

“Fast tracking” patients with a proximal femoral fracture

John Ryan, Mahboud Ghani, Paul Staniforth, Geoffrey Bryant, Sue Edwards

Abstract

Objective—To assess the management of elderly patients presenting to the accident and emergency (A&E) department with a proximal femoral fracture.

Methods—A retrospective audit carried out on 30 patients with proximal femoral fracture showed an unacceptably long waiting time in the A&E department. A new “fast track” system for managing these patients, involving the use of a flow chart for expediting admission, was devised. A prospective study of 100 patients > 60 years of age with proximal femoral fracture admitted by fast track system was then carried out.

Results—Implementation of the fast track system resulted in earlier admission to the ward (median time to admission 2.5 h v 4.5 h in the retrospective audit, $P < 0.001$). Eighteen patients were not admitted by fast track during the study period, in some cases because of inconclusive diagnosis or because there was no identifiable orthopaedic bed; mean admission time for this group was 4 h 8 min.

Conclusions—The fast track system was of benefit to all involved, including the patient, A&E staff, ward staff, and orthopaedic personnel.

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Key terms: proximal femoral fracture; accident and emergency; fast track admission.

The Patient's Charter has led to increased expectations of efficiency and has resulted in new systems of monitoring waiting times, delays, and complaints within the accident and emergency (A&E) department. Increased awareness by A&E staff of the plight of elderly patients with a proximal femoral fracture led us to carry out a retrospective criterion based audit of the time spent by these patients in the A&E department. This showed that they stayed in the A&E department for an inappropriate length of time. A new system of “fast tracking” patients to the ward was implemented, which benefited the patients, A&E staff, orthopaedic doctors, and orthopaedic ward staff.

Methods

We carried out a retrospective audit of 30 patients presenting to the A&E department following a fracture of the proximal third of the femur. We looked at the time from registration to departure to the ward. We recorded a

Waterlow pressure sore score for each patient,¹ details of analgesia, the age of the patient, and the length of time before examination by the doctor in the A&E department.

Following consultation between the orthopaedic and A&E departments we drew up a protocol with inclusion and exclusion criteria and a flow chart guideline for fast track admission of patients with a fracture of the proximal third of femur (fig 1). We performed a prospective study of the next 100 patients suffering a proximal femoral fracture and admitted by the fast track system.

Inclusion criteria were: age > 60 years, history of a specific injury, and leg shortened and/or externally rotated. Exclusion criteria were: a history of high velocity injury, complicating medical or surgical conditions, and age < 60 years.

In cases where the diagnosis was obvious at the time of admission, a nurse's assessment and a brief medical assessment by an A&E doctor were carried out as a matter of priority. The patient received analgesia and oxygen.

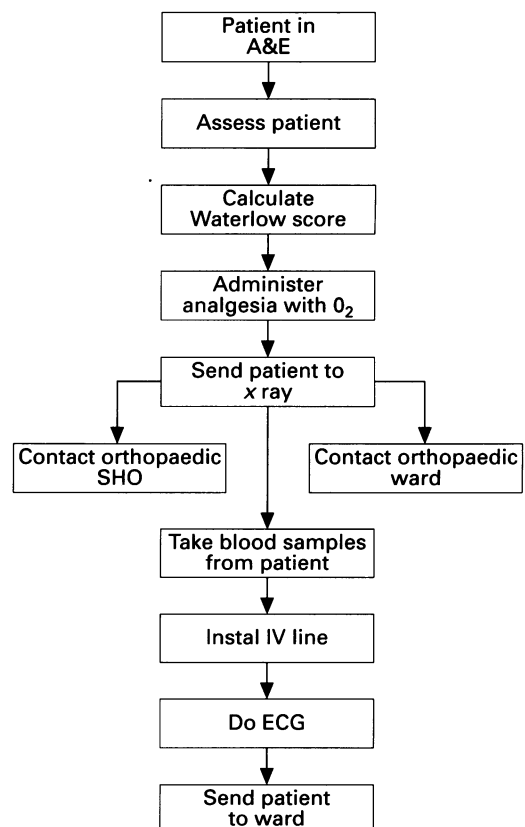


Figure 1 Fast track flow chart for management of patients with fractures of the proximal femur.

Royal Sussex County Hospital, Eastern Rd., Brighton: Accident and Emergency Department
J Ryan
G Bryant
S Edwards

Department of Orthopaedics and Accident Surgery
M Ghani
P Staniforth

Correspondence to: John Ryan, Senior Registrar, Accident and Emergency Department, King's College Hospital, Denmark Hill, London SE5 9RS, UK.

The patient was sent for radiographs of the relevant femur and chest. A&E staff identified a bed on the duty orthopaedic ward. They informed the orthopaedic senior house officer (SHO) of the pending admission. An intravenous canula was inserted and blood taken for full blood count, urea and electrolytes, and blood grouping. An ECG was performed. The patient was then sent to the ward where a formal admission was performed by the orthopaedic SHO.

A form was kept with each patient's notes to record the time of each event and also as a reminder to ensure that none of the events was forgotten. A comments box was included at the end, and all people involved with admitting the patient were invited to include any pertinent comments.

Some patients with a proximal femoral fracture were not fast tracked by the A&E department. This group was reviewed separately.

Results

The results of the retrospective arm of the study showed that no patient had been admitted to the ward in under 2 h from time of registration. The peak time to admission was between 4 and 5 h, when 33% were admitted to the ward (fig 2). Some patients waited more than 7 h from time of registration before being admitted to a ward. The majority of these patients were over 75 years of age. Only 10% had a Waterlow score recorded at the nursing assessment; 83% were given analgesia, which in most cases was intramuscular diclofenac; a few (8%) were given a femoral nerve block. Forty three per cent of patients were seen by a doctor in the first hour.

The mean time to admission for the 100 patients admitted under the fast track system was 2 h 38 min. Only one patient had to wait more than 5 h to be transferred to the ward. The peak time for admission was between 2 and 3 h, when 43% of cases were admitted (fig 3). A Mann-Whitney test performed on the two groups showed that this difference was significant at $P < 0.001$. The median for the first group was 4.5 h, and 2.5 h for the second group.

Most patients received analgesia or declined it. Intramuscular diclofenac was given in 65% of cases, a femoral nerve block in 17%, intramuscular papaveretum (Omnopon) in 7%, and other analgesia in 15%. A Waterlow score was recorded and acted on in 42% of the cases. All patients had the appropriate number of

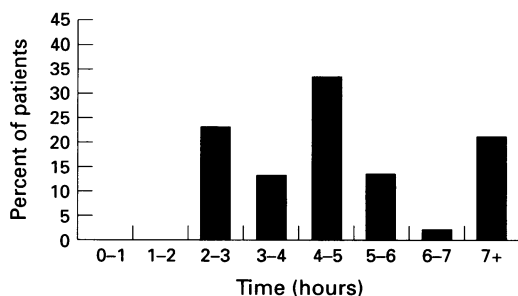


Figure 2 Time spent in accident and emergency department before fast track system.

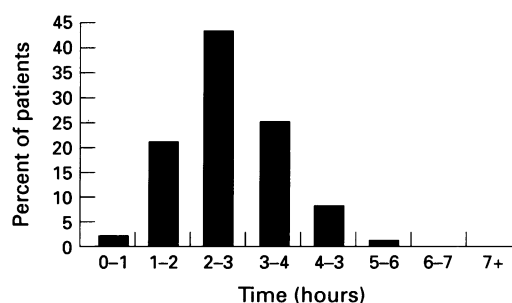


Figure 3 Time spent in accident and emergency department after introduction of fast track system.

radiographs taken and additional radiographs were taken in 7% of cases. An ECG was performed in 89% of patients. In 88% of patients an intravenous canula was inserted and intravenous fluids started. The mean time to review by the orthopaedic SHO on the ward was 1 h 16 min, with a range from immediate to 5 h 18 min.

During the prospective arm of the study, 18 patients with a proximal femoral fracture were not fast tracked. Reasons for this were: (1) orthopaedic SHO already available in the department; (2) diagnosis inconclusive; (3) already accepted as a transfer from another hospital within the area; (4) no identifiable orthopaedic bed available. The mean time to admission for this group was 4 h 8 min (range 1 h 10 min to 7 h 19 min). One 54 year old man was fast tracked inappropriately according to the age criteria but his outcome was not adversely affected.

We reviewed the comments box at the end of the admission form. On occasions the patient was admitted without an ECG or a drug chart. We have not identified any events which adversely affected patient care. In general, comments were appreciative of the system.

Discussion

An efficient system already existed in our A&E department for fast tracking patients with a myocardial infarct. This allowed for quicker administration of thrombolysis and earlier admission to the coronary care unit. This system has previously been reported by Pell *et al.*² In the United States successful fast tracking of patient subgroups in the emergency department has also been reported.³⁻⁵

There are now almost epidemic numbers of patients presenting with a proximal femoral fracture to A&E departments.⁶ In this department, 370 cases were admitted in the last year. These elderly patients often suffer from multi-system diseases and are at risk of developing pressure sores when left on a trolley for lengthy periods. Furthermore it has been shown that patients with a proximal femoral fracture have a more favourable outcome if they undergo surgery early.^{7,8} Our initial retrospective study showed an unsatisfactory delay in the length of time patients spent in the A&E department. This new system has decreased the waiting time for the patient in the department.

The new fast track system has shown a number of obvious advantages. Patients now

spend a much shorter time on trolleys in the A&E department. Given the high Waterlow score of these elderly patients this can only be better for their pressure areas. The shorter time in the A&E department also lessens the work load of the department. It releases trolley spaces in a department which sees 54 000 patients a year and which often has 100% occupancy in its trolley space areas.

A&E staff are happy to comply with a protocol for managing patients with isolated proximal femoral fractures despite the apparent extra work load. The orthopaedic SHOs who previously clerked the patient in the A&E department are also happy with this system. When the patients arrive on the ward they have already had a medical assessment in the A&E department, the patient is comfortable, and all baseline investigations have been performed. Ward staff are happier with the new system as they receive the patient earlier and are subject to less complaints from patients and relatives relating to lengthy stays in the A&E department.

In summary we have shown the benefits of a fast track protocol for the admission of patients with a proximal femoral fracture. The patient gets a better service. The A&E staff, the orthopaedic doctors, and ward staff are all happier with the new system. In this era of the Patient's Charter and patient centred care this

is a further example of how the reporting of performance differences between hospitals treating proximal femoral fractures can improve service to the patient. We feel that this system of fast tracking previously described for admission of patients to coronary care units requiring urgent thrombolysis has the potential to be applied to a number of other conditions. We intend to look at other disorders requiring admission to hospital where identifying a priority condition and using an accepted protocol can improve patient care and lessen the workload for A&E personnel and other medical staff.

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