



## **Cardiac Occupational Therapy Rehabilitation Department**

**KUWAIT UNIVERSITY  
FACULTY OF ALLIED HEALTH SCIENCES  
OCCUPATIONAL THERAPY DEPARTMENT**

### **DESCRIPTION**

An occupational therapy department in cardiac unit of a hospital for second phase cardiac patients' rehabilitation

**Rouaida Elchami, Noor Abonakira**

Professional development course

# Cardiac Occupational Therapy Rehabilitation Department

## Introduction:

### Mission:

Provide individualized client-centered occupation-based interventions for second phase cardiac clients\* to increase their independence, participation in activities, decrease subsequent side effects, and prevent recurrence of heart related issues through individualized and group sessions.

### Vision:

Support clients to increase their participation in meaningful daily life activities through safe and healthy behaviors to increase their sense of well-being and quality of life.

## Glossary:

**Second phase cardiac clients:** a supervised and monitored out-patient program that begins a few days after discharge from the hospital and it is the extension of cardiac rehabilitation

**Energy expenditure:** the amount of energy that a person needs to carry out physical functions such as breathing, circulating blood, digesting food, or exercising.

**Metabolic equivalent of task (MET):** the objective measure of the ratio of the rate at which a person expends energy, relative to the mass of that person, while performing some specific physical activity.

# Cardiac Occupational Therapy Rehabilitation Department

**The Setting:** Al-Amiri hospital – Sabah Al-Ahmad Cardiac Centre

- Address: Kuwait City, Jaber Al-mubarak street
- Type of clients and services: clients who need internal catheter operation, battery installation, heart recorder implantation, open heart operations, also services for post-catheter, clients with heart attacks, arrhythmias, and heart failure and valves, among others and they provide preventive and treatment programs for clients.



# Cardiac Occupational Therapy Rehabilitation Department

## Occupational Therapy Department:

### Clients:

We are aiming to serve both genders all ages of second phase cardiac clients who have limited participation in meaningful daily life activities affecting their independence, and quality of life through occupational therapy evidence-based interventions.

### Services:

The department will be providing 5 services: Assessment, Education, Exercises, Self-care training, and Home programs.

#### 1. **Assessment:**

would include assessing the client's status to be able to provide the appropriate intervention.

- Exercise\ Activity intensity:

- *The Borg Rate of Perceived Exertion Scale:*

- For measuring client's effort and exertion, breathlessness and fatigue during physical work.

- Cognitive status:

- *MMSE:*

- For testing of orientation, attention, memory, language and visual-spatial skills.

- *Mini-Cog:*

- For increasing detection of cognitive impairment in older adults within three minutes.

- Stress management:

- *Stress Management Questionnaire (SMQ):*

- For helping clients determine their personal stressors before exploring appropriate coping strategies to minimize the symptoms associated with stress.

- *Resilience Scale for Adults (RSA):*

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For assessing resilience in adults, including their ability to adjust successfully after a major life event.

- *Interest Checklist:*

For getting information on a client's strength of interest and engagement in 68 varied activities in order to help them select meaningful activities as a leisure pursuit to manage stress.

- Vital tests:

- *Heart Rate (HR)*
- *Blood pressure (BP)*
- *Electrocardiography (ECG)*

- Occupation-based assessment:

- ADLs:

- *Functional Independence measure (FIM):*

For tracking the changes in the functional abilities of clients during hospital rehabilitation care.

- *Barthel index:*

For measuring performance and the degree of assistance required clients on 10 items of mobility and self-care.

- ADLs and IADLs:

- *Canadian Occupational Performance Measure (COPM):*

For reflecting client's satisfaction with ADL and IADL performance.

- *Satisfaction with Performance Scaled Questionnaire (SPSQ):*

For measuring client's performance satisfaction with their independent living skills.

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- Joint and muscular measurements:

- *Manual Muscle Test (MMT)*
- *Range of Motion (ROM)*

- Performance pattern:

- Role checklist:  
For assessing patient's involvement in roles at the level of both occupational participation and occupational performance.

## 2. **Education:**

Includes educating the client about:

- Energy conservation techniques:

- After being in the hospital, it is normal for the client to feel tired and weak. Client may also feel short of breath and have less energy to do the activities that he is used to do at home.
- Teaching him how to conserve his energy helps him build up strength to take part in his daily activities and other things he enjoys doing.
- This will also reduce strain on his heart, fatigue, shortness of breath and stress related pain.
- To conserve energy, it is all about finding a good balance between work, rest and leisure in order to decrease the amount of energy demand on the body.
- Educate clients about the application of energy conservation, pacing and work simplification techniques, proper breathing techniques including pursed lip breathing, instructing about the use of adaptive equipment, and emphasizing the use of proper posture and body mechanics during ADL's.

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- Activity modifications (lifestyle modification):
  - Daily activities that the client does, which have to be modified to a simple set of steps.
  - Some assistive devices can be introduced to the client to ease the activities including grip utensils, nonskid mat, reacher, sock aid, and walker.
  
- Stress management techniques:
  - *Cognitive Behavioral Therapy (CBT):*  
For improving emotional regulation and developing personal coping strategies.
  - *Pursed Lip Breathing exercise:*  
For making breathes more effective and decreasing anxiety.
  - *Progressive muscle relaxation:*  
For decreasing anxiety and controlling shortness of breath and it involves tensing muscle groups while slowly inhaling and then relaxing the muscle groups while exhaling twice as slowly through pursed lips.

## 3. Exercise:

- *Progressive energy expenditure:*
  - Give the patients graded activities based on the activity energy expenditure.
  - Associate activity with energy level depending on patient's status using metabolic equivalent of task.

## 4. Self-care training;

- Training clients on how to dress, feed, self-hygiene, groom with their new condition independently.

## 5. Home programs:

- Giving clients home programs while receiving the services and after discharge, including: educating the clients about some techniques that they need, and activities to be performed at home.

# Cardiac Occupational Therapy Rehabilitation Department

## Map:

The department includes: reception and waiting area, nurse room, 2 gyms (female, male), 2 therapy rooms (female, male), manager room, staff area, break room, filing room, 4 bathrooms (female, male, staff female, staff male), kitchen.

Department area is 362.82 m<sup>2</sup>

**Note:** the map picture is estimated, there is extra tools needed, but the program we used (home-style) doesn't support hospital needs. However, there is a section that includes pictures and costs of all equipment, tools and furniture.





# Cardiac Occupational Therapy Rehabilitation Department

## Reception and waiting area:

Staff: 2 receptionists

Features:

- Area is 50.79m<sup>2</sup>
- Wheel chair accessible
- Can fit 11 individuals
- Includes:
  - 2 office chairs
  - 1 wide reception desk
  - 2 computers
  - 1 files cabinet
  - 3 single sofas
  - 4 double sofas
  - 3 plants for decoration
  - 1 side table
  - 5 magazines

Hallway:

- Wide and wheelchair accessible hallway will take you to other rooms.



# Cardiac Occupational Therapy Rehabilitation Department

## Nurse room:

Staff: 1 nurse

Features:

- Area is 19.51m<sup>2</sup>
- Wheel chair accessible
- Can fit 1 patient at a time (caregiver can also fit)
- Includes:
  - 1 desk
  - 1 computer
  - 1 office chair
  - 1 bed
  - 1 files and tool closet
  - Nurse equipment: (not shown in the map)
    - Stethoscope
    - Oximeter
    - Blood pressure monitor
    - First aid kit



## Each gym: One gym for females and the other for males

Staff: 3 therapists

Features:

- Area is 37.06 m<sup>2</sup> – 39.23m<sup>2</sup>
- Wheel chair accessible
- It can fit 3 patients at a time with their care givers
- Includes:
  - 3 clients chairs



# Cardiac Occupational Therapy Rehabilitation Department

- 3 therapist wheeled chairs
- 3 therapy tables adjustable height
- 1 tools shelving unit
- 1 stand mirror
- Equipment:
  - 1 Therapy ball
  - 1 Hip kit
  - 1 Buttoning hook
  - 1 Forearm crutches
  - 1 Walker
  - 2 Gait belts (regular size)
  - 2 Gait belts (bigger)
  - 2 Transfer board
  - 1 tape (edema measure)
  - 2 goniometers
  - 1 foam tubing for utensils (set of 4)
  - 1 dynamometer for both gyms



Each therapy room: One for female and one male

Staff: 1 therapist

Features:

- Area is 19.47m<sup>2</sup> – 19.68m<sup>2</sup>
- Can fit 1 client with his caregiver.
- Includes:
  - 1 bed
  - 1 stand mirror
  - 1 client chair
  - 1 therapy table adjustable height
  - 1 therapist wheeled chair
  - 1 shelving unit for tools



# Cardiac Occupational Therapy Rehabilitation Department

- Equipment:
  - 1 buttoning hook
  - 1 light weight utensil set
  - 1 easy grip utensil set
  - 1 right-handed offset spoon and fork
  - 1 left-handed offset spoon and fork
  - 1 weighted utensil set
  - 1 T-Grip rocker knife
  - 1 plate guard
  - 1 nonskid mat set
  - 1 nose cutout cup
  - 1 no slip easy grip cup
  - 1 universal cuff
  - 1 gait belt (regular size)
  - 1 gait belt (bigger)
  - 1 transfer board
  - 1 goniometer

## Manager room:

Staff: manager

Features:

- Area is 12.01m<sup>2</sup>
- Wheelchair accessible
- Can fit 2 individuals
- Includes:
  - 1 office chair
  - 1 desk
  - 1 computer
  - 2 single sofas



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## Staff area:

Staff: 6 therapists

Features:

- Area is 61.57m<sup>2</sup>
- Can fit 6 therapists and 2 individuals
- Includes:
  - 8 office chairs
  - 6 desks
  - 2 computers
  - 1 meeting table
  - 1 projector
  - 2 file cabinets



## Break room:

Features:

- Area is 10.47m<sup>2</sup>
- Can fit 6 individuals
- Includes:
  - 1 set of table with 4 chairs
  - 1 double sofa



## Filing room:

Features:

- Area is 6.12m<sup>2</sup>
- Includes:
  - 10 bookcases



# Cardiac Occupational Therapy Rehabilitation Department

## Bathrooms:

Features: Area is almost 7m<sup>2</sup> for clients, 3m<sup>2</sup> for staff.

- Clients bathrooms are wheel chair accessible
- Clients bathrooms includes hand rails



## Kitchen:

Features:

- Area is 8.99m<sup>2</sup>
- Includes:
  - 1 Microwave
  - 1 single door refrigerator
  - 1 Electric kettle



# Cardiac Occupational Therapy Rehabilitation Department

## Number of clients per day:

52 clients per day as the highest expectation regarding the capacity

## Maximum capacity of the department:

- 3 clients/hour in each gym
- 1 client/hour in each room

so that will equal 8 clients/hour in the department per hour



## Working hours:

- 6 **working hours** per day from 8a.m.-2p.m, with a one-hour break:
  - $5 \times 8 =$  will equal 40 clients
- 3 working hours per day for **the night/second shift** 4p.m- 7p.m, with 4 therapists working:
  - $3 \times 4 =$  will have 12 clients






## **Tools, equipment, furniture:**

With price and quantity mentioned.

### *Furniture:*

<i>Furniture</i>	<i>Price</i>	<i>Quantity</i>	<i>Picture</i>
Reception desk	200 KD	1	
Reception sofa (double)	105 KD	4	

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Reception sofa (single)	80 KD	3	
Decoration plants	(1.750, 2.500, 1.500) KD	3	
Side table	7.95 KD	1	
Reception files cabinet	26 KD	1	
Desk for employees	49 KD	8	



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Office chair	17 KD	12	 <p><b>RENERGET</b> Office chair, 20 <b>KD 17</b> Ergonomic office chair with a 3D mesh backrest and 4D armrests. Quantity: [input type="text"] [Add to cart] [Buy now]</p>
Therapist Chair (gyms and therapy rooms)	15 KD	8	 <p><b>OFFJALL</b> Ergonomic chair <b>KD 15</b> The stability for durability through composite gear shape construction. Quantity: [input type="text"] [Add to cart] [Buy now]</p>
Clients chair	29 KD	8	 <p>Chair 29.00 4x</p>
Therapy adjustable height tables	15 KD	8	


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Nurse files and tool cabinet	37 KD	1	
Shelving unit (gym)	25 KD	2	
Shelving unit (rooms)	17 KD	2	
Standing mirror	14 KD	4	
Manager room single sofa	27.5 KD	2	

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Meeting table:	197 KD	1	
Set of a table with 4 chairs	23.3 KD	1	
Break room double sofa	29 KD	1	
File's storage	12.5 KD	12	
Bathroom mirrors	8.75	4	
Clocks	0.6 KD	9	


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Trash basket with foot pedal	2.950 KD	16	
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### *Electrics and electronics:*

<i>Appliance</i>	<i>Price</i>	<i>Quantity</i>	<i>Picture</i>
Metron bed	917.84 KD	3	
Computers	174.9 KD	6	
Projector	84.8 KD	1	
Microwave	13.9 KD	1	
Electric kettle	2.9 KD	1	

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Single door refrigerator	65 KD	1	 <p>Wansa 7 CF - Silver</p> <p>Brand: WANSA 8 Review this product</p> <p>In stock</p> <p>65.000 KD</p> <p>4.8/5 (12) Easy to use</p> <p>Quick Overview</p> <p>Size (Cubic Feet): 7</p> <p>Capacity (Liters): 20</p> <p>No. Of Glass Shelves: 4</p> <p>No. Of Door Shelves: 4</p>
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*Tools and equipment:* ((pictures are in the last page))

- Blood pressure monitor: 18 KD
- First aid kit: 4.5 KD
- Stethoscope 24 KD
- Therapy ball: 6.12 KD x 2
- Weights rack with weights: 300.1 KD
- Forearm crutches: 9.1 KD x 2
- Walker: 7 KD x 2
- Gait belt (regular size): 3.98 KD x 6
- Gait belt(bigger): 4.9 KD x 6
- Transfer board: 15.61 KD x 6
- Hip kit: 9.79 KD x 4
- Buttoning hook: 3 KD x 2
- Light weight utensil set: 4.9 KD x 2
- Easy grip utensil set: 5.51 KD x 2
- R handed offset spoon and fork: 17.14 KD x 2
- L handed offset spoon and fork: 14 KD x 2
- Weighted utensil set: 6.12 KD x 2
- T- grip rocker knife: 3 KD x 2
- Plate guard: 1.2 KD x 2
- Nose cutout cup: 2.1 KD x 2

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- No slip easy grip cup: 6.1 KD x 2
- Nonskid mat set: 4.59 KD x 2
- Universal cuff: 4.13 KD x 2
- Foam tubing for utensils 4.59 KD x 2
- Tape (edema): 1.2 KD x 2
- Goniometer: 2.1 KD x 6
- Oximeter: 7 KD
- Dynamometer: 168.3 KD

## Manpower:

- Manager
- 8 occupational therapists
  - As each gym can fit 3 patients and each therapy room can fit 1 patient
  - Have two shifts and the second shift is scheduled between them
- 2 receptionists
  - Night shift will be scheduled between them
- 1 nurse
  - To measure the client's vital signs
  - Only morning shift
- 2 OT assistant
  - For transfers and to help in sessions
  - Night shift scheduled between them
- 4 porters
  - Distributed between bathrooms, kitchen, gyms and therapy rooms

## Cost:

We expect that the government will provide this area for us but we need to buy the needed tools, furniture, equipment, and electrics, and electronics so we do not have to pay for rent.

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We estimate each bathroom to cost 183,610 KD and the kitchen to cost 284 KD ((pictures in the last page))

## **Total Cost:**

All the mentioned above will cost: 4,522.85 KD

By adding the bathrooms and kitchen the total cost will be: 5,841.39 KD

In addition to all, we also estimate salaries to cost 13,800 KD monthly.

## **How to attract clients?**

- Meeting, lectures for doctors
- Advertisements using social media
- Posters in other hospital areas, malls and clinics.
- Brochures
- Street signs

## **Other needed information:**

Team collaboration is needed with other departments to reach the clients' goals.

## **Departments to collaborate with:**

### Physical Therapy (PT):

To improve:

- Client strength
- Activity tolerance
- Functional mobility

Coordinate efforts to minimize schedule conflicts

### Nursing:

- To improve client functional status.

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- Help client perform bathing, dressing, and toileting tasks at an independent level by discharge.
- Determine current clinical status.

## Cardiologist:

Provides ongoing updates regarding:

- Client functional status and vitals.
- Client progress towards discharge goals.

## **Space and tools justifications:**

- Space to be wheelchair accessible
- To help in giving the clients the services we aim to give
- To be able to receive and serve higher number of clients
- Most of the tools are required for training the patients o ADL's

## **If we have to reduce the cost we will:**

We estimate to reduce the cost almost 20% by:

1. We can replace one bed with a comfortable bed rather that the metron one
2. We can reduce number of computers as they can share the computers available and bring their own laptops if they have
3. We can reduce the number of sofas (1 double and 1 single) in the waiting area or replace them with smaller lower cost ones or chairs

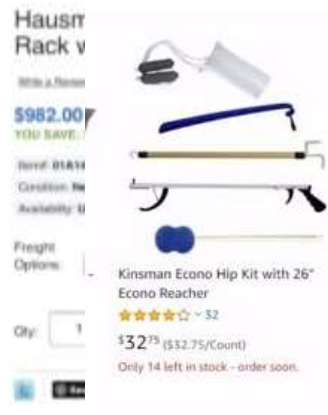
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- Al-Eissa medical equipment



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