Often, assessment by the patient's physician for clearance to participate is warranted and modification of exercises may be recommended in order for these patients to participate. Resistance training may be contraindicated for patients who have unstable angina, uncontrolled arrhythmias, left ventricular outflow obstruction, uncontrolled heart failure, severe valvular disease and uncontrolled hypertension. Discussion with the patient and the multidisciplinary team members is warranted prior to participation.

Use of the FITT (Frequency, Intensity, Type, Time) principal for resistance training allows all aspects of the prescription to be addressed.

F **Frequency of Training**

- 2 to 3 times per week, not on back-to-back days

I Intensity of Training



- Moderate intensity resistance training is prescribed for patients with a goal of 8 to 15 repetitions to gain a combination of both muscular strength and endurance.
- 60% of the '1-Repetition Maximum' with a rating of perceived exertion of no greater than 14 on the Borg Scale is a recommended starting weight for most patients.
- 1 set of exercises progressing to 2 sets
- Depending on the medical history of the patient, and his/her mobility and goals, the choice of three types of programs may be used:
 - Regular resistance training program
 - A combination of standing and supine exercises
 - Hybrid resistance training program
 - All standing exercises
 - Suitable for patients who have difficulties getting up and down from the floor
 - Low level ('alternative') resistance training program
 - A combination of standing and seated exercises suitable for patients who have mobility problems
- All exercises are set for each program however adjustments are made to each exercise as necessary in order to individualize each program.

T Type of Training

- Exercises covering the major muscle groups using free weights, thera-bands or club machines

Table 10: Assessment Considerations for Common Modes of Resistance Training

Mode of Resistance	Considerations
Free Weights	- Be aware of the range of weights the patient has access to for resistance training
Resistance Training Machines	- The machines may be at home or in a gym - If the patient is using the machines at a gym, access to gym staff on the floor may be available to patients for questions on how to use machines to ensure safety.
Thera-bands	- The colour of the band indicates the amount of resistance and aids in progression of resistance training

T Time of Training

- 20 to 30 minutes depending on number of sets completed.

The Onsite Visit for Resistance Training Prescription

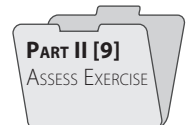
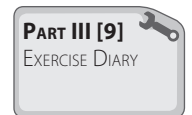
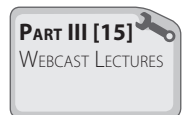
An onsite visit for patients participating in the Cardiac Rehab @ Home Service is recommended to:

1. prescribe the exercises and appropriate resistance, and
2. to ensure proper lifting techniques are used for each exercise.

During the visit, patients are educated regarding the benefits of resistance training, the principles of training, proper lifting techniques, warm-up and stretching exercises. The Cardiac Rehabilitation Supervisor also demonstrates the exercises and administers the '1-Repetition Maximum' test with the patient if appropriate, in order to ensure specific and optimal prescription of resistance.

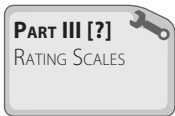
If technique or memory is of concern, patients are encouraged to access Toronto Rehab's website for a video of staff members who demonstrate the exercises and remind patients of proper technique.

Patients are asked to record their resistance training sessions in their exercise diary by listing the amount of weight lifted, the number of repetitions completed and the rating of perceived exertion for each exercise. The Cardiac Rehabilitation Supervisor uses this information to determine safety and progression of exercise.



Resistance Training Progression

Progression of Resistance Training is essential in order to ensure there is consistent improvement in both muscular strength and endurance. The first progression would include moving from 1 set of exercises to 2 sets. Once the initial intensity of resistance has been established, an increase from 10 repetitions to 15 repetitions is encouraged while keeping the rating of perceived exertion to no greater than 14 on the Borg scale.



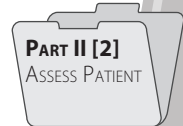
Once 15 repetitions are achieved and the rating of perceived exertion has been reduced close to 11, an increase in resistance can take place and repetitions can drop back down to 10. This process can then be repeated as necessary.

It is important to note that some muscle groups will progress faster than others depending on the patient's strength and medical history as well as the nature of the muscle group. For this reason, patients are strongly encouraged to record the details of each exercise in their diary in order for the Cardiac Rehabilitation Supervisor to accurately assess for progression. Over time, patients will become more educated about how to safely and appropriately progress their own resistance training program.

PRE-SCHEDULE PATIENT TELEPHONE VISITS

Scheduling and Timing of Telephone Consultations

Each patient enrolled in the Cardiac Rehab @ Home Service is scheduled for 3 months of weekly and 3 months of monthly telephone consultations for a total of 15 contacts. Consultations are pre-scheduled for the same day and time each week unless otherwise negotiated. Thirty minutes are allocated per patient, giving time for the Cardiac Rehabilitation Supervisor to prepare for the consultation, participate in the conversation and then document the call.



Toronto Rehab uses an electronic calendar as part of its e-mail program. The calendar is an important tool for Cardiac Rehabilitation Supervisors and is used to:

- ensure each patient is booked for the appropriate number of recurring appointments,
- manage the booking of new patients and avoid double bookings, and
- aid in tracking the patient's remaining number of consultations.

Transition from Weekly to Monthly Telephone Consultations

As patients approach their twelfth weekly telephone consultation, they are informed that the weekly contacts will end and specific dates for their monthly contacts are booked. Patients are instructed to continue to submit their weekly exercise diary and can still contact their Cardiac Rehabilitation Supervisor for any questions/concerns at any point in time. Promoting adherence to the lifestyle changes patients have made is important and the transition to monthly contacts gives them a “dry run” at continuing with their changes on their own, without giving up the support the Cardiac Rehabilitation Supervisor.

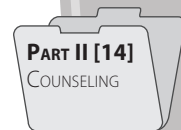
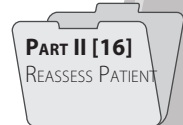
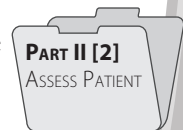
PRE-SCHEDULE PATIENT ONSITE VISITS

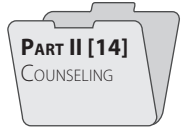
The benefit of the Cardiac Rehab @ Home Service for patients is that regular attendance to the centre is not required but is replaced with regular telephone consultations. However, there are specific onsite visits that are necessary for the patient to attend. These include:

- Initial Cardiopulmonary Assessment
- Orientation and Aerobic Exercise Trial
- Resistance Training Session
- Final Cardiopulmonary Assessment

Although not required, the following visits may occur for some patients depending on their care plan:

- *Telemetry Monitoring Session* – Patients may require telemetry monitoring while undergoing their exercise prescription for various reasons including if they are:
 - reporting symptoms (such as possible angina or new arrhythmia) during their exercise
 - exceeding their peak heart rate seen on their cardiopulmonary assessment, during exercise
 - ready for further exercise progression, however exceeds their upper clinical threshold which is of concern
- *Supervised Exercise Session* – A brief onsite exercise session at some point during the patient’s program may be warranted based on a request by the patient or as advised by the Cardiac Rehabilitation Supervisor. Examples of these situations include: progression to a walk/jog prescription if new for the patient; ensuring that intensity of exercise is being practiced; or assurance that pulse-taking skills are accurate.
- *Nutritional Counseling Session* – An individual consultation with the program’s Registered Dietitian is encouraged for all patients.





- *Psychosocial Counseling Session* – An individual consultation with the program’s Social Worker and Psychologist may be warranted for issues with employment, community resources, home care, stress management, depression, anxiety, anger, coping, family issues, poor sleep, other.



ASSESS PATIENT EXERCISE FROM A DISTANCE

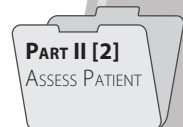
Assessing the patient's exercise without direct observation can be challenging. It is important to be able to assess:

1. whether the patient is ready for exercise progression,
2. the patient's exercise diary,
3. symptoms reported during exercise, and
4. safety.

The Cardiac Rehab @ Home Service practices the following strategies in order to assess the patient's exercise.

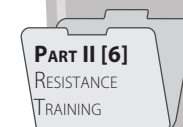
Ensure aerobic exercise trial is completed

The exercise trial as described earlier, ensures that the exercise prescriptions given to patients initially are clinically appropriate. It allows the Cardiac Rehabilitation Supervisor the opportunity to assess breathing, heart rate, blood pressure, body mechanics, and to provide education to patients about pulse-taking and rating their perceived exertion. These are the components that will aid the Cardiac Rehabilitation Supervisor in making decisions about exercise progression during the program. If patients have difficulty with taking their pulse or do not understand how to rate their exertion, it will be important to develop more in-depth questions during each telephone consultation to better assess their exercise. Other strategies such as the use of a heart rate monitor may be explored.



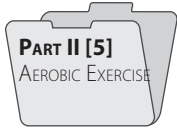
Ensure resistance training visit is completed

In order to ensure that a safe and optimum weight is prescribed for the patient's resistance training program and that patients are performing the exercise with accurate lifting techniques, a visit to the centre to meet with their Cardiac Rehabilitation Supervisor is recommended. During these sessions, education is provided regarding the benefits of resistance training, how to incorporate the training into their already established aerobic exercise program and the principles of resistance training. '1-Repetition Maximum' testing is



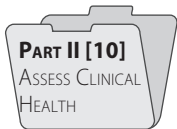
performed for patients to prescribe the appropriate amount of weight for each resistance exercise. Adjustments to exercises can take place during this visit as well.

Have a good understanding of the patient's mode of exercise



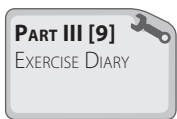
Patients may engage in one or more than one mode of aerobic and resistance exercise depending on their interests, mobility, musculoskeletal issues and available resources. Be aware of these modes and the details surrounding them in order to better assess the intensity of their exercise and to provide appropriate exercise counseling. (Refer to **Table 9**, Section 5 and **Table 10**, Section 6 for a list of considerations about common modes of aerobic and resistance exercises to help in the assessment of the patient's exercise).

Know the patient's symptoms



- Be aware of any symptoms (angina, shortness of breath, muscle pain) that the patient experiences and assess on each consultation
- Inquire of any symptoms during every consultation
- Encourage patient to report any symptoms (new or usual) in his/her exercise diary

Assess the Weekly Exercise Diary

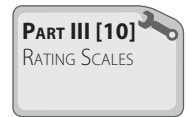


“*Having to fax my reports in to the centre every week kept me on track and reinforced my program of maintenance*” .

- Graduate of the Cardiac Rehab @ Home Service

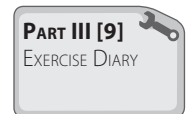
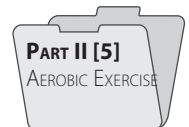
- Patients are asked to report the following information in their weekly exercise diary
 - Date of exercise
 - Mode of exercise
 - Distance
 - Duration
 - Resting heart rate
 - Exercise heart rate
 - Rating of perceived exertion (Borg 6-20 scale)
 - Comments section for symptoms etc.
 - Review of goals
 - Resistance training program (weight lifted, reps, rating of perceived exertion for each exercise)
 - Hospital visits
 - Lab/Diagnostic tests
 - Doctor's visits
 - Medication changes

- Assess adherence to exercise prescription
 - Some patients will have excellent adherence to their exercise prescription and consistent progression of exercise will occur. Others may not adhere and in fact do too little exercise as prescribed or may exceed their exercise prescription. Depending on the issue related to adherence, use of the appropriate coaching techniques should be considered.
- Re-adjust exercise prescription if:
 - Symptoms are reported
 - Rating of perceived exertion is greater than 14 on the Borg scale
 - If exercise heart rate is exceeding training heart rate
 - If patient makes a request
- Patients who do not submit exercise diary
 - Patients who do not have access to a e-mail/fax or patients who are non-adherent to submitting their diary are asked in detail during the call all of the components of the diary and information is collected verbally



Ensure Progression of Exercise occurs on a regular basis

- In order for patients to make continuous improvements in both cardiovascular and muscular fitness, appropriate rates of progression of the optimal exercise stimulus are required. Guidance from Cardiac Rehabilitation Supervisors through this process is important to ensure that both safe and optimal progression occurs.
- The rate of progression of exercise will depend on whether patients are in the improvement or maintenance stage of exercise.
- To assess readiness for progression of exercise, the Cardiac Rehabilitation Supervisor can:
 - review the diary submitted
 - clarify the diary submitted in order to ensure information is accurate
 - question the patient during the telephone consultation



Practice the use of asking probing and open ended questions when discussing exercise with patients

- The exercise diary is a great tool for collecting information about the patient's weekly exercise and goals. However sole reliance on this form of communication to assure accuracy or determination of readiness for exercise progression is not recommended. Instead, probe using open ended questions that build on the information provided in the exercise diary to gain accurate and more detailed information. Refer to **Table 11** on the next page for tips on formulating probing questions.

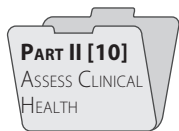


Table 11: Tips to Formulating Probing Questions**Tips**

Ask open ended and probing questions at the right time:

- Close ended questions will provide you with 'yes' or 'no' responses. "Did you achieve your goal this week?" "Did you exercise 5 times this week?"
- Open ended questions provide you with much more detail regarding the patient's experience "How do you think you are doing in reaching this week's goals" "tell me more about the leg pain you reported in your diary this week" "What do you think got in the way of you not checking your heart rate during exercise this week?" "I noticed your distance was shorter on most of your walks this week, tell me more about this".
- Continue to ask questions until you have the complete picture

NOTE: there is an appropriate time to use close ended questions when inquiring about clinical situations where confirmation about symptoms, medications and information about clinical procedures are being collected.



Reflect on what the patient tells you:

- Paraphrase what was said – "what I hear you saying is..."
- Reflection – restate exactly what was said
- Clarify the statement – "is this what you mean by..."

ASSESS PATIENT CLINICAL HEALTH FROM A DISTANCE

10

A cardiopulmonary assessment and exercise trial aids Cardiac Rehab Supervisors when determining baseline cardiovascular fitness and serves as a starting point from which to progress patients' activities. Clinically astute assessment of patients participating in the home program is vital since there is no regular face to face contact. **Table 12** provides a list of clinical issues for the Cardiac Rehab Supervisor to address during patient management.

Table 12: Clinical Issues to Address with Patient

Clinical Issues	
Medications	<ul style="list-style-type: none"> - Adherence - Changes - Side effects - Education
Symptoms (e.g., angina, dyspnea, MSK, fatigue, dizziness, hyperglycemia, hypoglycemia, etc.)	<ul style="list-style-type: none"> - Specific to condition - New - Change in severity/frequency - Education regarding management
Blood Pressure	<ul style="list-style-type: none"> - methods of occasional measurement or more regular measurement (if there is hypotension or hypertension) - Orthostatic hypotension
Heart Rate	<ul style="list-style-type: none"> - accuracy of heart rate self-measurements or recommendation of a heart rate monitor - Bradycardia or tachycardias and the symptoms associated - Arrhythmias
Post surgical recovery	<ul style="list-style-type: none"> - Incision sites

Clinical Issues (Continued)

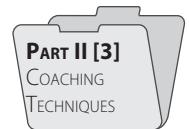
Heart Failure – the following items are regularly reviewed	<ul style="list-style-type: none"> - Dyspnea – use of shortness of breath scale - Orthopnea - Paroxysmal nocturnal dyspnea - Fatigue - Weakness - Exercise intolerance - Edema - Cough - Weight gain - Fluid intake - Salt intake - Tracking of body weight - Medications
Diabetes Mellitus	<ul style="list-style-type: none"> - Management of blood glucose (fasting blood glucose, pre exercise blood glucose, post exercise blood glucose, 2-hr post prandial blood glucose) - Management of hyperglycemia and hypoglycemia - Proper Foot Care - Medications
Peripheral Vascular Disease	<ul style="list-style-type: none"> - Use of rating of perceived pain during exercise.
International normalized ration (INR) management	<ul style="list-style-type: none"> - Frequency of testing - INR goal and control
Implantable cardioverter defibrillator (ICD)	<ul style="list-style-type: none"> - Knowledge of settings
Pacemaker	<ul style="list-style-type: none"> - Knowledge of pacemaker settings for exercise prescription (specifically for training heart rate and mode of exercise)
Other issues specific to other co-morbidities	

New or Abnormal Clinical Issue

If a new or abnormal clinical issue is discovered or reported, education and a plan should be provided to the patient in order to help resolve the situation. This plan may include:

- referral to the patient’s Family Practitioner or Specialist for further assessment
- discussion with the Cardiac Rehabilitation Program’s Medical Director for consultation
- if emergent – referral to the patient’s closest emergency department
- adjustment of exercise prescription if needed
- education regarding management of condition or symptom

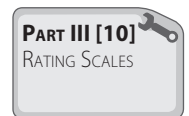
Issues related to adherence or education can be discussed through the recommended counseling techniques suggested earlier, however collecting information regarding these issues requires more precise and directed questioning. Using more close ended questions may be appropriate.



Use of Rating Scales

The use of rating scales to assess pain, exertion and breathing is valuable and allows the determination, over time, whether the patient is improving and offers the patient a consistent method of measuring these issues. The most common are:

- Borg Rating of Perceived Exertion (RPE)
- Borg Rating of Perceived Pain (RPP)
- Shortness of Breath Scale



CONDUCT SERVICE ROUNDS WITH MULTIPROFESSIONAL TEAM

11

Conducting regular rounds, with other team members to discuss patients participating in the Cardiac Rehabilitation @ Home Service is important to ensure that there is a multidisciplinary approach to treating the patient. Team members may include the Medical Director, other Cardiac Rehabilitation Supervisors, a Registered Dietitian, Social Worker and Psychologist.

Issues discussed at rounds include:

- Clinical issues
 - Symptoms
 - Abnormal cardiopulmonary assessment results
 - Uncommon medical diagnoses
 - Psychological issues
- Poor compliance
- Lack of exercise progression
- Any other issues regarding the patient's case which the Cardiac Rehabilitation Supervisor warrants direction

Home service rounds provide team members with the opportunity for education and ensure that an action plan is developed to address the issues that have been brought forward. (What kind of follow-up is required? What counseling techniques could be used? What referrals are necessary for the patient? And so on).

“
As a health care provider myself, I wish the level of care provided to patients in Canada would always be as high as the one provided by your team...”

- Graduate of the Cardiac Rehab @ Home Service

MAINTAIN PATIENT DOCUMENTATION

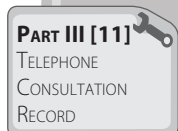
Good patient care documentation practices at Toronto Rehab ensure that:

- information is available and accessible to all clinical team members
- information is recorded consistently to support team members to work collaboratively on problems, goals and strategies
- a plan of care is clearly outlined and that contains justification for decisions
- employer, public and legal accountability are satisfied
- professional/college standards are followed

Health care professionals at Toronto Rehab are expected to document:

- any assessment or findings
- problems
- patient goals
- plan of care recommendations
- evaluation and re-evaluation
- every report sent or received
- discharge summary

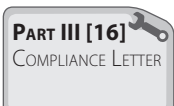
Specific to the Cardiac Rehab @ Home Service, the use of the Home Service Telephone Consultation Record is used to capture all components of the consultation and helps to fulfill Toronto Rehab's documentation policy.



File Management

The patient file in the Cardiac Rehab @ Home Service is comprised of the same documentation tools as the patient file in the traditional onsite program along with several additional forms specific to the @ Home Service.

Table 13: Additional Forms Specific to the @ Home Service

Patient File	
	Case Manager Tracking Tool
	Referral Form
	Patient Data Collection Form
	Assessment Letter Includes a statement regarding enrollment into the Cardiac Rehab @ Home Service. This letter is forwarded to all of the Physicians listed in the patient file
	Consent Letter This form indicates the risks involved when transferring personal information via e-mail or fax
	Completed Exercise Diaries
	Telephone Consultation Records
	Risk Stratification (use of Canadian Association of Cardiac Rehabilitation's stratification guidelines)
	Compliance Letter (if necessary)

The Case Manager Tracking Tool is a form that was developed to track pertinent administrative information for the Cardiac Rehabilitation Supervisor. The form is kept for each patient in one binder and is alphabetized. It serves to track at a glance the following information:

- mode of delivery for exercise diary
- patient's e-mail address/fax number
- patient's contact telephone number specific for the telephone consultations
- patient's start date
- weekly telephone consultation day and time
- monthly telephone consultation day and time
- result of each of the 15 contacts made with the patient as well as any onsite visits (e.g., completed, re-scheduled, no-shows)
- completion of each education module

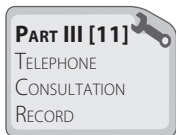
This information aids Cardiac Rehabilitation Supervisors in managing higher volumes of @ Home patients as well as gathering and reporting their monthly statistics.

Patients in the Cardiac Rehab @ Home Service are also coded in Toronto Rehab's patient database system as being enrolled in the home-based program. This is important for both accessing information later for research purposes as well as for tracking program statistics. **Table 14** lists the information that is collected and the reason it is collected.

Table 14: Information Collection

Information	Reason/Value
Patient name and ID number	To ensure identification
Date	To determine the timeline for program
Scheduled time of telephone consultation	To provide patients with a pre-set day and time for their consult
Actual time of telephone consultation	To evaluate adherence to consultation
Total length of telephone consultation (min)	To assist with research and program evaluation
Weekly or monthly telephone consultation	To indicate in which phase of the program the patient is
Check-list of possible issues to address	To serve as a reminder to ensure issues are addressed

Information	Reason/Value
Preparation notes for telephone consultation	To provide Cardiac Rehabilitation Supervisors an opportunity to: <ul style="list-style-type: none"> - review previous consultations to determine items that require follow-up (e.g., (goals from the previous week); - review the current exercise diary that was submitted prior to the consult and determine issues, possible progression etc.; - determine new items for discussion (education module, goals etc.). <p>Focus on the patient during the telephone consultation by making a list of issues to cover before the call, and referring to the notes as necessary</p>
Notes from telephone consultation	To record using proper documentation principles, the discussion from the call. The final statements of the call should include the goals the patient set for the following week
Exercise prescription including Training Heart Rate	Record the most up-to-date exercise prescription for quick reference each week as to what the patient is doing
Signature of the Cardiac Rehabilitation Supervisor	To indicate that the data was accurately collected by the assigned supervisor



The integrated patient record that is universal to all patients at Toronto Rehab remains to be the source for documenting pertinent clinical information.

PROVIDE PATIENT EDUCATION

13

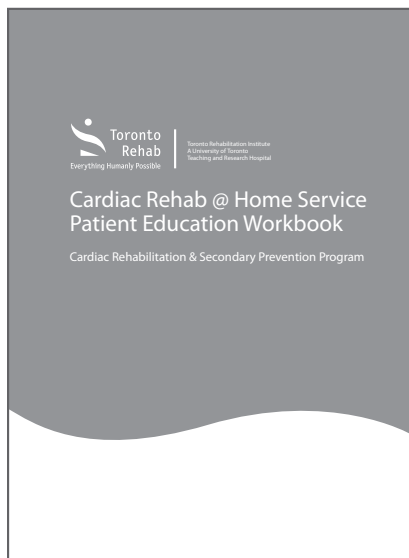
Education is an integral component of cardiac rehabilitation and occurs through a variety of media. Onsite patients are provided with lectures related to cardiac health and lifestyle change as part of their weekly visit, and individual education occurs during the visit based on the needs of the patient.

For patients participating in the Cardiac Rehab @ Home Service, similar education is provided but is delivered through alternative methods. Patient education is recorded in the Case Manager Tracking Form and the Telephone Consultation Record.

PART III [14]
CASE MANAGER
TRACKING FORM

PART III [11]
TELEPHONE
CONSULTATION
RECORD

Cardiac Rehab @ Home Service Workbook



Patients receive the Cardiac Rehab @ Home Service Workbook at the start of their program. This is a self-directed workbook providing patients with information regarding heart health, cardiac risk factors, exercise, goal setting, nutrition and stress management. A schedule of when to review what material and how to navigate through the information, is provided for patients in the workbook. Using adult-learning principles, guidance is given as to what material is timely to review based on the needs of the patient. The following are the sections of the workbook and the content included.

Workbook Table of Contents

Section #1 – Orientation

- Cardiac Rehabilitation @ Home Service Brochure
- Cardiac Rehab Supervisor Contact Information
- Options for Forwarding your Exercise Diaries
- How to Prepare for Your Telephone Consultations
- How to Review Your Education Modules
- Overview of Education Schedule
- Sample of Exercise Diary
- Instructions on How to Fill Out Exercise Diary

Section #2 – My Planning Space

- Instruction Sheet for Using the Planning Space
- Week by Week Guidelines for 6-Month Program for Education

Section #3 – The Heart

- How the Heart Works
- Heart Disease
- Angina
- Heart Attack
- Diagnosis of Heart Disease
- Treatment of Heart Disease
- Congestive Heart Failure
- Valve Disease

Section #4 – Risk Factors

- Risk Factor Profile Lecture Slides (Webcast Available)
- Blood Work Collection Form
- Your Risk Factor Profile
- Risk Factor Tip Sheets

Section #5 – Goal Setting and Lifestyle Change

- Goal Setting Lecture Slides (Webcast Available)
- Steps to Building Your Goal
- SMART Goal Setting
- Examples of Goals Set
- Goal Setting Worksheet
- Lifestyle Change “Memo to the President”
- 12 Behavioural Strategies for Lifestyle Change

Section #6 – Exercise

- Understanding your Exercise Prescription
- Flexibility Training Exercises
- How to Take Your Pulse
- Importance of Cardiovascular Warm-up and Cool Down (Webcast Available)
- How to Reduce the Risk of Angina
- Skipped Beats
- Exercise in Hot Weather (Webcast Available)
- Exercise in Cold Weather (Webcast Available)
- Exercise and Diabetes (Webcast Available)
- Blood Sugar Tracking Sheet
- Resistance Training Lecture Slides (Webcast Available)
- Resistance Training Questionnaire
- Regular Resistance Training Exercises
- Hybrid Resistance Training Exercises
- Alternative Resistance Training Exercise
- Dyna-band Program Exercises
- Resistance Training Progression
- Reversing Coronary Heart Disease Lecture Slides (Webcast Available)
- Buying Exercise Equipment
- GMap Pedometer Route Measurement
- How to Buy Running Shoes

Section #7 – Nutrition

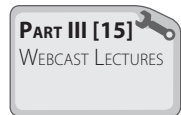
- Cholesterol, Fibre and Reading Food Labels Lecture Slides (Webcast Available)
- Fibre Facts
- Omega³ Fats and Your Heart
- How to Read Food Labels
- Blood Pressure Control and Weight Management Lecture Slides (Webcast Available)
- Reducing Salt
- Keeping a Food Diary

Section #8 – Stress

- Chronic Stress Lecture Slides (Webcast Available)
- Stress Reduction Plan
- Instruction for Relaxation Exercises
- Stress Reading Resources

Internet-Based Webcasts

Formal patient education lectures given by Toronto Rehab's multidisciplinary team have been recorded and posted on Toronto Rehab's website webcasts. For patients who have access at home/office to the internet, they can watch and listen to the education lecture at any time and have the opportunity to start, stop and re-play these lectures at their convenience. For patients who do not have the appropriate system requirements on their computer to view the webcasts, a DVD of the lectures is provided for each presentation. The content of the webcasts relate directly to the information provided in their Cardiac Rehabilitation @ Home Service Workbook.



The screenshot shows a web browser window displaying a webcast player. The main content area shows a slide titled "Your Risk Factor Profile ~Taking Control~" by Daryl Dooks, Cardiac Rehabilitation Supervisor at Toronto Rehab. The slide features images of food, a person running, and a person meditating. A callout bubble points to the speaker's video feed, identifying him as a "Toronto Rehab Health Professional". Another callout bubble points to the slide content, stating "Slides containing educational content". A third callout bubble points to the video player's play/pause button, stating "Ability to start and stop webcast on demand". The interface includes a table of contents, a progress bar, and navigation controls.

“
*I am very appreciative
of the calls, answers
to my questions and
encouragement*” .

- Graduate of the Cardiac
Rehab @ Home Service

Figure 4.0 Screen Shot of a Toronto Rehab Educational Webcast

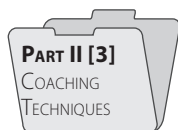
Telephone Consultations

The regularly scheduled telephone consultation is the main form of communication between patients and Cardiac Rehabilitation Supervisors and is therefore an ideal medium for providing education. Discussion of the information patients reviewed throughout the week, either via the webcast or through their workbook (or both) is important and allows Cardiac Rehabilitation Supervisors the opportunity to:

1. Confirm that the patient reviewed the information in order to assess adherence and completion of care plan
2. Assess the patient’s comprehension of the information presented
3. Answer questions the patient may have regarding the information
4. Set the stage for discussions about goals

It is important to use the counseling techniques described earlier when discussing the information presented in the education modules in order to achieve the best results. Specifically, open ended questions are ideal and two that are particularly helpful on a regular basis are:

- What would you consider the most important piece of information you learned?
- From the information you reviewed (or that was presented), what tip or recommendation do you feel confident and ready in starting in the next week?

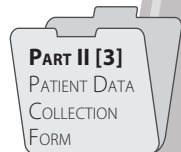


Although the Cardiac Rehab @ Home Workbook can be used as a self-directed education program, telephone consultations provide the venue to practice adult-learning principles. Based on patient needs as well as interests at the time of the consultation, appropriate educational material can be recommended for review and discussion by the Cardiac Rehabilitation Supervisor.

PROVIDE NUTRITION AND PSYCHOSOCIAL COUNSELING

Nutrition Counseling

Patients participating in the Cardiac Rehab @ Home Service continue to have access to all of the services that are provided onsite including individual appointments with the program Registered Dietitian. Patients may request this service or it may be recommended by the patient's Cardiac Rehabilitation Supervisor as a step towards the patient's goals. The Registered Dietitian provides information and counseling on weight management, choices for a heart healthy diet, cholesterol management and strategies for blood glucose control. Patients living with other chronic diseases who can benefit from dietary counseling are also encouraged to make an appointment. Visits are recorded in the Patient Date Collection Form.



Psychosocial Counseling

Patients participating in the Cardiac Rehab @ Home Service continue to have access to all of the services that are provided onsite including individual appointments with the program's Social Worker or Psychologist. Patients may request this service or it may be recommended by the patient's Cardiac Rehabilitation Supervisor based on formal or informal assessments and could act as a step toward achieving the patient's goals. Formal assessments come from the Centre for Epidemiological Studies Depression Questionnaire or from the STOP-D questionnaire which are two validated tools designed to measure depression (in the former), and anger, depression and anxiety (in the latter). Informal assessments come from week to week discussions with patients regarding their health and coping strategies. Visits are recorded in the Patient Date Collection Form.

MONITOR PATIENT ADHERENCE TO PROGRAM

15

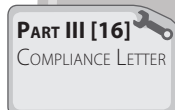
Adherence to Cardiac Rehabilitation has usually been measured by attendance to scheduled sessions^{8,9,10,11} while in the Cardiac Rehab @ Home Service, adherence means attending scheduled visits as well as being available and completing the pre-scheduled telephone consultations. One of the objectives of the Cardiac Rehab @ Home Service is to increase program participation for those unable to attend the onsite program on a regular basis. Although certain barriers have been overcome by offering the home service (e.g., transportation, work schedules, distance to travel, etc.), adherence to the program may continue to be a force to be reckoned with.

At the beginning of the @ Home Service patients are informed of the importance of consistent communication with their Cardiac Rehabilitation Supervisor and that commitment to the program is extremely important. If situations arise where patient adherence to the program becomes a concern to the Cardiac Rehabilitation Supervisor, strategies to address the situation are dealt with as soon as possible. A compliance letter, e-mail or telephone message relaying the following points gives patients the necessary information and timeline to make a decision about their participation in the program.

The communication may include:

- the importance of regular communication
- a date by which the patient needs to contact the Cardiac Rehabilitation Supervisor in order to continue with the program
- a chance to return to the program at a later date once the patient feels ready to commit to the program

If patients choose to discontinue the @ Home Service, their reasons are collected and recorded. This information is important for both statistics collected for the program and for research purposes.



NOTE: Adherence can also be defined as “the extent to which a person’s behaviour (in terms of taking medications, following diets, or executing lifestyle changes) coincides with medical or health advice (Sackett, 1976)”⁸. Adherence in this context are addressed as part of the patient’s care plan through on-going counseling and goal setting that occurs with the patient and his/her Cardiac Rehabilitation Supervisor throughout the program.

REASSESS PATIENT

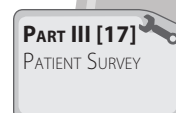
16

At the end of six months, patients are booked for their cardiopulmonary re-assessment similar to the assessment they did at the start of the program. They attend the centre where a medical exam, anthropometric measurements, 12-lead ECG and cardiopulmonary assessment is performed. The cardiopulmonary assessment is completed on either a cycle ergometer or treadmill using graded exercise protocols. Gas analysis is utilized for aerobic exercise prescription and progression.



At this appointment, patients are greeted by their Cardiac Rehabilitation Supervisor and discussion of their results takes place which includes a comparison between their initial assessment and final assessment. Cardiovascular fitness and body composition, an update of their exercise prescription including a re-adjustment of their training heart rate, discussion of their risk factor profile and assessment of their goals through the program are discussed.

Satisfaction is an important element to evaluate, and at the time of their reassessment, patients are asked to fill out a satisfaction survey that is specific to the elements of the Cardiac Rehab @ Home Service.



GRADUATE PATIENT

17

Once patients complete their cardiopulmonary re-assessment and are given their results, they graduate from the program and are eligible to join Toronto Rehab's *Heart Health For Life Program*. This program:

- Provides the necessary tools and resources to support cardiac rehab graduates in maintaining heart healthy lifestyles following completion of their formalized cardiac rehab program
- Broadens the network of support available to cardiac rehab graduates and their families
- Helps support the cardiac rehab program to continue providing responsive services to its patients, graduates and their families

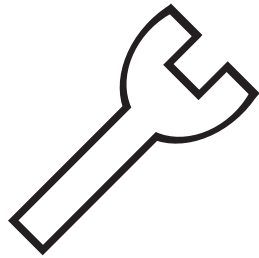
Patients receive a formal package of materials containing:

- *Heart Health For Life* brochure
- Certificate of Completion
- Take C.H.A.R.G.E educational series schedule of events
- Fitness and community centre resources
- Community support services
- Walking resources
- Latest issue of Heart Health For Life "Momentum" Newsletter
- Final reminders regarding risk factors, exercise and safety



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Supporting Information and Tools

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PART III

BROCHURE

1



Cardiac Rehab @ Home Service

Toronto Rehabilitation Institute
*A University of Toronto
Teaching and Research Hospital*



Cardiac Rehab @ Home Service
Cardiac Rehabilitation & Secondary
Prevention Program

347 Rumsey Road
Toronto, ON
M4G 1R7

416-597-3422, ext. 5200
www.torontorehab.com

What is cardiac rehab?

One of the best things you can do for yourself following a heart attack, heart surgery or other heart event is to join a cardiac rehabilitation program like Toronto Rehab's Cardiac Rehabilitation & Secondary Prevention Program. Our team of specialists is a leader in delivering cardiac rehabilitation and secondary prevention programs, offering one of the largest, most comprehensive outpatient cardiac rehabilitation programs in North America.

Cardiac rehab programs offer education, counseling and exercise that lead to long-lasting lifestyle changes. We work with you to develop your own personal program of exercise and education to help improve your cardiovascular strength and fitness and reduce your chance of having another heart event.

We appreciate that not everyone is able to participate in our regular 12-month onsite program owing to mobility issues, transportation challenges, scheduling difficulties or geographic distance. It's for people like you that we've developed our six-month Cardiac Rehab @ Home Service.

Getting your heart back into shape at home

The Cardiac Rehab @ Home Service includes everything offered through our regular cardiac rehab program, but instead of following the program through weekly sessions at our centre, you follow it within the comfort of your own home.

Getting started is easy. Following a referral to the service from your cardiologist, cardiac surgeon or family doctor, we will invite you to attend an onsite cardiopulmonary exercise assessment. This will allow us to establish a baseline measure of your cardiovascular fitness.

Your assessment will consist of:

- a medical and family history questionnaire that helps us to identify your heart risk factors
- a resting electrocardiogram
- body composition measurements (height, weight, waist size, body fat)
- a cardiopulmonary exercise assessment (on a stationary bicycle or monitored walking, adapted to suit your abilities)

Based on your assessment, one of our Cardiac Rehab Supervisors will develop a personalized exercise program (initial exercise prescription) for you. You will initially trial this exercise prescription at our centre, after which you will follow it at home. You will also be invited to attend an orientation session at the centre, which will help you to better understand the program and how it works.

Following your home program

Once you start your exercise program at home, your progress will be followed by your Cardiac Rehab Supervisor through weekly scheduled telephone consultations with you for the first three months at which time you will also discuss:

- Your personal goals
- Specific topics related to heart health (covered by a program workbook and via webcasts on our website)
- Clinical issues, as needed

You will also be asked to complete an exercise log each week which you can then e-mail, fax or mail to your Cardiac Rehab Supervisor. This will allow your Supervisor to see how you are progressing with your exercise program and will help inform your weekly telephone consultation sessions.

Throughout your six-month program, you will have access to a dietitian, a social worker and a psychologist either by telephone or by appointment at the centre. For the resistance training portion of your program, it may be necessary to come to the centre for instruction so that you can benefit from doing resistance training at home.

Following your first three months in the program, your telephone consultation sessions with your Cardiac Rehab Supervisor will transition from weekly to monthly for the last three months. At the end of the six months, you will be asked to come back to the centre for a follow-up cardiopulmonary exercise assessment.

Your role

If you want to achieve the best results possible from your participation in the Cardiac Rehab @ Home Service, it's important that you maintain a strong commitment to your personalized program throughout the full six months. This means making sure that you consistently submit your weekly exercise logs to your Cardiac Rehab Supervisor and that you actively participate in the weekly telephone consultations.

It's also important that you attend the initial orientation at the centre. This program is all about you and your health, so the more you put into it, the greater the benefits are that you'll receive in return.

Your team

Our team of experts in the Cardiac Rehabilitation & Secondary Prevention Program consists of skilled health care professionals who specialize in cardiac rehabilitation, wellness and prevention. Your Cardiac Rehab Supervisor will challenge you to do your best while providing you with the necessary support to succeed. Other interprofessional team members that you may have contact with include lab technicians, dietitians, a psychologist, and a social worker.

How to get started

Ask your doctor to refer you to Toronto Rehab's Cardiac Rehab @ Home Service. Referral forms are available on Toronto Rehab's website at www.torontorehab.com. Your physician will need to send the completed referral form along with a recent ECG and a hospital discharge summary and/or relevant consultation note.

Once we receive this information, you will be contacted by our Appointment Secretary who will arrange a suitable time to book your initial cardiopulmonary exercise assessment.

More information about Toronto Rehab's Cardiac Rehabilitation & Secondary Prevention Program (including the Cardiac Rehab @ Home Service) can be found at www.torontorehab.com.

If you have any additional questions about the service, please contact our Cardiac Rehab @ Home Coordinator at 416-597-3422, extension 5276.

continued over

>For more information about Toronto Rehab go to www.torontorehab.com

About Toronto Rehab

At Toronto Rehab, our goal is to advance rehabilitation and enhance quality of life by pushing the frontiers of rehabilitation science. As a fully affiliated and specialized teaching hospital of the University of Toronto, we do everything humanly possible to generate new knowledge, put it into practice and share our discoveries with others.

Our research, education and patient care focus on helping the millions of Canadians who live with disabling illness and injury. We see people who have:

- Had a heart attack or major heart surgery or have the risk factors for heart disease, including diabetes
- Complex medical conditions such as Alzheimer's disease, cerebral palsy, multiple sclerosis and Parkinson's disease
- Severe and/or multiple age-related conditions
- Had joint replacement surgery, multiple fractures, osteoporosis or cancer
- Experienced a stroke or brain injury or have multiple sclerosis
- Sustained a spinal cord injury or disease

We also train the health care professionals of tomorrow in all areas of rehabilitation and complex continuing care.

Toronto Rehab is Canada's largest academic hospital providing adult rehabilitation, complex continuing care and long-term care services. It was created in 1998 by the amalgamation of The Queen Elizabeth, Hillcrest and Lyndhurst Hospitals, and the Toronto Rehabilitation Centre.

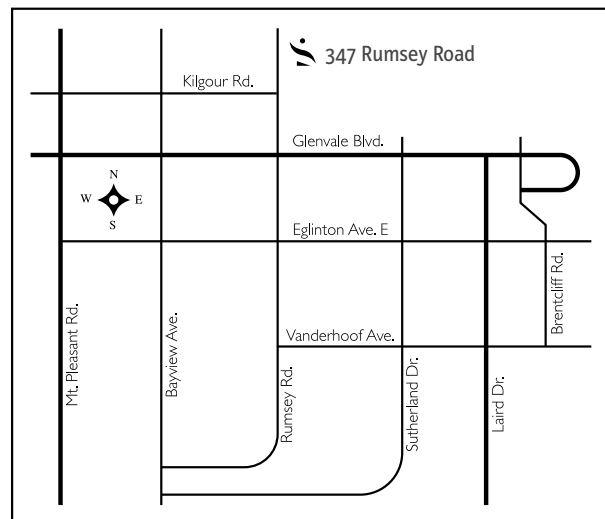
Toronto Rehab Foundation

To continue to provide the best care, we need your help. Whether you choose to support a patient care program, research or education project, or make a contribution where the need is greatest, your gift will help ensure that we continue to do everything humanly possible.

To make a donation or find out more about how you can make a difference, please contact the Foundation at 416-597-3040 or by e-mail at foundation@torontorehab.on.ca

For More Information

For more information about the Cardiac Rehab @ Home Program, call us at 416-597-3422, ext. 5200 or visit us online at www.torontorehab.com.



CONSENT LETTER

2



Toronto Rehabilitation Institute
 Cardiac Rehabilitation and Secondary Prevention Program
 347 Rumsey Road, Toronto, Ontario, M4G 1R7
 (416) 597-3422, ext. 5200 Fax: (416) 425-0301
 www.torontorehab.com

Cardiac Rehab @ Home Service Informed Consent for Electronic Communication

Toronto Rehab occasionally makes use of electronic communication (i.e., e-mail) with patients as a means of sending and receiving health information and providing education, but only with prior consent and discussion.

If you choose to communicate with staff at Toronto Rehab using this method, it is important to understand the risks involved and the conditions for use. Please read below and if you wish to proceed, sign your consent to use this means of communication.

Risks of Using Electronic Communication:

- Electronic communication is not a secure method of communication
- Electronic communication can be intercepted, altered, forwarded or used without authorization or detection
- Electronic communication can be circulated, forwarded and stored in paper and electronic files
- Electronic communication may be lost due to technical failure during composition, transmission or storage

Conditions for Use:

- Toronto Rehab will use other communication methods of sending health information where possible
- Electronic communication is not appropriate for medically urgent or emergency situations
- Information shared through electronic communication can be made part of the your medical record

I have read and understood the risks of communicating electronically with Toronto Rehab. I understand that it is my decision to share and receive health information electronically and I assume this responsibility.

By signing below, I agree to send information to Toronto Rehab and receive information from Toronto Rehab about the program and supporting information electronically, using the e-mail address listed below.

Patient Name: _____ Patient E-mail Address: _____

Patient Signature: _____ Date: _____

PATIENT DATA COLLECTION FORM



Toronto Rehabilitation Institute
Cardiac Rehabilitation and Secondary Prevention Program
347 Rumsey Road, Toronto, Ontario, M4G 1R7
(416) 597-3422, ext. 5200 Fax: (416) 425-0301
www.torontorehab.com

Cardiac Rehab @ Home Service Data Collection Form

Patient Name			
Intake Date		E-mail/Internet Access	<input type="checkbox"/> Yes <input type="checkbox"/> No
Diaries forwarded by	<input type="checkbox"/> E-mail	<input type="checkbox"/> Fax	<input type="checkbox"/> Mail <input type="checkbox"/> Verbal
Reason for Home Program		Discharge Date	
Patient's Home City			
Reason for Discharge			
Program Design	<input type="checkbox"/> Weekly calls for 3 months, monthly calls for 3 months (15 contacts) <input type="checkbox"/> Other:		

Age:	
Male/Female	
Risk Stratification (use form to determine)	
Number of completed education modules out of 11	
Total number of scheduled telephone consultations	
Total number of no shows to telephone consultations	
Average length of telephone consultations	

Outcomes

Parameter	Initial	6-month
VO ₂		
Weight (kg)		
Waist (cm)		
% Fat		
Ex Rx		
CES-D		

Services

Type of Visit	# of Visits
Nutrition Services used – Onsite	
Nutrition Services used – By Phone	
Psychosocial Services used – Onsite	
Psychosocial Services used – By Phone	

Extra Visits

Type of Visit	# of visits
Telemetry	
Resistance Training	

REFERRAL FORM

4



TORONTO REHABILITATION INSTITUTE CARDIAC REHABILITATION & SECONDARY PREVENTION PROGRAM

347 Rumsey Road, Toronto Ontario M4G 1R7
Tel: (416) 597-3422, ext. 5200 Fax: (416) 425-0301
www.torontorehab.com

REFERRAL FORM

PATIENT INFORMATION

NAME _____ SEX M F DATE OF BIRTH _____
(Please Print) Last Name First Name Middle Initial Month/Day/Year

STREET ADDRESS _____ APT # _____

CITY _____ PROV _____ POSTAL CODE _____

TEL () _____ () _____ EMAIL _____
Home Business

OCCUPATION _____ HEALTH CARD NO _____

CLOSEST RELATIVE (or CONTACT PERSON) _____ TEL () _____

REFERRAL DIAGNOSIS	DATE	HOSPITAL	COMMENTS
<input type="checkbox"/> MI	_____	_____	_____
<input type="checkbox"/> CABG	_____	_____	_____
<input type="checkbox"/> PTCA	_____	_____	_____
<input type="checkbox"/> Angina Pectoris	_____	_____	_____
<input type="checkbox"/> Other _____	_____	_____	_____

REFERRING PHYSICIAN INFORMATION

NAME _____
(Please Print) Last Name First Name

TEL () _____ FAX () _____ EMAIL _____

ADDRESS _____ POSTAL CODE _____

_____ Family Practice Cardiology C.V. Surgery Internist
(Physician Signature)

**** PLEASE NOTE: Attaching a12 Lead ECG and Discharge Summary will Expedite the Start of Rehabilitation**

PATIENT WAIVER

(Print) Last Name _____ First Name _____ Date Of Birth _____

I Hereby Authorize _____ to Release to Toronto Rehabilitation Institute any
Medical Records or Information Concerning my Admission.

Dated this _____ Day of _____ 20 _____

Signature _____ Witness _____

PROGRAM COMPARISON TOOL



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Comparison Tool for Patients Cardiac Rehab @ Home Service vs. Cardiac Rehab Onsite Program

	Cardiac Rehab @ Home Service	Cardiac Rehab Onsite Program
Assessments	Initial Cardiopulmonary Assessment	Initial Cardiopulmonary Assessment
	6 month Cardiopulmonary Assessment	6 month Cardiopulmonary Assessment
Intake/ Orientation Program	Attend Intake/orientation	Attend Intake/orientation
	Weekly/monthly telephone consultations with Cardiac Rehab Supervisor	Weekly/monthly appointments to centre with group
	Access to Dietitian, Social Worker, Psychologist by an individual appointment	Access to group education with Dietitian, Social Worker, Psychologist
		Access to Dietitian, Social Worker, Psychologist by an individual appointment
	Visits to centre if necessary for Resistance Training, Telemetry, other.	
	During weekly telephone consultations, individual education on various topics regarding heart health, goal setting, and exercise progression (self directed using education modules as well as discussion with Cardiac Rehab Supervisor)	Weekly classes for exercise, group education on various topics regarding heart health, goal setting and exercise progression
	Use of e-mail/fax for communication of exercise and education	
	Strong commitment to the program	Strong commitment to the program
Individual program	Group atmosphere with an individual program	
Length of Program	6 months	12 months

STEPS TO BUILDING YOUR REHAB GOAL



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Name: _____

Date: _____

Cardiac Rehab @ Home Service Steps to Building Your Goal

A goal is a specific area in your life that you would like to improve

Finding a Focus for Your Goal

1. What would you like to be doing consistently in the future?

2. What are you not able to do now that you used to be able to do?

3. What would you like to accomplish by the end of the program?

4. Are there any behaviours that you would like to modify?

SAMPLE REHAB GOALS

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Cardiac Rehab Program Sample Goals

Example of a goal to lower cholesterol

Goal (Specific, Measurable, Achievable, Relevant, Timely)
I want to lower my LDL (bad) cholesterol from 3.00 to 2.6 in 3 months.
Steps to achieve goal
A: I will make an appointment to see the dietitian for healthy eating tips. B: I will discuss my cholesterol medications with my doctor.

Example of a goal to lose weight

Goal (Specific, Measurable, Achievable, Relevant, Timely)
I want to lose 20 lbs over the course of the year.
Steps to achieve goal
A: I will make an appointment to see the dietitian for healthy eating tips. B: I will speak to my Cardiac Rehabilitation Supervisor about how to maximize the calories I burn with my exercise program.

Example of a goal to reduce stress

Goal (Specific, Measurable, Achievable, Relevant, Timely)
I want to reduce the amount of stress in my life.
Steps to achieve goal
A: I will meet with the social worker to learn techniques to manage my stress.



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Example of a goal to be more independent with day to day activities

Goal (Specific, Measurable, Achievable, Relevant, Timely)
I want to be able to run my errands on my own without depending on family members for support in 3 months.
Steps to achieve goal
A: I will speak to my Cardiac Rehabilitation Supervisor about my exercise program. B: I will meet with the social worker to find out about community resources that can help me to get things done.

Example of a goal to walk continuously with minimal discomfort in legs

Goal (Specific, Measurable, Achievable, Relevant, Timely)
In 6-months, be able to walk for 30 minutes without having to stop and rest because of my calf pain.
Steps to achieve goal
A: I speak to my doctor to find out why I have calf pain. B: I will speak to my Cardiac Rehabilitation Supervisor about my exercise program.

Example of a high level fitness goal

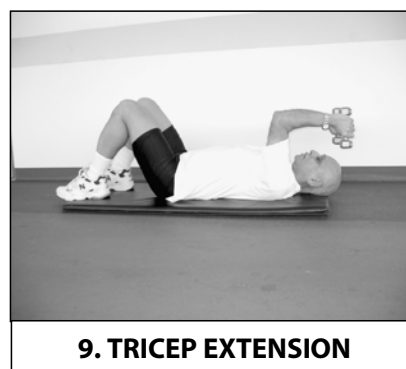
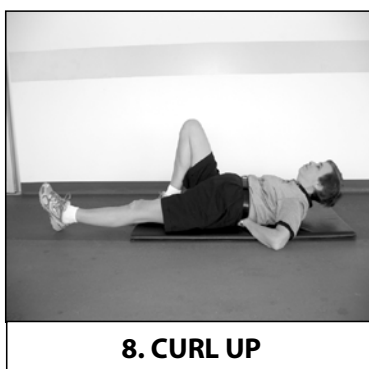
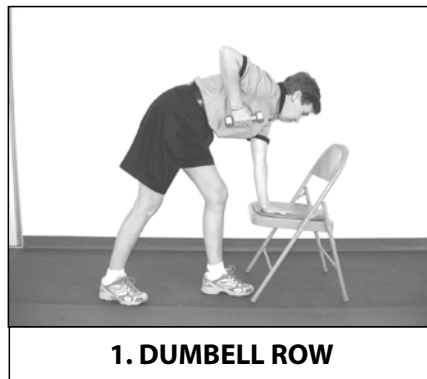
Goal (Specific, Measurable, Achievable, Relevant, Timely)
I want to participate in a 75km bike event in 4 months.
Steps to achieve goal
A: I will speak to my Cardiac Rehab Supervisor to determine if this is safe for me to do. B: I will speak to my Cardiac Rehabilitation Supervisor about my exercise program.

RESISTANCE TRAINING EXERCISES



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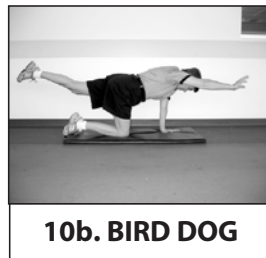
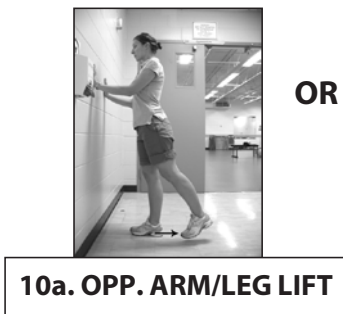
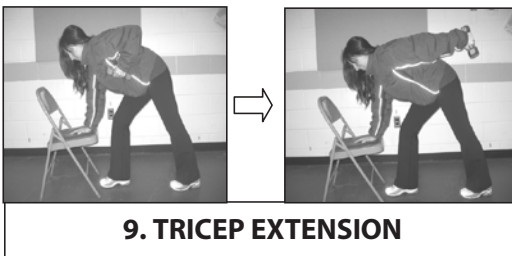
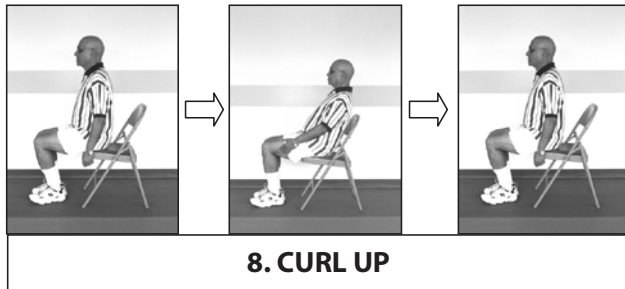
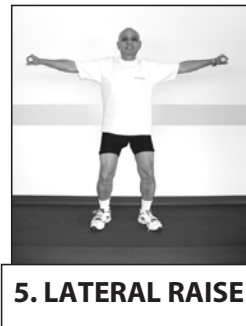
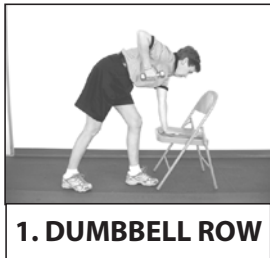
REGULAR Resistance Training Exercises





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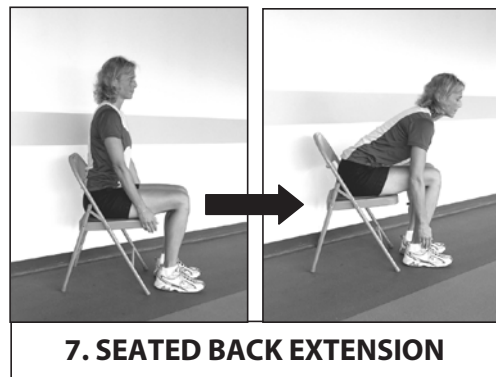
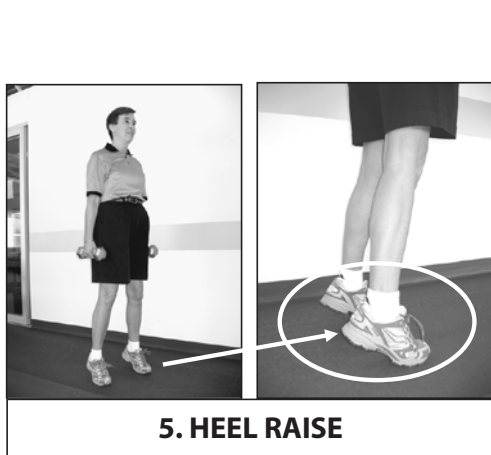
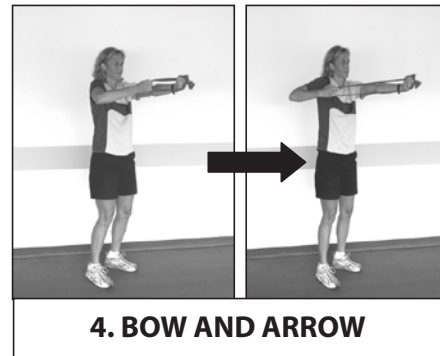
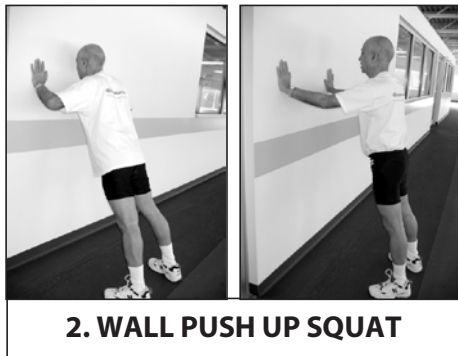
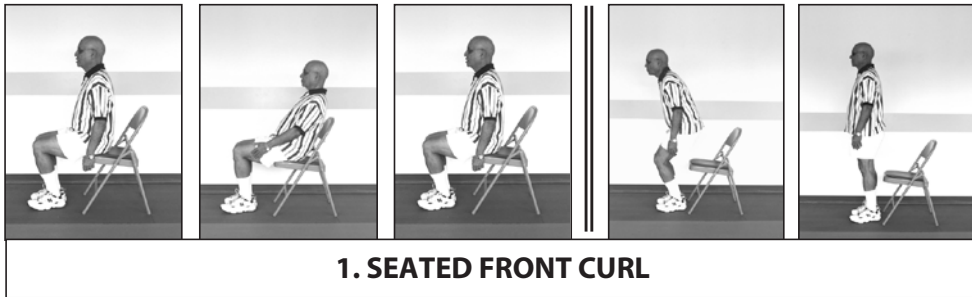
HYBRID
Resistance Training Exercises





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**ALTERNATIVE
Resistance Training Exercises**



EXERCISE DIARY

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Name: _____

Exercise Prescription: _____

Body Weight: _____ Day of Class: Tues Wed Thurs

EXERCISE DIARY

Date (mm/dd)	Type of Exercise	Distance (miles)	Duration (min/sec)	10 sec pulse		RPE*	Symptoms/ Remarks/ Other Activities
				Pre Ex.	Post Ex.		

RESISTANCE TRAINING DIARY

Exercise	Date:			Date:		
	Wt	Rep	RPE*	Wt	Rep	RPE*
1. Dumbbell Row						
2. Half Squat						
3. Bicep Curl						
4. Leg Curl						
5. Lateral Raise						

Exercise	Date:			Date:		
	Wt	Rep*	RPE	Wt	Rep	RPE*
6. Heel Raises						
7. Supine Fly						
8. Curl Ups						
9. Tricep Extension						
10. Bird Dog						

*RPE Scale (Rating of Perceived Exertion)

- 6
- 7 Very Very Light
- 8
- 9 Very Light
- 10
- 11 Fairly Light
- 12
- 13 Somewhat Hard
- 14
- 15 Hard
- 16
- 17 Very Hard
- 18
- 19 Very Very Hard
- 20

YOUR GOAL CORNER

What action did you take this week towards achieving your goal?

What went well this week in relation to your goal?

What did not go as planned this week in relation to your goal?



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HEALTH CARE UTILIZATION LOG

Please record all occurrences and appointments, since you submitted your last exercise diary, of visits to your family physician, specialist, or to hospital/clinics. Also, include visits to physicians outside of Toronto and outside of the country.

Check (✓) box below if you had no visits.

1. Hospital Admissions/Hospital Out-Patient visits including Emergency Department:

No
visits

Reason for Admission	Date	Hospital

2. Visits to Physician's Office or Home Visit:

No
visits

Reason for Visit	Date	Physician's Name

3. Other Out-Patient Services (laboratory, counseling, diagnostic tests, etc.):

No
visits

Reason for Visit	Date	Type of Service

4. Medication Changes:

No
visits

Medication	Date	Dose/Frequency

RATING SCALES

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Rating of Perceived Exertion Scale (Borg)	6	
	7	Very very light
	8	
	9	Very light
	10	
	11	Fairly light
	12	
	13	Somewhat hard
	14	
	15	Hard
	16	
	17	Very hard
	18	
	19	Very very hard
20		

Rating of Perceived Pain Scale (Borg)	0	Nothing at all
	0.3	
	0.5	Extremely weak (just noticeable)
	1	Very weak
	1.5	
	2	Weak
	2.5	
	3	Moderate
	4	
	5	Strong
	6	
7	Very strong	
8		
9		
10	Extremely strong	

Shortness of Breath Scale (Borg)	0	Nothing at all
	0.5	Very very slight (just noticeable)
	1	Very slight
	2	Slight
	3	Moderate
	4	Somewhat severe
	5	Severe
	6	
	7	Very severe
	8	
	9	Very, very severe (almost maximal)
10	Maximal	

TELEPHONE CONSULTATION RECORD

 <p>Toronto Rehab Everything Humanly Possible</p>	<p>Toronto Rehabilitation Institute A University of Toronto Teaching and Research Hospital</p> <p><input type="checkbox"/> HC <input type="checkbox"/> LC <input type="checkbox"/> BC <input type="checkbox"/> RC <input type="checkbox"/> UC</p>	
<p>Home Program Telephone Consultation Record</p>		

Date: _____ Scheduled Time of Consultation: _____ Actual Time of Consultation: _____


Total Length of Call: _____ Minutes Weekly Call #: _____ Monthly Call #: _____

- | | |
|---|--|
| <input type="checkbox"/> Exercise Diary Received | <input type="checkbox"/> Goal Setting |
| <input type="checkbox"/> Review Previous Week | <input type="checkbox"/> Risk Factor Review |
| <input type="checkbox"/> Review Current Exercise Prescription | <input type="checkbox"/> Review Education Module |
| <input type="checkbox"/> Exercise Progression | <input type="checkbox"/> Clinical Issues |
| | <input type="checkbox"/> Questions |

Preparation For Telephone Consultation:

Notes From Telephone Consultation:

Signature: _____ Ex Rx: _____ Training Heart Rate _____ Beats Per Min

	Toronto Rehabilitation Institute A University of Toronto Teaching and Research Hospital <input type="checkbox"/> HC <input type="checkbox"/> LC <input type="checkbox"/> BC <input type="checkbox"/> RC <input type="checkbox"/> UC	XXXXXX, XXXXX Patient #: 0000000	<h1>SAMPLE</h1>
	Home Program Telephone Consultation Record		

Date: March 25 09 Scheduled Time of Consultation: 9:00 AM Actual Time of Consultation: 9:00 AM

Total Length of Call: 17 Minutes Weekly Call #: 5 Monthly Call #:

- | | |
|---|--|
| <input type="checkbox"/> Exercise Diary Received | <input type="checkbox"/> Goal Setting |
| <input type="checkbox"/> Review Previous Week | <input type="checkbox"/> Risk Factor Review |
| <input type="checkbox"/> Review Current Exercise Prescription | <input type="checkbox"/> Review Education Module |
| <input type="checkbox"/> Exercise Progression | <input type="checkbox"/> Clinical Issues |
| | <input type="checkbox"/> Questions |

Preparation For Telephone Consultation: Review goals from last week: increase of walk distance to 1 mile 22 min, nutrition module review, daily tracking of weight. Check symptoms for HF. Dosage of Lasix? Review Risk Factor Education module this week

Notes From Telephone Consultation: Patient forwarded exercise diary prior to today's consult. Patient reports a good week with respect to the goals set last week. Patient denies chest pain and shortness of breath. Weight has remained stable at 75 kg and patient does not report swelling of ankles.

Patient achieved goal of reviewing the nutrition education module (sodium). Patient reviewed the webcast and the workbook this week. Patient reports the most important information learned in the module was that 1500 mg was the target level of sodium intake. Patient feels that from the information he learned he would feel confident to start to use other methods of flavouring food as he feels his food is tasteless without salt. Discussed and developed strategies such as using more herbs and using flavour enhancers like lemon to. Discussed fluid restriction. Patient has been restricting fluid over the last 6 months and feels confident in managing this. Patient feels he would like to have his current diet reviewed with the dietitian and have his wife attend. Discussed filling out food diary in preparation for appointment.

Patient confirmed new dosage of Lasix of 40 mg od. Patient had questions regarding diuretics. Provided education about its benefits and side effects.

Patient was able to progress from 0.5 miles in 11 minutes last week to 1 mile in 22 minutes this week 5 times with no problems. RPE continues to be 14 and heart rate remains at training heart rate. Patient was able to confirm measurement of his outdoor route through the gmap website that was provided last week.

This Week's Goals: 1) to use herbs/lemon in 3 meals this week for more flavour, 2) to book an appointment with program dietitian, 3) to fill out food diary for 3 days this week, 4) to continue to walk 1 mile in 22 minutes 5 times per week.

Next call confirmed for April 1 at 9 am.

Signature: _____ Ex Rx: Walk 1 mile in 22 min 5/wk Training Heart Rate: 102 Beats Per Min

RISK STRATIFICATION

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Home Program - Risk Stratification (CACR)

Parameter	Low Risk	Intermediate Risk	High Risk	Risk Per Parameter
Functional Capacity	> 8 mets	> 6 mets	< 6 mets	
LV Function	> 50% (Grade 1)	> 40% (Grade 2)	< 40% (Grade 3-4)	
Dysrhythmia	None	PVC's only (< 10/hr) controlled asymptomatic afib	Complex ventricular	
Systolic BP Response	Appropriate rise	Flat response	Significant fall > 15 mmHg	
Ischemia	None/mild/moderate one vessel	Severe one vessel, mild two vessel	Moderate/severe multivessel	
ST Segment Depression	< 2mm	< 3mm	> 3mm	
Multivessel or LM CAD	No	No	Yes	
Congenital HD	No	No	Yes	
Valvular HD	None	Mild to moderate	Moderated to severe	
Angina	None	None	Yes	
Final Risk:				

ASSESSMENT LETTER

13



D.O.B. _____
ID: _____

CARDIOPULMONARY EXERCISE TEST REPORT

(Date of Report)

Thank you for referring _____ to the Cardiac Rehabilitation and Secondary Prevention Program. A Cardiopulmonary Exercise Test was performed and the results are detailed below for your review.

Protocol: _____ Duration: _____ minutes
 Resting HR: _____ BPM Peak HR: _____ BPM (____% of age pred Max)
 Resting BP: _____ mmHg Peak BP: _____ mmHg
 PEAK VO₂: _____ ml/kg/min or _____ METS (____% of age and gender predicted norms)
 Resting ECG:
 Exercise Study:
 Ectopy:
 ST Changes:
 Symptoms:
 Reason for Test Termination:
 Impression:
 Comments on HR, BP, ECG, Symptoms:

Toronto Rehabilitation
Institute
A University of Toronto
Teaching and
Research Hospital

Rumsey Centre
347 Rumsey Road
Toronto, Ontario M4G 1R7


Tel: 416-597-3422
www.torontorehab.com

_____ has selected to join our Cardiac Rehab @ Home Program. The patient will be receiving one on one comprehensive education and counseling from a Cardiac Rehab Supervisor on a weekly basis by telephone and e-mail/fax.

If you have additional questions, please contact us at 416-597-3422 ext 5200.

_____ (Signature)

CASE MANAGER TRACKING TOOL

	Toronto Rehabilitation Institute A University of Toronto Teaching and Research Hospital <input type="checkbox"/> HC <input type="checkbox"/> LC <input type="checkbox"/> BC <input type="checkbox"/> RC <input type="checkbox"/> UC	
	Home Program Case Manager Tracking Tool	

Patient E-mail Address		Diary Sent	<input type="checkbox"/> E-mail <input type="checkbox"/> Fax <input type="checkbox"/> Mail <input type="checkbox"/> Verbal
Patient Contact Number for calls			
Intake Date		Trial Completed	
Weekly Call Time		Monthly Call Time	
Contacts:			

	Date	Type of Contact (Call, RT, Telem, Trial)	Result (completed, N/S)	Notes
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

Education

Topic	Date Completed
Orientation	
Warm Up and Cool Down – Weather conditions	
Exercise and Diabetes	
Stretches	
Nutrition – cholesterol, labels, fats	
Risk Factor Profile	
Stress and Lifestyle Management	
Goal Setting	
Resistance Training	
Nutrition – Blood pressure and weight management	
Cardiac Meds	
Satisfaction Survey	

WEBCAST LECTURES

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Warm-up and Cool-down

In this session you will understand the importance of the warm-up and cool-down as part of your exercise routine, and learn how to safely incorporate it into your program.

Exercise in Hot Weather

Here, you will learn about the body's reaction to hot weather. You will understand when the air temperature, humidity and air quality are safe for outdoor exercise. Safety precautions will be outlined for outdoor exercise in the hot weather.

Exercise in Cold Weather

Cardiac rehabilitation participants will learn about the body's reaction to cold weather and other winter hazards. You will become aware of the safe air temperature for outdoor exercise in the winter as well as understand how to dress appropriately for outdoor exercise. Indoor exercise alternatives will also be explored.

Exercise and Diabetes

In this session you will understand how exercise helps to control blood sugar, how to exercise safely if you are living with diabetes and how to prevent foot injuries/ulcers.

Nutrition: Cholesterol, Fats and Label Reading:

In this session you will recognize food choices that are healthy for your heart. You will be able to identify sources of saturated, trans and unsaturated fat. You will be able to interpret and understand the nutrition information on food labels.

Risk Factor Profile:

In this session you will learn about the traditional risk factors for heart disease, identify which risk factors you can change and learn how to take control over those risk factors.

Resistance Training:

Here, you will learn about the benefits and goals of resistance training. Screening for safety prior to participation will be explored. Please note: participation in resistance training must first be cleared by your Exercise Supervisor and/or Physician prior to starting.

Goal Setting:

In this session you will come to understand the importance of setting goals, know how to set a goal properly and choose a goal to start working on today!



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Resistance Training Video:

In this video, Cardiac Rehab Exercise Supervisors Susan Marzolini and Christine Ford will demonstrate both the Regular program and Alternative resistance training program. Close attention to technique will be explored. *NOTE: These exercises are intended for participants in the Toronto Rehabilitation Cardiac Rehabilitation Program who have been screened for safety and have been appropriately advised by their Exercise Supervisor and/or Physician.*

Nutrition: Blood Pressure Control and Weight Management:

In this session you will learn how to recognize hidden sources of sodium in foods and know what foods to include in your diet for blood pressure control. Proper portion sizes for food will also be explored.

Reversing Coronary Heart Disease:

In this session you understand the lifestyle changes that can slow/halt the progression of heart disease. A review of the research showing which lifestyle changes contribute most to the reversal of heart disease will be explored. You will also understand the role of exercise in reversing heart disease.

Chronic Stress is a Risk factor for Heart Health:

Information about how stress works on the body will be evaluated. A review of stress as a risk factor for heart disease will be discussed.

Getting Started with Life Style Changes:

Practical approaches to stress reduction will be explored as well as tips on how to develop your action plan for change.

Getting Started With Relaxation (Video):

In this session, Dr. Reitav will demonstrate proper breathing techniques which will aid in practicing relaxation.

Progressive Muscle Relaxation (Video):

Dr. Reitav systematically takes you through a series of relaxation exercises.

Webcasts available and can be accessed at: www.torontorehab.com/patient/cardiac/patientedwebcasts.html

COMPLIANCE LETTER

16



Date _____

Address _____

Dear _____,

Unfortunately we have been unable to contact you successfully by telephone or e-mail since _____. In order to experience the benefits of the Cardiac Rehabilitation @ Home Program, regular communication between us is necessary. At this time I can only assume that you are no longer interested in participating in the program.

Please contact me at the phone number or email listed below by _____ if you are still interested in participating in the Cardiac Rehabilitation @ Home Program at Toronto Rehab. If I do not hear from you, I will assume it is not an appropriate time for you and will close your file. If in the future you decide to participate, please contact your family physician for a re-referral to the program and we will be happy to work with you.

Sincerely,

[Name of CRS]
 Cardiac Rehabilitation Supervisor
 CRS email address
 CRS phone number

Toronto Rehabilitation
 Institute
 A University of Toronto
 Teaching and
 Research Hospital

Rumsey Centre
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 Toronto, Ontario M4G 1R7

Tel: 416-597-3422
www.torontorehab.com

SATISFACTION SURVEY



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Date: _____

End of Program Patient Survey

Congratulations on completing the Cardiac Rehab Home Program! Please take a few minutes to complete this survey. We value your opinion.

Please rate the following on the provided scale, by circling the appropriate number.
 If you are completing this electronically, type an 'X' to the left of the number of your choice.

1	The length of the 6 month program was...	1	2	3	4	5
		Too short		Appropriate		Too long
2	I was contacted for my telephone consultations on time	1	2	3	4	5
		Never	Most of the time		All the time	
3	The length of time for each telephone consultation was...	1	2	3	4	5
		Too short		Appropriate		Too long
4	The frequency of the telephone consultations were...	1	2	3	4	5
		Too much		Appropriate		Too few
5	I had the chance to discuss all of my issues on each telephone consultation	1	2	3	4	5
		Never	Most of the time		All the time	
6	I was given the opportunity to ask questions on each telephone consultation	1	2	3	4	5
		Never	Most of the time		All the time	
7	My questions were answered to my satisfaction on each telephone consultation	1	2	3	4	5
		Never	Most of the time		All the time	
8	I understood the information in each of the Education Modules	1	2	3	4	5
		Never	Most of the time		All the time	
9	The Education Modules were easy to access	1	2	3	4	5
		Never	Most of the time		All the time	



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 Cardiac Rehabilitation and Secondary Prevention Program
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End of Program Patient Survey (Continued)

10	The Education Modules were easy to review	1	2	3	4	5						
		Never		Most of the time		All the time						
11	I was able to forward my exercise diary to my Cardiac Rehab Supervisor easily	1	2	3	4	5						
		Never		Most of the time		All the time						
12	I had difficulties communicating with my Cardiac Rehab Supervisor electronically (i.e., e-mail)	1	2	3	4	5						
		Never		Most of the time		All the time						
13	Discussion about my program goals occurred on a regular basis	1	2	3	4	5						
		Never		Most of the time		All the time						
14	My exercise program was reviewed on a regular basis	1	2	3	4	5						
		Never		Most of the time		All the time						
15	What was the most important lifestyle change you made as a result of participating in the Cardiac Rehab @ Home Service?											
16	How confident are you that you will continue with this lifestyle change about completing the Cardiac Rehab @ Home Service?	1	2	3	4	5	6	7	8	9	10	
		Not very confident								Very confident		
17	Would you recommend this program to family/friends?							<input type="checkbox"/> Yes		<input type="checkbox"/> No		
18	Overall, the quality of care and service you received from this hospital was...	1	2	3	4	5						
		Poor	Fair	Good	Very Good	Excellent						
19	Please add any comments or suggestions.											

GRADUATE CERTIFICATE

18



Certificate of Completion

Signed

for successfully completing all aspects of Toronto Rehab's
Cardiac Rehabilitation & Secondary Prevention Program

Date

Signed







Toronto
Rehab

Everything Humanly Possible

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