

# Continuity of care for orthopaedic patients in a district general hospital

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## Abstract

Continuity of care has been defined as a patient repeatedly consulting the same doctor and forming a therapeutic relationship. There is evidence that not only do patients value continuity of the care they receive but also that provider continuity is related to lower overall total healthcare costs and better healthcare outcomes. A retrospective audit was undertaken in James Paget Hospital, a district general hospital in East Anglia, England, to assess continuity of care from the preoperative clinic to surgery and subsequent postoperative follow-up in the orthopaedic department. Overall continuity of care by individual surgeon was 23% and by orthopaedic team (consultant and middle grade staff) 43% in the first audit cycle of 106 patients in 2008. In the second cycle in 2010, this improved to 24% and 56%, respectively, in a sample of 156 patients. Moreover, the continuity of care for trauma patients improved from 10% to 75%. Interventions which resulted in the improvement were change of on-call rota and the implementation of measures so that, following surgery, patients were allocated to the operating surgeon's clinic postoperatively. This completed audit cycle highlights the importance of continuity of care of patients and how efficient management led to a more patient centred delivery of healthcare.

## Problem

Achieving continuity of care for all patients is challenging. Even general practitioners who believe that continuity of care coupled with good communication are the most important tools in their practice, recognise difficulties in maintaining continuity for their patients in primary care (1). Similar challenges are also seen in the secondary care setting. Due to government targets as dictated by the Department of Health's NHS Operating Framework (2) and overbooked clinics, patients may be moved from one consultant's waiting list to another to prevent treatment delay. Moreover, emergency workload, particularly in surgical specialties such as orthopaedic surgery, is unpredictable and therefore achieving continuity of care can be difficult as we work in a shift system due to the European Working Time Directives (EWTD). Finally, medical staff take leave for various reasons and this undoubtedly affects continuity of care.

In James Paget Hospital in East Anglia, England, it was not uncommon for orthopaedic patients to be operated on by a different surgeon from the one they saw in clinic, or were followed up postoperatively by a surgeon who had not been previously involved in their care. This prompted the feeling that continuity of care of orthopaedic patients could be improved further. This project was therefore undertaken to make an objective assessment of the situation.

In order to assess patients' wishes, a survey of 1000 patients who attended the orthopaedic outpatient clinics in James Paget Hospital was undertaken in 2010. This was in the form of paper questionnaires which were completed by patients who attended their orthopaedic outpatient appointment and agreed to take part in the survey. The questionnaire consisted of three questions with 'yes' or 'no' answers. These questions were:

(a) Would you like to be operated on by the same surgeon seen in

clinic?

(b) Would you like to be followed up by the same surgeon who did the operation?

(c) Would you prefer to wait a few weeks longer to be operated on by the same surgeon seen in clinic?

The results were as follows: 92% of patients said they would like to be operated on by the same surgeon they saw in clinic; 94% said they would like to be followed up by the same surgeon who did the surgery; and 60% said they would prefer to wait a few weeks longer to have surgery done by the same surgeon seen in clinic (figure 1).

With increasing emphasis on patient centred care, greater patient involvement in healthcare delivery is encouraged (3). 'Patient centred care' is care that meets and responds to patients' wants, needs, and preferences and where patients are autonomous and able to decide for themselves (4). The survey results, which highlighted the patients' preferences, were therefore used to establish the audit standard.

The standard stated that ideally a patient should be seen by the same surgeon throughout their care, from preoperative clinic to surgery and then postoperative follow-up. Using this standard, an audit was then undertaken. The primary aims were twofold. The first aim was to evaluate continuity of care for orthopaedic patients at different stages from the preoperative clinic to surgery and subsequent postoperative follow-up by individual surgeon and orthopaedic team. Orthopaedic team was defined as consisting of a consultant and a middle grade surgeon. The second aim was to identify potential interventions for any deficiencies identified and verify if these interventions improved practice by doing a re-audit.

## Background

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The doctor-patient relationship has evolved over the past several decades. The paternalistic model of the doctor-patient relationship, where the doctor utilised his or her skills to choose management plans to improve the patient's health, has given way to a more mutual participation, reduced doctor dominance and greater patient control (5). The modern NHS promotes patient centred care, embracing the principle of shared decision-making where a patient and their healthcare professional agree on a healthcare choice together after understanding each other's point of view (3, 6). Sharing sensitive decisions by patients in order to come to the best outcome individual to them is only possible if they trust their doctor (7). This trusting doctor-patient relationship is facilitated by maintaining continuity of care of patients during their illness by having consultations with the same doctor. Patients want their care to be personal and want to feel that the clinician knows them and their cases through the several consultations, so that they can trust their judgement and advice. This potentially leads to better patient outcome and satisfaction (1). Indeed, the quality of the doctor-patient relationship is still central to patients' perception of the care they receive (8), and there is a correlation between patient satisfaction and continuity of care (9-11). Continuity of care has been defined as a patient repeatedly consulting the same doctor and forming a therapeutic relationship, and is essential to good general practice (12). There is evidence that not only do patients value the continuity of care they receive but also that provider continuity is related to better healthcare outcomes and lower overall total healthcare costs (13, 14).

Patients are more satisfied with their encounter with their doctor when they feel listened to, and have had their own views taken into account (15). This is particularly important in orthopaedics because patients have to make an informed decision in accord with their own beliefs before going for surgery by discussing with the surgeon the risks and benefits of surgery as well as any alternative to surgery, including the option of conservative management (16).

### Baseline Measurement

A retrospective study was undertaken looking at 2 weeks' theatre log of the orthopaedic department in October 2008. All the patients who had been operated on during these 2 weeks were recruited for the study sample. These included patients operated on who were on the elective list and the emergency list (also known as the trauma list). Patients' records were reviewed to ascertain which surgeon saw the patient during the preoperative consult, which surgeon performed the operation, and which surgeon followed the patient postoperatively. A data collection form produced by the audit department was used to record the relevant information for each patient. The data were collected by a junior doctor of the orthopaedic team. Continuity of care was measured by counting the number of patients who were seen by the same surgeon and same team throughout their care and at different stages: between preoperative clinic and surgery, and between surgery and follow-up clinic.

Among the 106 recruited patients from the 2 weeks' theatre log, 76 were elective and 30 were trauma patients. Twenty-three per cent out of the total 106 patients were seen by the same surgeon

throughout their care, and 43% were looked after by the same team throughout their care. Further evaluation showed that 50% of patients were operated on by the same surgeon they saw at preoperative clinic, and 40% of patients were followed up postoperatively by the same operating surgeon. It was noted that continuity of care was particularly poor in trauma patients (10%).

See supplementary file: ds2795.png - "Figure 1: Results of survey of 1000 patients attending Orthopaedic Outpatient clinic "

### Design

Following presentation of the audit findings at the local audit meeting, there was a discussion among the members of the orthopaedic teams on how best to improve continuity of care in order to benefit patients most. The agreed recommendations were to:

1. reorganise the trauma on-call rota
2. ensure that the surgeon performing an elective procedure should take over the postoperative care and follow-up
3. perform a re-audit after the above measures were implemented.

These recommendations were expected to be implemented long term if they actually improved continuity of care in the second cycle.

### Strategy

An appropriate strategy for implementing the recommendations above was made. First, trauma surgery would be performed by the admitting team (consultant or middle grade). This was made possible by doing weekly trauma-on-calls so that one Consultant was "on take" from Monday 8 am to Friday 5 pm and a different consultant from Friday 5 pm to Monday 8 am. Weekday night on-calls (Monday to Thursday 5 pm to 8 am the next day) were covered by different consultants on a nightly basis. Although different consultants were on-call overnight, the admitted patients would be handed over to the consultant "on take" that week during the trauma meeting every morning. Secondly, the surgeon performing the elective procedure would take over the postoperative care and follow-up. This was ensured by the ward clerk who would book patients into the clinic of the operating surgeon's team when follow-up was requested on the discharge letter.

### Results

A re-audit with the same methodology as the first cycle was undertaken. It was carried out 12 months after the changes had been implemented. It was felt that this would allow for any possible long waiting times from preoperative clinic to surgery and ensure that patients included in the second cycle were definitely seen at the different stages in their care after the changes had been made. Data from the theatre log over a period of 2 weeks were collected and analysed in the same way as the first audit. The same measurements were made so that the data from the two audit

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cycles would be comparable. The interventions after the first audit remained stable during this time. Among the 156 recruited patients, 105 were elective patients and 51 were trauma patients. Twenty-four per cent were seen by the same surgeon throughout their care, 60% were operated on by the same surgeon whom they saw in clinic preoperatively, and 43% were followed up postoperatively by the operating surgeon. Seventy-five per cent of trauma patients remained under the same team throughout their care (figure 2).

Patients seen by the same surgeon throughout their care in both audit cycles were roughly the same (24% vs 23%). There was greater continuity of care between preoperative clinic and surgery in the re-audit (60% vs 50%). Follow-up in clinic by the same surgeon improved slightly (43% vs 40%). Overall continuity of care by the same team improved in the second cycle (56% vs 43%). The main improvement was in continuity of care of trauma patients by the same team in the re-audit (75% vs 10%). Anecdotally, this led to a feeling of overall greater patient and surgeon satisfaction as they had developed a rapport through the stages of patient care. No objective measurement of this was made in the study, however.

See supplementary file: ds2874.jpg - "Comparison of initial and re-audit"

### Lessons and Limitations

Although this study showed that it was not possible to significantly improve overall continuity of care by the same operating surgeon, it did show a marked improvement for emergency trauma patients. Because of the various challenges described earlier, it may be unreasonable to expect all patients to be seen by their respective operating surgeon in the preoperative and follow-up clinics. One hundred per cent overall continuity of care by the same surgeon is therefore most likely unachievable in this context. Another significant lesson is that when designing an on-call rota, continuity of emergency patients' care should be considered. Clearly in this study, this was improved by reorganising the rota while maintaining an acceptable workload for consultants and middle grade staff according to the EWTD.

One limitation of this study is that it only captures patients over 2 weeks, which may be felt to be quite a short period of time. However, during these 2 weeks, none of the operating consultants or middle grade staff was on leave due to sickness or holiday; therefore this is likely to be representative of a normal working period.

### Conclusion

Maintaining continuity of care is challenging. However, efficient reorganisation and management of the delivery of care to patients can improve the continuity of care, leading to greater patient and surgeon satisfaction and potentially better healthcare outcome. This study shows that thanks to a reorganisation of on-call rota and follow-up arrangements, overall continuity of care for all orthopaedic patients by the same team improved by 13% and for trauma patients by 65%. Moreover, for individual surgeons, there was

improvement of continuity between preoperative clinic and surgery by 10% and between surgery and follow-up clinic by 3%. This study is a good example of how continuity of care for orthopaedic patients was evaluated, deficiencies identified, and steps taken to improve their care successfully.

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## Declaration of interests

Nothing to declare

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