## Appendix I

### American Association of Cardiovascular and Pulmonary Rehabilitation (AACVPR)- Risk Stratification Criteria for Cardiac Patients

<table>
<thead>
<tr>
<th>Low Risk</th>
<th>Moderate Risk</th>
<th>High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>- No significant left ventricular dysfunction (ejection fraction &gt;50%)</td>
<td>- Moderately impaired left ventricular function (ejection fraction = 40-49%)</td>
<td>- Decreased left ventricular function (EF &lt; 40%)</td>
</tr>
<tr>
<td>- No resting or exercise-induced Complex arrhythmias</td>
<td>- Signs/symptoms including angina at moderate levels of exercise (5-6.9 METs) or in recovery</td>
<td>- Survivor of cardiac arrest or sudden death</td>
</tr>
<tr>
<td>- Uncomplicated MI; CABG; angioplasty, atherectomy or stent: arrhythmias at rest or with exercise - absence of CHF or sign/symptoms of post-event ischemia</td>
<td></td>
<td>- Complex ventricular</td>
</tr>
<tr>
<td>- Normal hemodynamics with exercise surgerycomp- Or recovery shock ischemia</td>
<td></td>
<td>- MI or cardiac</td>
</tr>
<tr>
<td>- Asymptomatic including absence Of angina with exertion or recovery flat or incompetence</td>
<td></td>
<td>- Abnormal hemodynamics with exercise (especially or decreasing systolic BP chronotropic with increasing workload</td>
</tr>
<tr>
<td>- Functional capacity &gt; 7 METs † including exer-</td>
<td></td>
<td>- Signs/symptoms Angina at low levels of exercise &lt; 5 METs or at rest</td>
</tr>
<tr>
<td>- Absence of clinical depression</td>
<td></td>
<td>- Functional capacity of &lt; 5METs †</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Clinically significant dep-</td>
</tr>
</tbody>
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* † Functional capacity > 7 METs † functional capacity of < 5METs † ## Appendix I

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<td></td>
<td>- Clinically significant dep-</td>
</tr>
</tbody>
</table>

* † Functional capacity > 7 METs † functional capacity of < 5METs †
| Low risk classification is assumed when each of the descriptions in the category included is present | Moderate risk is assumed for patients who do not meet the classification of either high or low risk | High risk is assumed the presence of anyone the descriptions in this category |


†Note: If measured functional capacity is not available, this variable is not considered in the risk-stratification process. Abbreviations: MI, myocardial infarction; CABG, coronary artery bypass graft surgery; CHF, congestive heart failure; METs, metabolic equivalents (1MET = 3.5ml·kg\(^{-1}\)·min\(^{-1}\), resting oxygen consumption)
Appendix II

The SF-36v2™ Health Survey

Instructions for Completing the Questionnaire

Please answer every question. Some questions may look like others, but each one is different. Please take the time to read and answer each question carefully by filling in the bubble that best represents your response.

EXAMPLE

This is for your review. Do not answer this question. The questionnaire begins with the section Your Health in General below.

For each question you will be asked to fill in a bubble in each line:

1. How strongly do you agree or disagree with each of the following statements?

   a) I enjoy listening to music.
   b) I enjoy reading magazines.

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>●</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

Please begin answering the questions now.

Your Health in General

1. In general, would you say your health is:

<table>
<thead>
<tr>
<th>Excellent</th>
<th>Very good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
</tbody>
</table>

2. Compared to one year ago, how would you rate your health in general now?

<table>
<thead>
<tr>
<th>Much better now than one year ago</th>
<th>Somewhat better now than one year ago</th>
<th>About the same as one year ago</th>
<th>Somewhat worse now than one year ago</th>
<th>Much worse now than one year ago</th>
</tr>
</thead>
<tbody>
<tr>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
</tbody>
</table>

Please turn the page and continue.
3. The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

<table>
<thead>
<tr>
<th>Activity Description</th>
<th>Yes, limited a lot</th>
<th>Yes, limited a little</th>
<th>No, not limited at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Vigorous activities, such as running, lifting heavy objects,</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
</tr>
<tr>
<td>participating in strenuous sports</td>
<td>PF01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Moderate activities, such as moving a table, pushing a</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
</tr>
<tr>
<td>vacuum cleaner, bowling, or playing golf</td>
<td>PF02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Lifting or carrying groceries</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
</tr>
<tr>
<td>d) Climbing several flights of stairs</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
</tr>
<tr>
<td>e) Climbing one flight of stairs</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
</tr>
<tr>
<td>f) Bending, kneeling, or stooping</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
</tr>
<tr>
<td>g) Walking more than a mile</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
</tr>
<tr>
<td>h) Walking several hundred yards</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
</tr>
<tr>
<td>i) Walking one hundred yards</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
</tr>
<tr>
<td>j) Bathing or dressing yourself</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
</tr>
</tbody>
</table>

4. During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

<table>
<thead>
<tr>
<th>Problem Description</th>
<th>All of the time</th>
<th>Most of the time</th>
<th>Some of the time</th>
<th>A little of the time</th>
<th>None of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Cut down on the amount of time you spent on work or other activities</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
<tr>
<td>b) Accomplished less than you would like</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
<tr>
<td>c) Were limited in the kind of work or other activities</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
<tr>
<td>d) Had difficulty performing the work or other activities (for example, it took</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
</tbody>
</table>
5. During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

<table>
<thead>
<tr>
<th></th>
<th>All of the time</th>
<th>Most of the time</th>
<th>Some of the time</th>
<th>A little of the time</th>
<th>None of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Cut down on the amount of time you spent on work or other activities</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
<tr>
<td>b) Accomplished less than you would like</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
<tr>
<td>c) Did work or other activities less carefully than usual</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
</tbody>
</table>

6. During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Slightly</th>
<th>Moderately</th>
<th>Quite a bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
</tbody>
</table>

7. How much bodily pain have you had during the past 4 weeks?

<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>Very mild</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
<th>Very severe</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
<td>O₆</td>
</tr>
</tbody>
</table>

8. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>A little bit</th>
<th>Moderately</th>
<th>Quite a bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
</tbody>
</table>

9. These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks...

<table>
<thead>
<tr>
<th></th>
<th>All of the time</th>
<th>Most of the time</th>
<th>Some of the time</th>
<th>A little of the time</th>
<th>None of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) did you feel full of life?</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
<tr>
<td>b) have you been very nervous?</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
<tr>
<td>c) have you felt so down in the dumps that nothing could cheer you up?</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
<tr>
<td>d) have you felt calm and peaceful?</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
<tr>
<td>e) did you have a lot of energy?</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
<tr>
<td>f) have you felt downhearted and depressed?</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
<tr>
<td>g) did you feel worn out?</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
<tr>
<td>h) have you been happy?</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
<tr>
<td>i) did you feel tired?</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
</tbody>
</table>
10. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives, etc.)?

<table>
<thead>
<tr>
<th>All of the time</th>
<th>Most of the time</th>
<th>Some of the time</th>
<th>A little of the time</th>
<th>None of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
</tbody>
</table>

SF02

11. How TRUE or FALSE is each of the following statements for you?

<table>
<thead>
<tr>
<th></th>
<th>Definitely true</th>
<th>Mostly true</th>
<th>Don’t know</th>
<th>Mostly false</th>
<th>Definitely false</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) I seem to get sick a little easier than other people</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
<tr>
<td>b) I am as healthy as anybody I know</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
<tr>
<td>c) I expect my health to get worse</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
<tr>
<td>d) My health is excellent</td>
<td>O₁</td>
<td>O₂</td>
<td>O₃</td>
<td>O₄</td>
<td>O₅</td>
</tr>
</tbody>
</table>

GH02  GH03  GH04  GH05
### Appendix III

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Nothing at all</td>
</tr>
<tr>
<td>7</td>
<td>Very, very light</td>
</tr>
<tr>
<td>8</td>
<td>Just noticeable</td>
</tr>
<tr>
<td>9</td>
<td>Very light</td>
</tr>
<tr>
<td>10</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Fairly light</td>
</tr>
<tr>
<td>12</td>
<td>Light</td>
</tr>
<tr>
<td>13</td>
<td>Somewhat hard</td>
</tr>
<tr>
<td>14</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Hard</td>
</tr>
<tr>
<td>16</td>
<td>Heavy</td>
</tr>
<tr>
<td>17</td>
<td>Very hard</td>
</tr>
<tr>
<td>18</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Very, very hard</td>
</tr>
<tr>
<td>20</td>
<td>Strongest intensity</td>
</tr>
</tbody>
</table>
Appendix IV

CONSENT FORM

I have been informed that this study will evaluate the effect of Hospital versus home-based cardiac rehabilitation on quality of life.

I understand that I will be assigned to either the experimental or the control group. If I am assigned to the control group, I only will be given education and advice by my physician and I will be asked to answer the questionnaire.

If I am assigned to experimental group I will be given education about cardiac risk factors and also aerobic training program (either Hospital –based or Home-based) and I will be asked a series of questions by the therapist, during the course of this study.

In either group I am assigned I will have to undergo a stress testing procedure, and echocardiography for the purpose of this study.

I understand that there are no associated risks or discomforts involved in this study. The benefits gained will be improvements in my quality of life. However the major benefit will be furthering the general knowledge about this cardiac rehabilitation program for the benefits of patients with coronary artery diseases and health professionals.
The medical information produced by this study will become part of my hospital record and will be subject to the confidentiality and privacy regulations of the Manipal University. If the data are used for publication in the medical literature or for teaching purposes, no names will be mentioned. I am entitled to ask more questions about the study at any time to the research therapist.

My participation in this study is voluntary and I may refuse to participate or may withdraw consent and discontinue participation from the study at any time during the study course. Also my research therapist may terminate my participation in this study at any time without prior intimation and arrange for alternate continual care by another physiotherapist.

I have read and/or have been made to understand the entire consent form in the language I understand and agree to give my consent to participate as a subject in this research project.

---------------------  ---------------------
Participant  Date

---------------------  ---------------------
Witness of signature  Date
Appendix V

Department of Physiotherapy,
Kasturba Hospital,
Manipal

Educational Program for Life Style Modification

What is a Heart attack?

A blockage to a blood vessel of the heart [Coronary Artery] causes a heart attack. This leads to the damage [death] and destruction of the heart muscles that will be unable to function. It can cause severe chest pain, general weakness, heart failure or a rupture of the heart muscle wall or one of the valves, Depending on the area involved

What is Angina Pectoris?

If there is only a partial blockage of the blood vessels there will be no 'heart attack'. The person will get only brief episodes of chest pains on and off, relieved by rest and medicines. More as a pressure or tightness over the mid chest and sometimes over the shoulder, jaw or arm, often on the left side.

How do we treat heart attacks?

The best method to treat heart attack is to prevent them. Next is early diagnosis and early treatment of aggravating and precipitating factors. There are many "risk factors" that cause a higher incidence of heart attacks in any group of population. We must make efforts to avoid these risk factors. Early treatment can prevent death and disability in a large number of people.
What is a risk factor?

The various things that indicate a higher incidence or higher probability of a heart disease are called ‘Risk Factors’. In the past few years, medical research has developed a list of factors to identify persons who are likely to develop a heart condition, heart attack or a stroke, more than others. Early preventive measures and treatments have to be done to avoid a major heart attack and complications with disability. Many of these individuals will need Planned diet and Exercise program, a Life style modification, some treatment for the underlying medical problems and investigation and early treatment for the heart disease.

What are the "Risk Factors"?

The major coronary risk factors are :
[1] Family history of heart disease prior to the age of 50 years among close relatives;
[2] Diabetes mellitus, not well controlled;
[3] High blood pressure, not well controlled;
[4] High cholesterol and high triglyceride (fat) levels in blood;
[5] Cigarette smoking (heavy smoking for many years).
[6] Obesity
[7] In-active life style

Who needs check ups and treatment?

Every one in this high risk category or with strong family history needs periodic checkups, risk factor analysis and life style modifications. Individuals can not change their gender [as male gender is a risk factor], genetic characters, family history or past life style. But, by new efforts for proper life style modification, early diagnosis and treatment of diseases that are risk factors, one can minimize the effects of the coronary artery disease. Everyone needs to get regular medical check-ups and seek medical advice for early treatment for high blood pressure, elevated blood glucose, obesity, abnormal cholesterol and triglycerides.

Introduction to Therapeutic Life Style Changes

We all need to learn what makes us feel good and what is good for us. We all need to learn how to balance nutrition, fitness, work, stress, relationship, and
medication in order to live a healthy life style. Making healthy choices in all these areas can lead to an overall feeling of wellness. You may have been prescribed many medications for your health and for your ailment. Many of these medications may cause undesirable side effects. The most important thing you can do, especially if you have a health problem, is to eat the right type of food and balance the food you eat and keep the calories under control. Everyone needs to get regular medical check-ups and seek medical advice for early treatment for high blood pressure, elevated blood glucose, obesity, abnormal cholesterol and triglycerides.

So: Choose healthy and well balanced foods, foods high in fiber, low in fat and low in sugar. Eat your favorite foods that you enjoy, but count the Calories and limit the quantity. Eat right amount of food, at the right times, as several [3 or 4] meals a day - do not skip meals. Do not starve anytime.

1- Avoid sugars, salts and spicy foods if you have diabetes, hypertension or stomach problems. If you have obesity or diabetes: cut down your Calories -by 200 to 300 Calories a day at a time.

2- Avoid Alcohol with each meal. More than one or two drinks will cause harm. Remember one or two drinks per week only.

3- Quit Cigarette smoking

4- Weight loss

5- Eat a variety of foods There are over 40 nutrients that your body needs to stay healthy. Since no single food can supply all these nutrients, it is important to eat a variety of foods to make sure that you are getting enough of all of them. Foods in these groups include: Breads [Starch]; Meat [Proteins]; Milk & Dairy Products; Fruits & Vegetables;

Choose a diet low in Fat, saturated fat and cholesterol.

There are many different kinds of fats. Although some fat is needed in a healthy diet, too much saturated fat can cause problems.

Avoid foods high in saturated fat such as bacon, sausage, bologna, ham, butter, whole milk, ice cream, cream cheese, and peanut butter.
Appendix VI

Screening of Post-event CAD Patients

Name: 

Age & Sex: 

DOA: 

ID number: 

Patient hospitalized with final Diagnosis: 

ECG: 

Echo: 

Cardiac enzymes: 
- CPK:-----------  - CKMB:--------- 
- Trop T:---------  - ATPP:--------- 

Clinical Diagnosis:  
☐ Unstable Angina  
☐ NSTEMI 

Comments: --------------------------------------------------------------------------------------------------------

Screening for Inclusion & Exclusion Criteria:  
☐ Included (Date): ---------------------.

☐ Excluded:  
- ---- LVEF< 40%  
- ---- Hx of Cardiac arrest or sudden death  
- ---- Complex ventricular arrhythmia at rest or exercise  
- ---- Complicated MI or surgery by Cardiogenic shock, CHF or Post-event Ischemia
Appendices

- ----- Signs/symptoms of angina at low level exs< 5 METs
- ----- Functional capacity< 5 METs
- ----- Abnormal hemodynamics with exercise
- ----- Clinically significant depression
- ----- Unwilling to participate

Comments:---------------------------------------------------------------------------------------------------------------------------------
To be re-evaluated after 2-3 weeks for treadmill test for final low and moderate risk stratification.
### Appendix VII

**Medical History & Assessment Form**

Name:  
ID number:  
Contact No. & Address:  

Age & sex:  
Date:  

---

**Dx:**

**Procedure:**
- □ Conservative
- □ Surgical: □ CABG  
- □ PTCA  

Vessel involvement: _____________

Stent: Y/ N

---

**Risk Stratification (AACVPR):**
- □ Low
- □ Moderate

**Group:**
- □ Hospital-based
- □ Home-based
- □ Control

---

**Medical Hx**

<table>
<thead>
<tr>
<th></th>
<th>Current</th>
<th>past</th>
<th>current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart attack</td>
<td>□</td>
<td>□</td>
<td>Diabetes</td>
</tr>
<tr>
<td>Angina</td>
<td>□</td>
<td>□</td>
<td>High Cholesterol</td>
</tr>
<tr>
<td>Stroke</td>
<td>□</td>
<td>□</td>
<td>Cancer</td>
</tr>
<tr>
<td>HTN</td>
<td>□</td>
<td>□</td>
<td>Renal Dx</td>
</tr>
</tbody>
</table>

- **Risk factors:**
  - □ Obesity
  - □ Elevated Blood Pressure
  - □ Dyslipidemia
  - □ Smoke
  - □ Diabetes
  - □ Hx of Heart/pul Dx
  - □ Sedentary life style

- **Personal Habits**
  - □ Yes  
  - □ No  
  - Ex-smoker
  - □ Daily
  - □ Once a week
  - □ Once a month

- **Dietary habit:**
  - □ Veg
  - □ Non-Veg
  - □ Mixed

- **Life style:**
  - □ Sedentary
  - □ Regular exercise
  - Irregular
Physical Exam

Inspection:
- [ ] RD
- [ ] Cyanosis
- [ ] Pallor
- [ ] JVD
- [ ] Cough
- [ ] Sputum:
- [ ] Color
- [ ] quantity
- [ ] Consistency

Palpation:
- [ ] pedal edema

Pulse:
- [ ] PR----
- [ ] Rhythm-----
- [ ] Volume-----

BP:--------

Auscultation:
- Heart Sounds:
- Murmurs:
- Lung sounds:
- Height:-----------------
- Weight:---------------
- BMI:------------------
- Skin fold measurements:
  - Triceps: -------------
  - Abdominal:------------

Blood Investigation:
- [ ] Hem
- [ ] HCT
- [ ] WBC
- [ ] Platelet
- [ ] Crt
- [ ] FBS
- [ ] ESR
- [ ] PT
- [ ] TT
- [ ] CKMB
- [ ] APTT

Blood Lipids
- [ ] Cholesterol
- [ ] HDL
- [ ] LDL

ECG:

CXR:

PFT: FVC:--------/ FEV1:--------/ FEF25-75%:--------/ VC:--------/ TLC:-------
- RV:--------/ FEV1/FVC:--------

Invasive Investigation:

Social Hx
- Occupation:------------------
- Educational level: ---------
- Marital status:------------
**Base line Data:**

Echo: - EF:----------  
- EDD:----------  
- ESD:----------  
- EDV:----------  
- ESV:----------  
  
Abn. Wall motion:  
- Hypokinesia: Y/N @----------  
- Dyskinesia: Y/N @----------  
- Akinesia: Y/N @----------  

GXT: - MET level:----------  
- Total time: ----------  
- Max-RPP:----------  
  
- Exercise Response:  
  - Rhythm changes: Y/N @---------- min  
  - Ischemic Changes: Y/N @---------- min  
  - Dizziness: Y/N @---------- min  
  - Angina: Y/N @---------- min  
  - Dyspnea: Y/N @---------- min  
  - Claudication: Y/N @---------- min  

SF-36:

**Treatment Plan:**

- Hospital- Based CR:  
- Home-Based CR  
- Control group

Educational program: Life style modification and food habits (Apendix)

Exercise Treatment (In case of Hospital or Home-based group)

<table>
<thead>
<tr>
<th></th>
<th>1st month</th>
<th>2nd month</th>
<th>3rd month</th>
</tr>
</thead>
<tbody>
<tr>
<td>THR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of aerobic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RPE</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
### Post-intervention Re-evaluation

<table>
<thead>
<tr>
<th>Name:</th>
<th>Age &amp; sex:</th>
<th>ID number:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group:</td>
<td></td>
<td>Hospital- Based</td>
<td>Home- Based</td>
</tr>
</tbody>
</table>

**Echo:**

- EF:----------
  - EDD:----------
  - ESD:----------
  - EDV:----------
  - ESV:----------

**Abn. Wall motion:**

- Hypokinesia: Y/N @----------
- Dyskinesia: Y/N @----------
- Akinesia: Y/N @----------

**GXT:**

- MET level:----------
- Total time:---------
- Max-RPP:----------

- Exercise Response:
  - Rhythm changes: Y/N @------min
  - Ischemic Changes: Y/N @------min
  - Dizziness: Y/N @------min
  - Angina: Y/N @------min
  - Dyspnea: Y/N @------min
  - Claudication: Y/N @------min

**SF-36:**
Appendix VIII

Exercise session program

Hospital-based group

Name: Age & sex:

ID number:

Address & contact number:

<table>
<thead>
<tr>
<th>Risk stratification:</th>
<th>□ Low</th>
<th>□ Moderate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment Procedure:</td>
<td>□ Only medical</td>
<td>□ PTCA</td>
</tr>
</tbody>
</table>

EF: --------

GXT report: 1) Achieved MET level on stress test: ---------

2) Achieved Max HR: -----------

Exercise Treatment Plan:

First month: 15-20 min

THRR = [40% - 50% (HRmax – RHR)] + RHR =
Achieved speed on treadmill on THRR =

RPE: 11-12

2nd month: 20-30 min

THRR = [50% - 60% (HRmax – RHR)] + RHR =
Achieved speed on Treadmill on THRR =

RPE: 12-13

3rd month: 30-40 min

THRR = [60% - 70% (HRmax – RHR)] + RHR =
Achieved speed on treadmill on THRR =

RPE: 12-13
Appendix IX

Cardiac Rehabilitation Project
Department of physiotherapy
Manipal University

Tel: 0820-29-22533
9986391512

Patient’s Exercise Protocol
(Home-based group)

<table>
<thead>
<tr>
<th>Name:</th>
<th>Age:</th>
<th>Sex:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital Number:</td>
<td>Consultant</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Risk Stratification: Low Risk: □  Moderate Risk: □

Treatment procedure: Medical:□  PTCA:□  CABG:□

EF:

GXT report: 1) HR max:
  2) MET level:

**Exercise treatment plan:**

First month: 15-20 min

\[ \text{THRR} = \frac{40\% - 50\% \text{ (HRmax - RHR)}}{\text{RHR}} \]

Achieved speed on treadmill on THRR=

RPE: 11-12

2nd month: 20-30 min

\[ \text{THRR} = \frac{50\% - 60\% \text{ (HRmax - RHR)}}{\text{RHR}} \]

Achieved speed on Treadmill on THRR=

RPE: 12-13

3rd month: 30-40 min

\[ \text{THRR} = \frac{60\% - 70\% \text{ (HRmax - RHR)}}{\text{RHR}} \]

Achieved speed on treadmill on THRR=

RPE: 13-14
Appendix X

Patient Information Sheet


Principal Investigator: Mohammad H Haddadzadeh

Contact Numbers: 0091-820-2922533, 9986391512, 0098-9112351621

Patient’s Name:

Contact Number:

Diagnosis:

Treatment:

Please read this form carefully. If you do not understand the language or any information in this document, please discuss with the study investigator.

Introduction to the research study:
You are being asked to take part in this study because you have been diagnosed and treated as a person with post-event coronary artery disease patient. This study involves the use of Hospital versus Home-based cardiac rehabilitation program in order to find out its effectiveness on the quality of life, ejection fraction, and functional capacity in patients with diagnosis of post coronary event.

Potential benefits:
You may or may not get benefit from participating in this study. If you take part in this study, your participation may help in determining the effectiveness of Hospital versus Home-based cardiac rehabilitation programs on quality of life, ejection fraction and functional capacity in post-event coronary artery disease patients. Further it may help other patients with same diagnosis by contributing to the knowledge on the treatment procedure.
Risks: There may be mild risks including muscular pain or slight fatigue during your exercise program. However, constant monitoring during your exercise will reduce the risk.

Whom to contact in case of any question:
If you have any question about this form or any study related issue you may contact the Principal investigator as mentioned above.

Signature of patient: Date:
# Appendix XI

## Cardiac Rehabilitation Project

**Department of physiotherapy**  
**Manipal University**

Tel: 0820-29-22533  
9986391512

## Patient’s Exercise Logbook

(Home-based group)

<table>
<thead>
<tr>
<th>Patient Name:</th>
<th>Age:</th>
<th>Sex:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital Number:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Risk Stratification:  
- Low Risk: ☐  
- Moderate Risk: ☐

Treatment procedure:  
- Medical ☐  
- PTCA: ☐  
- CABG: ☐

EF:  

GXT report:  
1) HR max:  
2) MET level:

Date of entry (DOE):

## Exercise treatment plan

First month:  

2nd month:  

3rd month:  

Comments:
Month plan:

Intensity: (Advised speed of walk):
Duration:

<table>
<thead>
<tr>
<th>Day</th>
<th>Resting HR</th>
<th>Maximum HR (After fast walk)</th>
<th>RPE</th>
<th>HR- cool down (After 5 min slow walk)</th>
<th>Distance of walk</th>
<th>Number of rounds</th>
<th>Total time of exercise</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix XII

Ethical Clearance of IEC

Center I: Kasturba Hospital; India
10 Feb, 2008

Ethics Committee
Golsar Hospital
Somayye Boulvared
Rasht; Iran

Dr Mohammad H Haddadzadeh
Research Fellow
Manipal University

Project entitled:
“A randomized controlled trial of Hospital versus Home-based Cardiac Rehabilitation in low & moderate risk coronary artery disease patients: An Indo-Iranian multi-center study”

The above mentioned study was presented for evaluation to the members of ethical committee of Golsar Hospital. I would like to inform you that no ethical or legal concerns were raised against carrying out a part of the mentioned study in Golsar Hospital.

As a precautionary measure, I would like to point out that, even with a positive appraisal by EC, all medical & legal responsibility for implementation of the project remains entirely with you. You are requested to inform EC about any serious or unexpected incidents which may occur during the study.

Any amendments to the study protocol will also have to be reported to the EC.

I wish you a successful stay & conduct of study in our center.

Yours Sincerely,

Dr Azizollah-zadeh
Chief Manager
Golsar Hospital
Rasht

نماز ج: رشت - گلسار - بلوار سمیه - ساختمان بیمارستان گلسار رشت
تلفن: ۲۵ ۲۲۲۱۷۱۴۸ ۲۲۲۱۷۲۳۸ (فکس: ۲۲۲۱۷۲۳۸ ۲۲۲۱۷۱۴۸) ۲۲۰۱۳۶۷۳ ۲۲۱۱۳۶۷۳ ۲۲۰۱۳۶۷۳ ۲۲۱۱۳۶۷۳ ۲۲۱۱۳۶۷۳
Appendix XIII

The 5 Steps Manipal Phase I CR Protocol *

5 steps MPCR

**Step I**: 24 to 48 hours after stabilizing the medical condition (expected 1-2 METs)

**Role of PT**:

- **Evaluation**: [Form I, II]
  - **External appliances**: Routine assessment/inspection of sternal wound site/conduit donor
  - **Area/mediastinal & pleural drains/ peripheral arterial lines/ pulmonary artery catheter**/
  - **Intravenous infusions**
  - **Cardio-respiratory assessment**: Inspection/Palpation/Auscultation

- **Monitoring**: Vital parameters/ Cardiovascular & hemodynamic (HR, Rhythm, BP)/ECG/ABG
  - On Mechanical ventilator: Mode/ PIP/PEEP/Fraction of inspired oxygen/ MV

- **PT Rx**:
  - On Mechanical ventilator: - Chest PT & Bronchial Hygiene: Airway clearance
  - Suctioning/Nebulization/ ET care &suctioning/
  - Therapeutic positioning
  - **Precautions**: To be careful near Sternotomy & ICD insertion sites, lead of temporary external pacemaker

  - Post-extubation: Routine chest care: Nebulization/Segmental breathing exercises/Incentive spirometry/splinted huff &cough techniques

  - **Limb Exercises**:
    - Active ROM exercises (upper limb limit to 90 degree of flexion)/ankle pumps/Heel slides/
    - Supported Sitting

  - **Precautions**: avoid or be careful on limbs with inserted Intra-aortic Balloon Pump

---

**Step II**: (2 METs) [Form III]

- Continue Step I

- Monitoring: Hemodynamics/ response to upright unsupported sitting/ECG

- Chest PT : Incentive spirometry/splinted cough/Segmental breathing techniques

- Continue of Active ROM exercises

- Unsupported sitting, High sitting, and standing

- Monitored ambulation
Appendices

- Monitored 2 min Step Test: 3 steps stair monitored climbing inside ICU for 2 minutes

---

**Step III:** out of ICU (1-2.5 METs) [*Form IV]*

- Continue steps I, II
  - If pt is off the lines: standing, Step Marching, few steps around the bed(*around the bed walk*)/stair climbing if pt stable
    - Consider biomarkers: CK-MB on dropping phase
  - Progressive upper limb activity up to 90 degrees
  - Postural Education: posture correction/Independent self-care

- **Precautions:** Explanation should be given to patient about upper limb movements above 90 degrees/ Avoid overhead flexion & abduction to prevent sterna wound gapping/ avoiding Valsalva maneuver

---

**Step IV:** (2-3 METs)

- Increase independent ADL
- Increase upper limb mobility but up to 90 degree and explain to pt for reasons
- Sternotomy care and Education to pt
- Progress in walking up to 50 m/stair climbing

---

**Step V:** (3-4 METs)

- Continue of steps II to IV
- Stair climbing
- Upper limb exercises
- Continue of education of pt/chest & sternal wound hygiene/ any sign of discharge
- Pre-discharge education for home: Risk factor Modification/life style modification/
  - Return to work/diet/Driving/sexual activity/stress management/ physical activity [*Please Use Educational Program]*
  - Educational program for introducing phase II CR and reasons
  - Preparing of pt to perform a 2 or 6 min Walk Test & Risk stratification [*Form V]*