ENHANCEMENT OF ACUTE SERVICE IN KCC ON CLINICAL PATHWAY FOR GERIATRIC HIP FRACTURE

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Queen Elizabeth Hospital
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BACKGROUND
In KCC, there are around 800 cases admitted for geriatric hip fracture (GHF) each year, contributed to around 14% of the total admission in O&T annually.

Patients are admitted as emergency cases, usually with multiple medical problems and the change in mobility level after accident causing long stay and occupancy burden.
Average LOS (day) of Fracture Hip (All Care type)

<table>
<thead>
<tr>
<th>Period</th>
<th>KCC</th>
<th>HA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 09 - Dec 09</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Apr 09 - Mar 10</td>
<td>12.8</td>
<td></td>
</tr>
<tr>
<td>Jul 09 - Jun 10</td>
<td>13.7</td>
<td></td>
</tr>
<tr>
<td>Oct 09 - Sep 10</td>
<td>13.8</td>
<td></td>
</tr>
<tr>
<td>Jan 10 - Dec 10</td>
<td>14.6</td>
<td></td>
</tr>
<tr>
<td>Jan 09 - Dec 09</td>
<td>12.2</td>
<td></td>
</tr>
<tr>
<td>Apr 09 - Mar 10</td>
<td>11.9</td>
<td></td>
</tr>
<tr>
<td>Jul 09 - Jun 10</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Oct 09 - Sep 10</td>
<td>11.8</td>
<td></td>
</tr>
<tr>
<td>Jan 10 - Dec 10</td>
<td>11.9</td>
<td></td>
</tr>
</tbody>
</table>

KCC: Acute
HA: Conv
Reasons: Top 20 Pre_op LOS in 2010

Cardiac problem

Number of Patients

Thyroid problem 1
Musculoskeletal problem 2
Displacement for surgery 3
Cardiac problem 6
Neurological problem 5
Renal Problem 2
Pulmonary problem 1

31/5/2011
Reasons: Top 20 Post-op LOS in 2010 (To KH cases)

- Chest infection, urinary retention
Reasons: Top 20 Post_op LOS in 2010 (Home cases)

Urinary retention, DVT
Causes: Top 20 LOS in KH in 2010

Social problems

Number of Patients

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrange carer / maid</td>
<td>7</td>
</tr>
<tr>
<td>Financial Management</td>
<td>14</td>
</tr>
<tr>
<td>Arrange POAH</td>
<td>13</td>
</tr>
</tbody>
</table>
Causes: Top 20 LOS in KH in 2010

Number of Patients

Urinary problem
PROBLEM IDENTIFIED FOR PROLONGED LOS

- Pre-op (QEH): medical problems (cardiac) & medical consultation

- Post-op (QEH): medical problems, chest infection, urinary retention, DVT

- Post-op (KH): social problem, urinary retention
MEETING WITH GERIATRIC HIP FRACTURE TEAM

- O&T department, QEH
- Rehabilitation Team, KH
- Physiotherapy Department, QEH and KH
- Occupational Therapy Department, QEH and KH
- MSW, QEH and KH

Multi-disciplinary Approach

Doctor
Relative
Patient
Nurse
MSW
PT
OT
OBJECTIVES

1. Review the roles of each discipline in the care path of GHF patient
2. Standardize patient journey and facilitate discharge process
3. Achieve the KPI of more than 70% of case operated within 2 days
4. Decrease Length of Stay (LOS) both in acute and convalescence phase
5. Identify problems that prolonged the average LOS and the corresponding solutions
**Trial Without Catheter (TWOC) Program**

Early refer to MSW in acute hospital to facilitate discharge planning

Trial Without Catheter (TWOC) Program

Liaise with medical colleagues for better support both in pre-op and post-op stage
### KCC CLINICAL PATHWAY ON GERIATRIC HIP FRACTURE (ACUTE)

<table>
<thead>
<tr>
<th>Day</th>
<th>Expected LOS</th>
<th>Post-operation LOS in acute hospital ≤ 2 days</th>
<th>Nursing Care</th>
<th>Physical Therapy</th>
<th>Occupational Therapy</th>
<th>Discharge Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 0</td>
<td></td>
<td></td>
<td>History taking including cases of Transfers.</td>
<td></td>
<td></td>
<td>eneral pre-operative education.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Physical examination.</td>
<td></td>
<td></td>
<td>\textbf{Physiotherapy:}</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Other assessment.</td>
<td></td>
<td></td>
<td>\textbf{Occupational Therapy:}</td>
</tr>
</tbody>
</table>
| | | | Confusion, Gait, \\commor, \\C
t.  | | |\textbf{App:}  |
| | | | H
t.  | | |\textbf{Expected Outcome:}  |
| | | | \textbf{Decision:}  | | |F\textbf{Discharge Strategy:}  |

### Day 1

- \textbf{Medical:}  Monitor vital signs.
- \textbf{Nursing:}  Monitor vital signs.
- \textbf{Physiotherapy:}  \textbf{Occupational Therapy:}  

### Day 2

- \textbf{Medical:}  \textbf{Nursing:}  \textbf{Physiotherapy:}  \textbf{Occupational Therapy:}  

### Day 3

- \textbf{Medical:}  \textbf{Nursing:}  \textbf{Physiotherapy:}  \textbf{Occupational Therapy:}  

### Day 4

- \textbf{Medical:}  \textbf{Nursing:}  \textbf{Physiotherapy:}  \textbf{Occupational Therapy:}  

### Day 5

- \textbf{Medical:}  \textbf{Nursing:}  \textbf{Physiotherapy:}  \textbf{Occupational Therapy:}  

### Day 6

- \textbf{Medical:}  \textbf{Nursing:}  \textbf{Physiotherapy:}  \textbf{Occupational Therapy:}  

### Day 7

- \textbf{Medical:}  \textbf{Nursing:}  \textbf{Physiotherapy:}  \textbf{Occupational Therapy:}  

### Day 8

- \textbf{Medical:}  \textbf{Nursing:}  \textbf{Physiotherapy:}  \textbf{Occupational Therapy:}  

### Day 9

- \textbf{Medical:}  \textbf{Nursing:}  \textbf{Physiotherapy:}  \textbf{Occupational Therapy:}  

### Day 10

- \textbf{Medical:}  \textbf{Nursing:}  \textbf{Physiotherapy:}  \textbf{Occupational Therapy:}  

### Day 11

- \textbf{Medical:}  \textbf{Nursing:}  \textbf{Physiotherapy:}  \textbf{Occupational Therapy:}  

### Day 12

- \textbf{Medical:}  \textbf{Nursing:}  \textbf{Physiotherapy:}  \textbf{Occupational Therapy:}  

### Day 13

- \textbf{Medical:}  \textbf{Nursing:}  \textbf{Physiotherapy:}  \textbf{Occupational Therapy:}  

### Day 14

- \textbf{Medical:}  \textbf{Nursing:}  \textbf{Physiotherapy:}  \textbf{Occupational Therapy:}  

### Discharge

- \textbf{Discharge Strategy:}  
- \textbf{Discharge Plan:}  
- \textbf{Occupational Therapy:}  
- \textbf{Physiotherapy:}  
- \textbf{Expected Outcome:}  
- \textbf{Patient & relative understand the diagnosis, operation, care plan and discharge plan.}
Inclusion Criteria: Geriatric hip fracture > 65 years old

Exclusion Criteria:
1. All hip fracture happened and transfer in from other department
2. All pathological fracture cases
3. Fracture Hip treated conservatively
### New Initiatives in Clinical Pathway (Acute)

<table>
<thead>
<tr>
<th>Medical</th>
<th>Nurse</th>
</tr>
</thead>
</table>
| - Standardize pre-operative workup  
- Streamline medical support in pre-op and post-op stage  
- Phone contact to update relative for intra-op progress on OT day  
- TWOC protocol  
- Discuss rehabilitation and discharge planning with patient and relatives on post-op day 2-4 | - Nursing assessment on Functional Prognosis Predictive Score (FPPS) --Discharge Triage  
- Initiate referral to MSW if patient live alone or carer at night only  
- Refer Occupational therapist if FPPS = 5-7 |
<table>
<thead>
<tr>
<th><strong>New Initiatives in Clinical Pathway (Acute)</strong></th>
</tr>
</thead>
</table>
| **PT** | Comment on rehabilitation potential and discharge plan  
Provide pre-discharge preparation if patient direct home |
| **OT** | Initiate ADL assessment and training as indicated  
Perform Home Discharge Readiness Assessment if FPPS 5-7 |
| **MSW** | Provide intervention in acute phase  
Referral to MSW/KH or relevant agency for further follow up |
REVIEW PERIOD

28th August 2011 to 31st March 2012

Number of cases with completed pathway: 386
PERCENTAGE OF INDICATED PATIENTS OPERATED ≤ 2 DAYS AFTER ADMISSION
LENGTH OF STAY

2010  14.6
Sep-11  8.2
Oct-11  10.8
Nov-11  13
Dec-11  11.8
Jan-12  11.6
Feb-12  11.5
Mar-12  14
66% of GHF cases discharged within 11 days in acute hospital
**REASONS FOR ALOS > 11 DAYS**

- Medical: 70%
- Surgical: 8%
- Social: 7%
- Await KH bed: 5%
- Others: 10%

Legend:
- Medical
- Surgical
- Social
- Await KH bed
- Others
DISCHARGE DESTINATION

- KH: 299 (77%)
- Home / OAH: 76 (20%)
- Others: 11 (3%)
REFER MSW ON ADMISSION

- MSW Referral on admission: 28%
- Others: 72%
REFER TO OT IF FPPS=5-7

93%

7%
75% of GHF cases discharged to KH within 11 days in acute hospital
DISTRIBUTION OF ALOS FOR CASES
DIRECT DISCHARGE HOME/ OAH

32% of GHF cases discharged home / OAH within 11 days in acute hospital
DISTRIBUTION OF ALOS FOR ALL CASES
ESSENCE OF CLINICAL PATHWAY

- A clinical pathway is supposed to provide protocols and guidelines for the majority of cases to follow through.
- Reasons from the outliers are inevitable, therefore should be considered to be excluded statistically.
- And we consider our pathway to be a success as the majority (>70%) of cases were discharged within 11 days (HA benchmark = 11.9 days).
Clinical pathway is a tool to continuous monitor care effectiveness and clinical outcomes.

Through identifying patient care problem and re-engineering the management process with new initiatives, we have established a new care model on GHF patients.
THANK YOU
# Acknowledgement

- Dr Shen Wan Yiu  
  Consultant of Trauma Team, O&T
- Dr Lee Kin Bong  
  AC of Trauma, O&T
- Ms Law Kam Yin  
  Dep. DOM of O&T
- Ms Wong Kin I  
  WM of O&T C3
- Mr Tsang Ka Kit  
  NC of O&T
- O&T Department  
  KCC
- Physiotherapist  
  KCC
- Occupational Therapist  
  KCC
- Medical social worker  
  KCC
Admission of GHF

Nursing assessment
- social background assessment

Home Alone or carer at night only?

Discharge to pre-injury destination

Refer MSW

Social needs assessment

Provide information
- Placement
- Home carer
- Financial assistance
- Community
- Rehabilitation network

Refer case manager

Liaise communication of information among case MO, Ward Nurse, MSW, Patient & Relatives

Confirm an appropriate discharge strategy

Follow progress of Discharge management

Any Discharge problem?

NO

Discharge +/- community support

YES

Initiate (MDCC)
Multi-disciplinary Case conference
<table>
<thead>
<tr>
<th>Condition</th>
<th>Score 1</th>
<th>Score 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>≥85 years</td>
<td>&lt;85 years</td>
</tr>
<tr>
<td>Dementia</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nursing home/hospital</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Anaemia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men: Hb≤12 g/dl, women: Hb≤11 g/dl</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Electrolyte abnormality</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Abnormal chest X-ray</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Chronic systemic diseases^a (diabetes,</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>congestive heart failure, etc.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The following items were scored 0 or 1 and the total score was used as the predictive score (maximum score=7).

^aEleven comorbid conditions according to J Richmond et al. (2003)