

The South Tyneside FASTRAK service: evaluation of a new model for day surgery

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Abstract

Objective: To evaluate a service (FASTRAK) offering general practitioners direct access to day surgery operative waiting lists, based on explicit guidelines regarding patient suitability for surgery and anaesthesia. **Design:** Notes abstraction for a cohort of patients referred via FASTRAK and a cohort referred via conventional day surgery routes; postal questionnaire survey of patient satisfaction amongst FASTRAK patients and matched controls referred via conventional routes; postal survey of professional satisfaction. **Setting:** One district general hospital in the north east of England, and all general practices in that district. **Subjects:** 1278 patients (1100 conventional day case patients; 178 FASTRAK patients) for notes abstraction; 70 patients for patient satisfaction survey 83 general practitioners for professional satisfaction survey. **Main outcome measures:** interval from referral to operation, and appropriateness of referral; patient experience and satisfaction with hospital and post-discharge care, especially with respect to information provision, for patient survey; overall rating of service, perceived benefits and disadvantages and future intentions for professional satisfaction survey. **Results:** The interval from referral to operation was significantly shorter for FASTRAK patients by a median of 91 days. Out of a total of 178 FASTRAK referrals, only seven (4%) were inappropriate whilst diagnosis was wrong in three (2%) cases. Patients referred via FASTRAK were much more likely to have received written information prior to admission (83 vs. 37%; $\chi^2 = 12.25$. $P = 0.0019$). General practitioners (GPs) had positive views of the service; 94% rated it as 'fair' to 'very good'. GPs, 90%, perceived the main benefit to patients to be a shorter waiting time for operation; 40% felt that the availability of clear information for patients benefited doctors. Increased general practitioner workload was recognised as a disadvantage (61%) and the main barrier to use of the service was lack of eligible patients under the current guidelines (69%). **Conclusions:** When diagnosis, indication for surgery and fitness for anaesthesia are not in doubt, general practitioners, given appropriate guidance, are able to provide all the necessary pre-operative services that are usually provided in the general surgical outpatient clinic, without prejudicing the quality of care or decreasing patient satisfaction. © 1997 Elsevier Science B.V.

Keywords: Day surgery; FASTRAK; Patients

1. Introduction

Day surgery is now widely recognised as a cost-effective method for the delivery of certain specified surgical

procedures and, as such, has been targeted as an area for expansion and development by the Royal College of Surgeons and the Audit Commission [1,2]. It has been seen as a means of reducing expenditure by reducing bed occupancy, whilst providing a service for patients which reduces disruption to domestic and working life, and provides a high level of satisfaction [3].

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South Tyneside has been identified as a high-performance day surgery district. Despite the fact that the district performs neither ENT nor ophthalmic surgery (the two disciplines most often associated with high levels of day case work), 51% of elective surgery is performed as day cases [2]. Nonetheless, both clinicians and management in South Tyneside were looking for ways of further improving the day surgery service. The FASTRAK service developed from this liaison. The development of the FASTRAK service is described in detail elsewhere [4]. It provides all general practitioners in the South Tyneside district with the means to refer suitable patients directly to day case operative waiting lists, using agreed criteria for diagnosis, referral and assessment of suitability for surgery and anaesthesia. This universal availability is in contrast to the only other reported study of direct referral to day case surgery [5], where access was confined to four selected practices.

The underlying rationale for the FASTRAK service is the recognition that, within South Tyneside, young, fit patients with certain clear diagnoses are almost invariably operated on as day cases. Under these circumstances, the surgeon is acting as little more than an operative technician, providing specialist surgical services that the general practitioner (GP) is unable to perform. GPs however, are usually able to recognise straightforward presentations amenable to day surgery correction. Additionally, although most have no formal training in pre-operative assessment, their detailed knowledge of patients' past medical and family history should allow them to make accurate decisions about suitability for day case surgery, given explicit and unambiguous guidelines. If these premises hold true, there are potential benefits for patients. By eliminating the wait for an outpatient appointment (the traditional route to surgery), the interval from referral to operation should be reduced, thereby decreasing the period of suffering and disruption to domestic and working life. Reducing the number of new patients requiring an outpatient appointment might also free up surgeons' time for pre-operative assessments or post-operative follow-up. As Smith and Gwynn suggest [5], this could allow more time for the assessment of more complex cases. It could also reduce waiting times for conventional day case patients.

A multi-disciplinary group of surgeons, GPs, anaesthetists, day ward nursing and administrative staff, and health services researchers led the development of the FASTRAK service [4]. Eligible conditions were identified and defined (Table 1); condition-specific and general criteria for FASTRAK suitability were drawn up (Table 2); documentation for assessment and referral were prepared and patient information materials developed. Finally, the system was publicised to potential users. Each practice in the district was visited and

Table 1
Conditions eligible for FASTRAK referral

Hernia simple and unilateral
Inguinal
Femoral
Epigastric
Anal fissure
Circumcision
Varicose veins
Epididymal cyst
Varicocele
Hydrocoele
Skin lesions, requiring general anaesthetic for excision
Lymph nodes requiring biopsy
Ganglion

a FASTRAK manual [6] was provided for every GP. These initiatives were backed up by a series of educational meetings. In this paper we describe the results of the service for the first 3 years (August 1993–July 1996) including a more detailed evaluation of the pilot scheme which took place during the first year of the project.

2. Methods

To evaluate the initiative, data were collected from hospital records, from patients' themselves and from

Table 2
General criteria for FASTRAK suitability

Patients must:
1. Have a condition causing problems they are prepared to have an operation for
2. Be able to be driven home in a car by someone
3. Have easy access to a telephone
4. Have easy access to a toilet
5. Not be pregnant
Patients must have none of the following:
1. Uncontrolled hypertension
2. Ischaemic heart disease
3. Asthma/bronchitis
4. Heart murmur
5. Other heart disease
6. Other significant lung disease
7. Breathlessness or chest pain on exertion
8. Previous stroke/transient ischaemic attack
9. Previous deep vein thrombosis
10. Diabetes
11. Rheumatoid arthritis or significant cervical spondylosis
Patients must have normal:
1. Blood pressure
2. Heart sounds
3. Pulse rate
4. Chest examination
5. Acceptable body mass index

the GPs in the district. During the pilot year we examined case-mix, referral and attendance rates for conventional day case and FASTRAK surgery, the ability of GPs to refer appropriately, the effect of FASTRAK on waiting times, and patient and professional views of the service. In the subsequent 2 years we examined referral and attendance rates for FASTRAK surgery and the ability of GPs to refer appropriately.

Structured pro-formal were developed to abstract information from conventional referral letters, FASTRAK referral forms, and from ward and theatre records of patients both in the FASTRAK system and those referred via conventional day case routes. The information sought included the dates of referral by GP, of first outpatient appointment (conventional day case patients only) and of the operative procedure. Information on both GP's and surgeon's diagnosis of the presenting problem, the surgical procedure carried out, and patient characteristics were also sought, along with details of the referring GP. To test whether the FASTRAK service had any impact on waiting times for conventional day case patients, data for this patient group were collected for patients operated on during the 6 months prior to the launch of the service (August 1993) as well as during the pilot year.

During the pilot year, patients' views were sought using a previously validated questionnaire on satisfaction with day case surgery [3,7]. FASTRAK patients, 34, were surveyed, along with a sample of conventional day-case patients matched for age, gender and date of operation. The FASTRAK service was confined to a sub-set of diagnoses and day case surgical procedures (Table 1) and within these procedures to certain age-groups. For this reason, it was not possible to match by presenting problem or operative procedure. Two reminders, the second enclosing a duplicate copy of the questionnaire, were sent to nonrespondents at 3 and 5 weeks, respectively.

A structured self-completion questionnaire, seeking professional views of the FASTRAK service was developed and sent to all 83 GPs in the South Tyneside district at the end of the pilot year. Two reminders, the second enclosing a duplicate copy of the questionnaire, were sent to non-respondents at 3 and 5 weeks, respectively. The views of the surgeons, anaesthetists, day ward staff and management were sought in unstructured interviews.

Data were analysed using the SPSSX package [8]. Because of the skewed distribution of waiting times, the Mann-Whitney test [9] was used in this analysis. Comparison of the experiences and satisfaction of conventional day case and FASTRAK patients was carried out using the χ^2 test [10].

3. Results

Because of the scope and complexity of results we have presented them as a series of answers to pertinent questions. The main results on casemix and what happened to patients are presented as a flow diagram also (Table 3).

3.1. How many patients were suitable?

A total of 178 FASTRAK patients were referred between August 1993 and July 1996 of whom seven (4%) were inappropriate referrals. Four were referred to a consultant not participating in FASTRAK, two were for conditions not covered by the protocol and the seventh was an administrative error. For FASTRAK patients, there was complete agreement between GPs and anaesthetists regarding their fitness for anaesthetic. Of the 171 suitable from the referral letter only two (1%) were found to have a wrong diagnosis on the day of the procedure when checked by the consultant in the day-ward (no varicocele, no hernia) and another error was identified when the patient was admitted urgently (when an anal fissure was found to be a carcinoma of rectum). In the case of a saphena varix both the GP and consultant surgeon made the same wrong diagnosis of femoral hernia prior to operation.

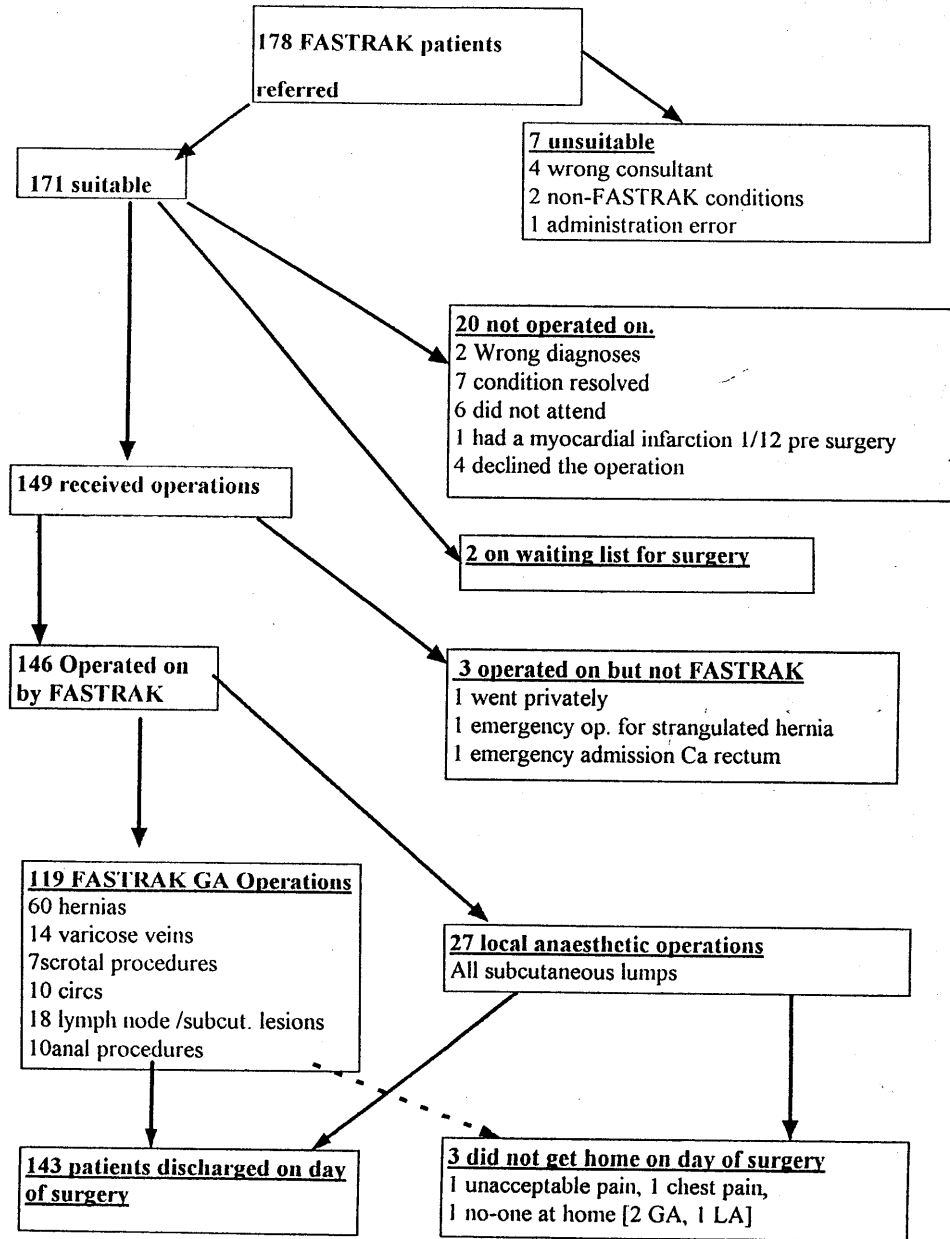
3.2. What was the casemix?

Amongst the eligible referrals, the most common presenting problem amongst FASTRAK patients was inguinal hernia (37%), followed by a need for lump excision (36%), varicose veins (8%) and anal procedures (7%). By contrast, the most common problem in conventional day case patients was varicose veins (16%), followed by vasectomy (13%), a procedure not available under FASTRAK as it is routinely performed under local anaesthetic in this district, with inguinal hernia in third place (11%).

3.3. Did all the suitable cases get an operation?

Of the 171 'suitable' from the referral letter 146 patients received an operation of which 27 (16%) had an operation requiring only local anaesthetic (initially outside the rules for FASTRAK). Of the 25 'suitable' patients not operated on by FASTRAK, two were waiting for an operation at the time of finishing data collection, six (3%) did not attend, in seven (4%) the condition had resolved (two ganglion, two sebaceous cysts, one perianal wart, neck nodes and a hydrocele, which was aspirated), the diagnosis was wrong in two cases, one went privately and two were operated on as emergencies, one had a myocardial infarction one month prior to the operation whilst four (2%) were

Table 3
What happened to the patients?



cancelled prior to admission as the patient declined surgery. (see Table 3 for summary).

3.4. Were there any other problems?

Three patients (2%) did not get home the same day, one because of unacceptable postoperative pain after a hernia repair, one developed chest pain after a ganglion removal and one lived alone (although this was not stated by the patient at the time of referral by the GP). Two patients were deferred because of upper respira-

tory tract infections but both were successfully operated on 3 weeks later. Two cases proved to have malignancies; a non-Hodgkin's Lymphoma where the GP suspected the diagnosis and discussed the case in advance with the surgeon involved, and a carcinoma of rectum where the original diagnosis was anal fissure. The diagnosis was not inappropriately delayed in either case. There were several minor violations of protocol, which were all accommodated within the study. For example, patients with bilateral varicose veins, recurrent hernias or those just outside the agreed age range were referred.

3.5. What was the effect on waiting times?

Because of variation in case-mix, and because waiting times varied with condition, it was necessary to control for surgical procedure in comparisons of waiting times between FASTRAK and conventional day case patients. During the pilot phase, when data on conventional day-cases was also collected, only inguinal hernia repair had sufficient numbers of patients in the FASTRAK group to allow statistical analysis. A total of 147 patients underwent this procedure, 123 as conventional day cases and 24 as FASTRAK patients. There was a significant difference between conventional and FASTRAK patients in the time taken to surgery (Mann-Whitney $W = 329.0$, $P < 0.0001$) with a median wait of 91 days less for those patients undergoing day-surgery via the FASTRAK service. The introduction of the FASTRAK service led to a small decrease in waiting times for conventional day surgery patients (Mann-Whitney $W = 1472.0$, $P = 0.038$), with a median decrease of 10 days after the introduction of FASTRAK.

3.6. What did patients think of it?

Patients, 55, satisfaction questionnaires were returned, 29 from FASTRAK and 26 from conventional day surgery patients, an overall response rate of 79%. General levels of satisfaction were high, no matter whether patients were referred as FASTRAK or conventional day cases. Regardless of type of operation, FASTRAK patients were more likely (83%) to have received written information prior to hospital admission than conventional day cases (37%; $\chi^2 = 12.25$, $P = 0.0019$). Controlling for case-mix, there were no other significant differences in the experiences of the two groups of patients, either in hospital or post-discharge.

3.7. How many GPs used it and what did they think of it?

During the pilot phase, appropriate referrals were received from 31 of the 83 general practitioners (37%) in post at the time, and from 17 (52%) of the practices. The maximum number of patients referred by a single doctor during this phase was four, most referred just one patient.

GP's, 52, satisfaction questionnaires were returned, a response rate of 63%. Overall, general practitioners were positively inclined towards the FASTRAK service; 53% rated it as 'good' or 'very good' and a further 40% as 'fair'. Over one third (37%) felt it should be continued in its current form and 60% felt it should be extended to other specialities. Only one respondent (who had negative views of all forms of day surgery

and had not referred any patients via FASTRAK) would not consider using the service in the future. Only two respondents felt that FASTRAK offered no advantages to patients. The main advantage was seen to be a shorter waiting time for operation (90%), but ease of access to the GP surgery (35%) and receipt of consistent advice and information (31%) were also cited. Respondents were more likely (33%) to feel that the service did not offer any benefits to themselves as general practitioners, but over 40% saw the provision of clear and concise information for use with patients as a positive feature, and almost 20% cited improved doctor-patient relations as a benefit. However, 80% of respondents also recognised some disadvantages to referring patients via the FASTRAK service. Chief amongst these was increased workload (61%); 27% also expressed worries about making decisions. When asked which factors affected their ability or decision to use FASTRAK, almost 70% said they saw no or few suitable patients under the current guidelines, 38% forgot about the existence of the service when seeing patients who might have been suitable; being too busy and the risk of misdiagnosis were each mentioned by roughly 20% of respondents.

3.8. What did hospital staff think of the service?

From the unstructured interviews, it was apparent that the two general surgeons treating FASTRAK patients felt that the general practitioners had carried out the pre-operative work-ups successfully. There were relatively few inappropriate referrals to FASTRAK; those that were seen were regarded as genuine mistakes rather than an attempt to 'play the system'. Nor were patients who would have been eligible for FASTRAK referred as conventional day case patients. The surgeons did not see any advantages to themselves, but felt that patients would gain from 'one stop surgery'. The anaesthetists also felt comfortable with the ability of general practitioners to assess patients for anaesthesia and perceived that FASTRAK patients took less time to assess on the day of surgery, mainly because, by definition, they were fit and did not have serious underlying medical problems. The day unit ward sister felt that FASTRAK patients were better informed and prepared for what was going to happen to them, because they had received information leaflets prior to admission.

4. Discussion

Our findings suggest that, when diagnosis, indication for surgery and fitness for anaesthesia are not in doubt, general practitioners, given appropriate guidance, are able to provide all the necessary pre-operative services

usually provided in the general surgical outpatient clinic, without prejudicing the quality of care or decreasing patient satisfaction. There were few inappropriate referrals and the surgeons and anaesthetist were confident about general practitioners' capabilities. One of the surgeons felt that FASTRAK had initially engendered more stress in his daily routine as he had felt obliged to clerk all patients prior to operating to ensure that all was as stated by the referring general practitioner. However, as his confidence in the system increased both the stress and pre-operative clerking reduced so that now they are treated no differently to routine day-cases. The non-attendance rate and failure to go home rate, both critical to the running of a day unit, were no different to those for conventional day patients. The FASTRAK service was perceived by health professionals to offer benefits for patients in terms of decreased waiting times and more consistent information; patients may also find it more convenient to visit their local general practitioner for pre-operative assessment rather than to travel to hospital for an outpatient appointment. However, the validated patient satisfaction questionnaire we chose [3,7] did not address these issues explicitly, as it was designed for general application to all day case patients. Further research into patients' perceptions of the advantages and disadvantages of the FASTRAK service is indicated. The findings from the patient satisfaction survey do, nonetheless, suggest that establishing a relationship between surgeon and patient prior to the operation is not a pre-requisite for patient satisfaction, if some other means of information provision is employed.

Despite these positive findings, the number of patients referred to the FASTRAK service was disappointingly low, especially in view of the effort put into publicising the service to general practitioners. A lack of suitable patients, given the current stringent guidelines, was perceived to be the main barrier to referral. If the service was to be open only to those general practitioners in whom surgeons had a high level of confidence, criteria for patient eligibility could have been relaxed. But such a service could be open to criticisms of inequity. The developers of the service felt that access should be available to all general practitioners in the district and that tighter guidelines were therefore required. If criteria were to be relaxed in the future, there would be an increased risk of inappropriate referrals, possibly leading to postponement of operations and waste of resources.

At the start of the project, some concern was expressed that important conditions may be misdiagnosed and delayed by this service. This was not the case with the two malignancies encountered. With the first, a non-Hodgkin's lymphoma, the diagnosis was

suspected and confirmed without delay by an appropriate node biopsy. In the second, a carcinoma of the rectum, misdiagnosed as an anal fissure, the patient would not have been seen any quicker had they been referred by a conventional route, as it is not the practice of the surgeons to see each suspected anal fissure urgently. It is impossible to envisage any system of referral that will never miss an important diagnosis but we do not believe that FASTRAK introduces any further delay into the referral process.

General practitioners also identified a number of disadvantages to themselves in referring patients to the FASTRAK service. Most importantly, they cited increased workload. There is a time cost to general practitioners in carrying out pre-operative assessments. A careful economic evaluation, examining and quantifying the costs and benefits accruing to the hospital staff, primary care team and patients will be required before firm conclusions can be drawn about whether direct referral is a cost-effective option in delivering day surgery services.

In general, there was support amongst all health care professionals involved for continuing the FASTRAK service and extending it to other conditions. The surgeons and anaesthetists recognised the need for a careful review of eligible conditions and the anaesthetist stressed the desirability of adhering to existing criteria for anaesthetic suitability.

We have shown that, given well defined guidelines and criteria, it is possible to offer universal access to direct referral for day case surgery, with significant benefits to patients. Rates of inappropriate referral are acceptable, though somewhat higher than in the Stafford study [5]. In Stafford access was confined to doctors from four practices, whom the authors acknowledge may have been particularly well-motivated. Whether the system can be transferred to other districts is less clear. General practitioners in South Tyneside are probably no more innovative than their colleagues elsewhere; indeed, the proportions of fund-holding and vocational training practices are below the regional average. However, they undoubtedly enjoy a good working relationship with local surgeons; the district is nationally recognised as being at the forefront in day surgery and is the demonstration site for a regional initiative on audit at the primary-secondary care interface. Because of these established relationships, there is considerable trust between primary and secondary care practitioners, which was crucial to the success of the FASTRAK initiative. Elsewhere, more time and effort may need to be expended in developing mutual trust and confidence. We see no major barriers to extending direct access to day surgery to other districts and other surgical disciplines.

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