Gloucestershire Hospitals
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The Trauma Assessment and Treatment Unit

A novel concept for patient treatment in Trauma & Orthopaedics

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1. Introduction

At present, patients presenting to the trauma & orthopaedic (T&O) service, whether from the emergency department (ED), minor injuries units (MIU) or general practice (GP), who require urgent review and/or treatment, must either be reviewed in ED or admitted to a ward bed. Following on from the successful introduction of a Surgical Assessment Unit (SAU) on ward 5A for the management of ambulatory general surgical referrals, we instigated a two-week trial of a similar concept titled the Trauma Assessment and Treatment Unit (TATU). The aims were to:

i. Improve patient flow through the hospital, especially in ED

ii. Improve the experience for ambulatory patients

iii. Reduce avoidable admissions to hospital beds

2. TATU overview

Following consideration of a number of possible locations, TATU was set up in one bay of ward 3B, one of two T&O wards in GRH. This necessitated the removal of six beds, which were replaced with 12 reclining chairs and a single curtained bay with an assessment trolley. A separate room was available for intimate examinations and privacy when required. It was staffed with one registered nurse and one health care assistant (HCA). Medical cover was provided by the on-call T&O team.

Equipment was available for performing all activities that would usually take place on an orthopaedic ward. On the advice of the microbiology department and outpatient antibiotic therapy (OPAT) teams, once-daily intravenous antibiotic regimens were agreed to facilitate treatment of infections. Patients were allowed overnight leave if they so desired.

3. Methods

The trial took place over a two week period between the 14th and 28th of June 2019. Data was collected prospectively, including: patient demographics, source and time of referral, presenting complaint, investigations and treatments initiated and discharge destination. Patients were asked to complete a detailed feedback form on their experience, including the 'friends and family' test. Retrospectively, staff were asked for feedback on their experiences, a judgement was made on the number of bed-days avoided by TATU, and inappropriate uses of TATU were evaluated.

For the purposes of judging bed-days avoided, the following criteria were used. It was assumed that any patient who returned to TATU on more than one day (for example for intravenous antibiotics or whilst awaiting investigations) would otherwise have been admitted to a bed for the duration of this procedure. In addition it was assumed that any patient who spent more than four hours in TATU following presentation to the hospital would have been admitted to a ward had TATU not been available (as this is standard practice when patients are likely to breach the four-hour target in ED). As TATU required the loss of one six-bed bay for two weeks, the number of 'lost' bed-days was 84, which was offset by the number of admissions avoided.

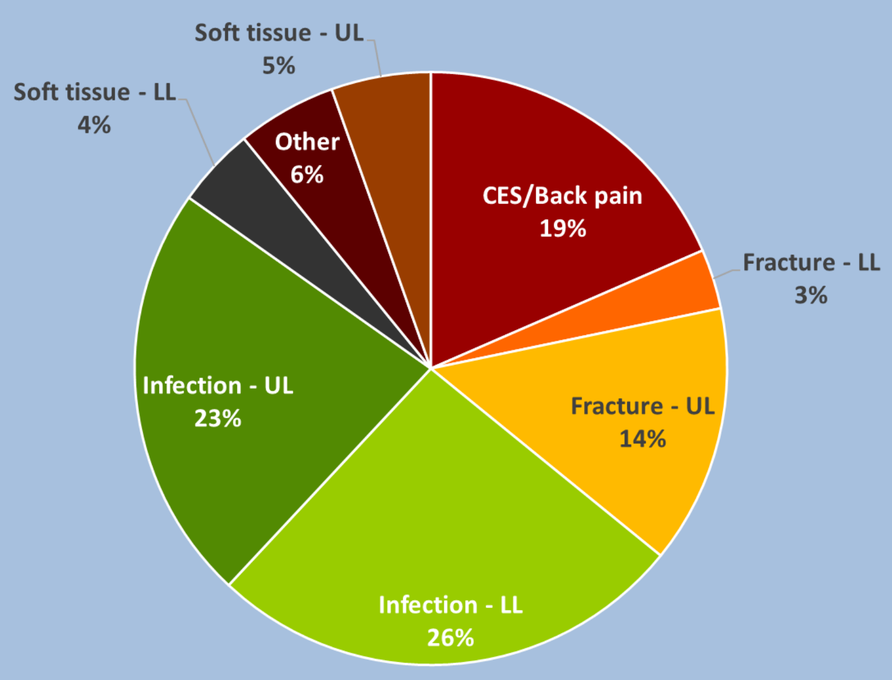

Fig. 1 - presenting complaint

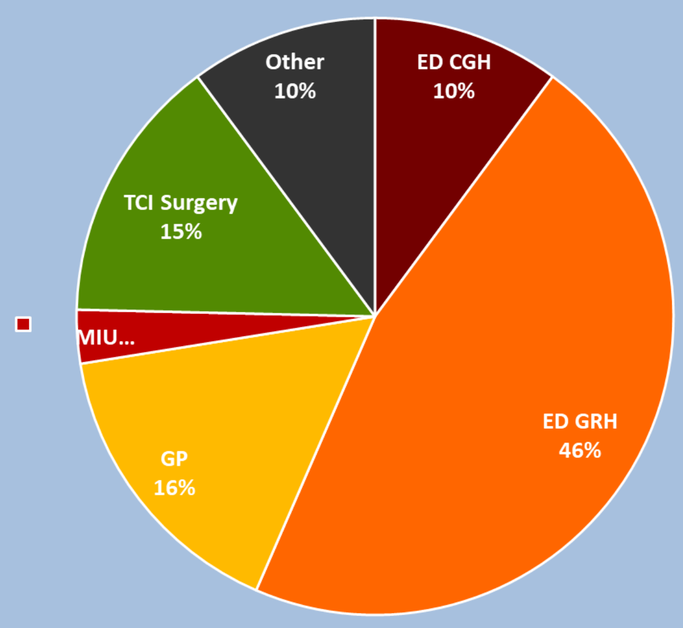

Fig. 2 - source of referral

4. Results

Over 14 days, we admitted 83 patients, 21 of whom returned for further planned assessment or treatment as a day case. The mean number of patients seen per day was 8 (range 5-17). The most common presenting complaint was infection (49%); for a full breakdown of presenting complaints see fig. 1. Most patients (46%) were referred from GRH ED; for a full breakdown of sources of referral see fig. 2.

The mean time spent per visit to TATU was 3hrs (<1hr to 11hrs). The maximum time to review by a registered nurse was 11 minutes. The mean time to review by a doctor was 1hr 15 minutes (maximum 4hrs 30 minutes).

Admissions avoided by TATU led to 57 fewer bed-days for T&O patients. There was no effect on the number of T&O patients on outlying wards, suggesting that the admissions avoided were equal to the beds lost to create TATU.

There were two inappropriate placements of patients onto TATU, both whilst awaiting transport.

95% of patients were 'likely' or 'extremely likely' to recommend TATU to friends and family, and 100% gave the service an overall rating of 7 or more out of 10.

5. Discussion

Demands on the hospital as a whole, and the T&O service in particular, are increasing year-on-year. This two-week trial of TATU proves that it is an effective method of improving patient flow and avoiding unnecessary admissions. Feedback from patients shows that the concept is well liked by them, and the feedback from all nursing and medical staff involved in the pilot was highly favourable.

Following review of this short trial, the T&O department will be implementing a longer four-month trial to gain more data on the efficacy and safety of such a service. If this confirms that the concept is valid, then it offers a way to improve experiences of both patients and staff.

6. Thanks

The TATU delivery group (the authors, Anna Blake, Di Thomas, Kellie Thom, Sharon Wade, Bernie Turner, Cristina Soare, Neil Kellie, Rob Stacey, Alphons Mathew, Terry Flemons, Catherine Barton-Jones, Andrea Darby, Angela Ricketts, Annie Cox, Catherine Phillips and Nikki Hamblin), all the staff on ward 3B and in ED and the bed managers for their hard work in developing this project.