

Comprehensive Fragility Fracture Scheme

Monitor and Evaluation

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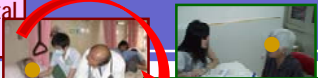


Falls and Fractures

- The prevalence of fall in Chinese elderly was found to be **18%-19.3%**¹
跌倒在中國籍長者的普遍程度約為18%-19.3%
- 24.5%** of fallers experience a recurrent fall within one year¹
其中24.5%會出現再跌倒的情況
- 31,100 cases** admitted to hospital due to fall and **27,835 cases** admitted due to fractures in 2006-2007²
在2006-2007年間，有31,100名病者因跌倒入院，有27,835名病者因骨折入院

1. Chu LW, Chi I and Chui AYY: Incidence and Predictors of Falls in the Chinese Elderly. Ann Acad Med Singapore. 2008;34:60-72.
2. HA Statistical Report 2006/07

Acute phase: Hospital
急性期：醫院



Rehab phase:
Rehab Hospital & OPD
康復期：醫院及門診

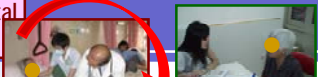


HOME

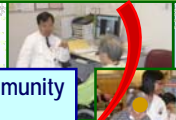
Problems faced when going home...

- Decrease mobility and independency
活動能力及自我照顧能力減弱
- Fear of fall 懼怕再次跌倒
- No ascot service to rehabilitation center 沒有接送服務往復康中心
- No long term rehabilitation service
沒有長遠的復康運動及治療跟進
- Affect social life 影響社交生活
- Affect quality of life 影響生活質素

Acute phase: Hospital
急性期：醫院



Rehab phase:
Rehab Hospital & OPD
康復期：醫院及門診



Post-fracture care phase: Community
骨折後護理：社區



Comprehensive Fragility Fracture Scheme 社區保健及防跌計劃

Post-fracture care phase: Community
骨折後護理：社區




Comprehensive Fragility Fracture Scheme

- 1. **Doctor consultation**
家庭醫生骨骼健康護理
- 2. **Physiotherapist assessment**
物理治療評估
- 3. **Group exercise for balance and strength training**
運動小組
- 4. **Vibration therapy** 震動治療
- 5. **Fall and fracture prevention educational talks**
防跌防骨折健康講座



Locations of Comprehensive Health Care and Fall Prevention Clinic (CC) 社區保健及防跌診所位置

The number of collaborating organizations rise from 3 in 2008 to 11 in 2009, to ensure a good coverage of our program. 合作機構從去年的三間升至今年的十一間令我們的計劃覆蓋面更廣




Benefits of our Program

- 1. **Decrease mobility and independency**
活動能力及自我照顧能力減弱
- 2. **Fear of fall**
懼怕再次跌倒

→

- 1. **Involve Doctor & Physiotherapist to design appropriate rehab program for the clients**
醫生及物理治療師為參加者設計合適的復康運動




Benefits of our Program

- 1. **No ascot service to rehabilitation center**
沒有接送服務往復康中心

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- 1. **Good collaboration with 11 community centers and GP in ST and MOS**
- 2. **To provide convenient rehab service which is near clients' home**
與11間長者中心及家庭醫生之合作使這個計劃更能就近長者的居所，方便接受復康治療



Benefits of our Program

- 1. **No long term rehabilitation service**
沒有長遠的復康運動及治療跟進

→

- 1. **Our program provide a 1 year follow up rehab service for the clients**
為期一年的計劃讓參加者獲得更長遠的跟進



Benefits of our Program

- 1. **Affect social life**
影響社交生活
- 2. **Affect quality of life**
影響生活質素

→

- 1. **Clients will have a 1 year period to familiar him/herself in the community environment**
參加者較容易適應社區環境及生活
- 2. **Clients can get peer support from other clients**
骨折患者可彼此得著支持和鼓勵



Intervention

No. of participants 參加者人數	341
No. of exercise class 已開設的運動班	5
Average attendance 平均出席率	73%
Average VT per month 每月平均震動治療次數	(Range) 1-21 (Mean) 6
No. of case completed program 完成一年康復計劃人數	91

Monitoring - Balance Assessment

- ④ **Timed up and go (TUG) 三米來回測試**
 - ④ **To assess the overall balancing ability**
測試受試者的整體平衡能力
 - ④ Client is asked to stand up from a chair, walking forward for 3m, turn around, walking back to the chair and sit down
受試者需從椅子上站起，前米行三米，轉身，返回原先的椅子，坐下
 - ④ The time taken to complete the task is recorded
受試者所需的時間將被記錄下來

Monitoring - Balance Assessment

- ④ **Result interpretation 結果分析**
 - ④ For independent young adults, the task should be finished within 10 sec
一般人需要十秒的時間來完成測試
 - ④ For elderly with hip fractures, it takes a longer time to complete the task
髖骨骨折的長者需要較長的時間來完成測試
 - ④ **24sec** represent an increased risk of recurrent fall
超過二十四秒表示再跌倒的危機較高

TUGs	N	Mean ± SD
before the program	68	27.23±21.77

Kristensen MT, Foss NB and Kehlet H: Timed up & go test as a predictor of falls within 6 months after hip fracture surgery. Phys Ther. 2007;87(1):24-30

Monitoring - Balance Assessment

- ④ **Elderly Mobility Score (EMS)**
 - ④ **To assess the independency of the client**
測試長者的獨立能力
 - ④ Consist of 7 daily functional tasks
 - ④ Lying to sitting 臥至坐
 - ④ Sitting to lying 坐至臥
 - ④ Sitting to standing 坐至站立
 - ④ Standing 站立
 - ④ Gait 步行
 - ④ 6 meters timed walk 六米步行
 - ④ Functional reach 伸展

Monitoring - Balance Assessment

- ④ **Result interpretation 結果分析**
 - ④ The total score of the test is 20
此測試的總分為20分
 - ④ **Score 14 or above means more independent and with good mobility and balancing skills**
14分或以上表示長者獨立照顧能力較佳，行動和平衡能力也較良好

EMS	N	Mean ± SD
before the program	68	14.97±4.80

Yu MSW, Chan CCH and Tsui RKM: Usefulness of the elderly mobility scale for classifying residential placements. Clin Rehabil. 2007;21:1114-1120.

Monitoring - Balance Assessment

- ④ **Berg Balance Scale (BBS)**
 - ④ **To assess balancing ability of an elderly**
測試長者的平衡能力
 - ④ Involving 14 functional tasks
 - ④ Sitting 坐
 - ④ Standing 站
 - ④ Standing with eye closed 閉眼站立
 - ④ Standing with feet together 雙足緊貼站立
 - ④ Sitting to standing 坐至站
 - ④ Standing to sitting 站至坐
 - ④ Transfer 轉移
 - ④ Reaching forward 伸前
 - ④ Picking up object 拾物
 - ④ Turning 轉側
 - ④ Turning 360° 轉身
 - ④ Stepping 踏步
 - ④ Tandem stand 前後腳一字站立
 - ④ Single leg standing 單腳站立

Thorbahn LDB and Newton RA: Use of the Berg Balance Test to predict falls in elderly persons. Phys Ther. 1996;76(6):576-585.

Monitoring - Balance Assessment

- Result interpretation 結果分析
 - For each task item, the scale range form "0" to "4" 每一測試項目將由"零"至"四"分做代表
 - A higher score represents better performance of the task 分數越高代表表現越佳
 - The total score of the test is 56 總分為56分
 - Elderly having score less than 45 is consider to have a high risk of fall 長者的分數若少於45分，表示跌倒的機會很高

BBS before the program	N	Mean ± SD
	68	37.23±13.08

Thorbahn LDB and Newton RA: Use of the Berg Balance Test to predict falls in elderly persons. Phys Ther. 1996;76(6):576-585.

Monitoring - Balance Assessment

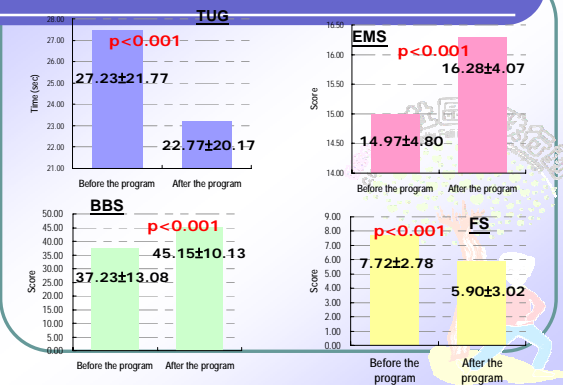
- Fall risk screening (FS)
 - A simple test to assess the fall risk of an elderly 測試長者的跌倒危機
 - It involved 5 questions
 - Fall history 跌倒歷史
 - Medication and past health 藥物及病史
 - Sitting to standing 坐至站
 - Tandem stand 前後腳一字站立
 - Timed reaction 反應測試

Monitoring - Balance Assessment

- Result interpretation 結果分析
 - The total score is 12 總分為12分
 - A higher score represent more fall risk factors 分數愈高代表愈多跌倒危險因素
 - Score 5 or above is consider to have a high risk of fall 5分或以上表示跌倒危機較高

FS before the program	N	Mean ± SD
	68	7.72±2.78

Balance Assessment Results



Improvement of mobility level

Total case: 74		Mobility after joining the program				
		Unaid	Cane	Quad	Frame	Wheelchair
Mobility before joining the program	Unaid	2	1	1	1	1
	Cane	1	4	1	1	1
	Quad	1	1	1	1	1
	Frame	1	1	1	1	1
	Wheelchair	1	5	2	7	1

61% (Unaid to Cane)
38% (Unaid to Wheelchair)

Feedback from clients joining our program for 1 year (N=61)	Very Disagree	Disagree	Neutral	Agree	Very Agree
Does the program help your fracture rehabilitation? 這個計劃對你的骨折康復情況有幫助?	0	2	9	37	13
Does it enhance your quality of life? 這個計劃有否令你覺得生活質素提高?	0	4	9	36	12
Do you think it is convenient for you? 你認為這個計劃令你更方便嗎?	0	7	9	31	14
Are you satisfy with the referral process? 你是否滿意醫院的轉介過程?	1	0	8	34	18
Are you satisfy with the arrangement in the Community Center (CC)? 你是否滿意中心的安排?	0	1	4	39	16
Are you satisfy with CC environment? 你是否滿意中心的地方環境?	0	1	4	43	13
Are you satisfy with Dr consultation? 你是否滿意看醫生的安排?	0	1	9	37	14
Are you satisfy with VT arrangement? 你是否滿意震動治療的安排?	0	0	11	33	17
Are you satisfy with the Ex class? 你是否滿意運動班的安排?	0	0	9	32	19
Will you recommend this program to your friends in need? 你會否將這個計劃推薦給有需要之朋友?	0	2	9	30	19

Believes

- It is believed that a long term follow up program consisting of prevention education, medication, vibration therapy and exercise group is effective for fracture rehabilitation and functional improvement.

我們相信一個長期的復康計劃能有助骨折癒合及改善活動能力

- A good collaboration among hospital, community centers and family physicians provide a good bridging program for the patients to return to society.

醫院、長者中心及家庭醫生的緊密合作是幫助骨折患者重新適應社會的重要橋樑



Thank you

