The Peterborough experience over the years with hip fractures

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PETERBOROUGH HIP FRACTURE PROJECT

Established in 1986

- Avoid delays to surgery
- Minimally invasive surgery by experienced staff
- Unrestricted mobilisation
- Avoidance of transfer of patients
- Early discharge back home as soon as practical (hospital at home services)
Peterborough Hip Fracture Project

Team of staff

- Surgeon (registrar)
- Anaesthetist
- Theatre nurse
- Theatre radiographer
- Theatre ODP
- Physiotherapist
- Occupational therapist
- Discharge co-ordinator
- Secretary
- Hip fracture SHO
- Hip fracture nurse
My role

Orthopaedic surgeon responsible for the

Pre-operative assessment
Operative treatment (65% of cases)
Post-operative ward care

For all hip fracture patients admitted to Peterborough City Hospital
Follow-up

Patients seen at six weeks from discharge by me in a hip fracture clinic

Fracture prevention assessment

Unless clinically indicated the rest of the follow-up is by phone with all patients rang at one year from injury
Audit and research

All patients data entered on a database

This continues to evolve and is used for audit and research articles and randomised trials
The new PFI!
(Private finance initiative)
Consequences of new hospital

- Severe financial problems (financial deficit of £45 million per year)
- Reduced bed numbers
- Cancellation of elective surgery
- Lack of emergency theatre space
- Poor ward design
- Increased in-patient falls and hip fractures (4% to 7%)
- Severe strain on resources
- Constant transferring of patients around wards
- No multi-disciplinary hip fracture care
MEAN ORTHOPAEDIC WARD STAY (DAYS)
Many transfers to MFE Orthopaedic ward rehabilitation Moved to new hospital

Pre hip fracture project

Hip fracture ward
% DISCHARGED DIRECT

[predicted data trend graph]
MEAN STAY ON GERIATRIC WARD
DESTINATION
(FOR PATIENTS ADMITTED FROM HOME)

% PATIENTS DISCHARGED BACK HOME

% DISCHARGED TO RESIDENTIAL CARE

[Graph showing trends over years]
Mortality

1 year mortality

30 day mortality
National average 8-9%

Graph showing mortality rates from 1989 to 2011.
Early supported discharge
What does the hospital receive for treating a hip fracture?

In early times

Hospital episode coding of patient (HES)

then

Hospital received payment for this coding

Extracapsular fracture treated with a DHS. Coded W19.1 received £4,635 in 2006
Current system

- Very complicated
- Keep changing
- Varies between hospitals
- Understood by few
### HES code converged to HRG (health related group) code

<table>
<thead>
<tr>
<th>Procedure</th>
<th>HES</th>
<th>HRG</th>
<th>Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemiarthroplasty</td>
<td>W46.1</td>
<td>HA12C</td>
<td>£6392</td>
</tr>
<tr>
<td>Cemented THR</td>
<td>W31.1</td>
<td>HA12C</td>
<td>£6392</td>
</tr>
<tr>
<td>Hybrid THR</td>
<td>W93.1</td>
<td>HA11C</td>
<td>£6666</td>
</tr>
<tr>
<td>Dynamic hip screw</td>
<td>W19.1</td>
<td>HA13C</td>
<td>£5695</td>
</tr>
<tr>
<td>Intramedullary nail</td>
<td>W24.2</td>
<td>HA13C</td>
<td>£5695</td>
</tr>
</tbody>
</table>
Supplement for CC’s
(Co-morbidities and complications)

- Diabetes mellitus
- Dementia
- Hyperkalaemia
- Delirium
- Pneumonia
- Stroke
- Sepsis
- Pressure sores

Arthroplasty - £6392 increased to £8509 for and CC’s

Dynamic hip screw – £5695 increased to £7096 for major CC’s
Dynamic hip screw – £5695 increased to £5696 for minor CC’s
Supplement for long stay
(trim factor)

Arthroplasty without CC and a stay of more than 29 days
- get an additional £239 per day thereafter

Arthroplasty with CC if stay more than 52 days
- get an additional £239 per day thereafter

Dynamic hip screw without CC and a stay of more than 29 days
– get an additional £239 per day thereafter

Dynamic hip screw with intermediate CC and a stay of more than 35 days
– get an additional £239 per day thereafter

Dynamic hip screw with major complications and a stay of more than 60 days
– get an additional £239 per day thereafter
Local hospital supplement

More for hospital in London and teaching hospitals
Less for peripheral hospitals

For Peterborough is 6.02%

Hemiarthroplasty without CC or long stay
£6392 becomes £6776
Best Practice tariff

Currently £1335

But only achieved for on average 50-60% of patients on NHFD

+ Not received for 5-10% of patient not on the NHFD

+ Administration cost of data collection (about £50 per patient)

Gives on average £600 per patient

Criteria for best practice tariff

Agreed protocol
Joint care
Surgery within 36 hours
Assessment within 3 days
Fracture prevention assessment
Mental health assessments
Data submitted to NHFD
**End result is**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Basic</th>
<th>With hospital Hospital Uplift</th>
<th>With best practice tariff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closed reduction and Internal fixation of intracapsular fracture</td>
<td>£1513</td>
<td>£1607</td>
<td>£2892</td>
</tr>
<tr>
<td>Open Reduction and internal fixation of intracapsular fracture OR DHS fixation OR IM nail</td>
<td>£5695</td>
<td>£6038</td>
<td>£7323</td>
</tr>
<tr>
<td>Hemiarthroplasty OR Total hip replacement</td>
<td>£6392</td>
<td>£6776</td>
<td>£8061</td>
</tr>
</tbody>
</table>

Add in extra £1 to £2814 for co-morbidities and complications + possible extra if very long stay
Has the total tariff for hip fractures increased in recent years?

- These figures from DOH corrected to 2013 prices and including ‘average’ achievement of best practice tariff
Does the hospital make money from hip fracture patients?

Hospital cost of treating a patient are approximately £10,000

Tariff hospital receives is approximately £6000 to £9000

So is a loss of approximately £2500 for each hip fracture treated

Most costs are associated with hospital stay, so if hospital stay were reduced from the current average of 21 days to about 16 days the hospital may be breaking even
To summarise

- Hospitals are paid less now to treat hip fractures

- 84% of the cost of treating a hip fracture is from the hospital/institutional stay

- The best way of reduction institutional stay is to limit patient transfers
Any questions ?
What is the cost of treating a hip fracture?

(all prices in this talk are corrected to 2013)

- Hollingworth and Parker 1993 £9940
- French et al 1995 £6724
- Lawrence and Moran 2005 £1,6740

Breakdown of costs

- Hospital stay 84%
- Theatre costs 9%
- Laboratory costs 4%
- Radiology 3%
The ageing population

[Map showing the ageing population around the world with different color codes for various age ranges.]
Projected number of hip fractures

Total number of hip fractures
1990 = 1.3 million
2025 = 2.6 million
2050 = 5 million

Estimated number of hip fractures: (1000s)

Projected to reach 3.2 million in Asia by 2050

Adapted from Cooper et al, Osteoporosis International 1992; 2:285-9
Results from Peterborough

- Reduced delays to surgery
- Reduced surgical complications
- Shorter hospital stay


MEDIAN HOSPITAL STAY

ENGLAND – 17 DAYS
% Moved from admission ward
% DEEP INFECTION

- HEMI
- SHS
- NAILS
- SCREW
% READMISSIONS
(WITHIN 30 DAYS OF DISCHARGE)

[Bar chart showing % readmissions from 1987 to 2012, with different colors for rehab, medical, and surgical readmissions.]

- REHAB
- MEDICAL
- SURGICAL
OUTCOME OF TRANSFERS

- DIED
- NOT DISCHARGED
- MOVED
- HOME