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Is a doctor needed in the adult ENT pre-admission clinic?

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Abstract

Objectives: Pre-admission clinics are traditionally run jointly by nurses and doctors. Within an adult ENT pre-admission clinic, we wished to assess what doctors added to nurses' pre-clerking, to determine whether doctors were actually needed in the clinic.

Methods: Prospective study, looking at how often doctors, seeing patients after ward-based nurses, changed or added to clerking or tests as organized by nurses.

Results: Out of 184 patients, doctors changed or added to nurses' clerking or planned investigations in 47 patients (26 per cent), making 64 different changes. The commonest reasons for changes were ordering blood tests (22 changes), chest X-rays (eight), cancelling due to hypertension (seven), altering drug history (five) and requesting electrocardiograms (five changes).

Conclusion: Most changes made by doctors could be eliminated by designing a pre-admission clinic protocol that could easily be used by nurses. We recommend that all ENT departments consider implementing nurse-led pre-admission clinics.

Key Words: Diagnostic Tests, Routine; Otorhinolaryngologic Surgical Procedures; Preoperative Care; Surgery, Organization and Administration

Introduction

Surgical pre-admission clinics are a way of optimizing patient care and theatre time by ensuring that patients are fit for surgery, all required tests are carried out well in advance, and appropriate scans, results and notes are available. Given this need to see the patients in advance, coupled with the observation that anaesthetists record different details to surgical doctors,[1] there is a clear need for pre-admission clinics in the modern surgical unit. Traditionally, these are run jointly by a nurse and a junior doctor. However, with more senior nurses taking on extended roles, and with junior doctors' hours being increasingly limited, there has been a great deal of interest in nurse-led pre-admission clinics among all surgical specialities.[2]

At the time of the study, current practice at the Leicester Royal Infirmary ENT department was for all adults to be seen by both a nurse and a doctor at the pre-admission clinic. The nurse saw the patient first, filled in a past medical history, drug history and allergies proforma, and requested scans, audiograms and notes. The nurse had no protocol in place regarding routine pre-operative investigations such as chest radiographs, electrocardiograms (ECGs) and blood tests. The doctor saw the patient after the nurse, checked the proforma, requested pre-operative investigations and made sure that no other action was required prior to surgery.

We wished to assess how often the doctor added to the nurse's pre-clerking or changed anything, with a view to determining the feasibility of a nurse-led pre-admission clinic. We expected to find that the doctor was organizing routine pre-operative blood tests, ECGs and chest X-rays (as the nurse had no protocol in place for these), but we wanted to find out if these were the only changes being made or whether there were other changes to the nurse's pre-clerking. If the majority of changes related to routine pre-operative tests, we would then be able to recommend the use of nurse-led pre-admission clinics, with strict guidance on pre-operative tests, as a means of reducing junior doctors' workload and improving patient care.

Materials and methods

A prospective study was undertaken in the adult ENT pre-admission clinic for in-patients at the Leicester Royal Infirmary, and all patients seen during the study period were included. Both the nurse and the doctor were aware of the study taking place; blinding was not considered feasible, as it would be impossible for an independent reviewer to decide who organized which investigation. The

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TABLE I
DOCTORS' ALTERATIONS TO NURSES' CLERKING AND INVESTIGATIONS

Change	n	(%)
Order blood tests	22	(34)
Order chest X-ray	8	(13)
See GP for hypertension*	7	(11)
Order ECG	5	(8)
Change drug history	5	(8)
Change allergies	3	(5)
Anaesthetic review	3	(5)
Chase old tests	2	(3)
Order audiogram	2	(3)
Order photos	2	(3)
Cancel†	2	(3)
Vocal cord check	1	(2)
Order old notes	1	(2)
Change PMH	1	(2)
Total	64	

*In cases of hypertension, the decision to cancel rested with the doctor, for although the nurses measured the blood pressure, they did not know what levels were considered suitable for surgery.
†Due to deep vein thrombosis or myocardial infarction.

doctor, who was seeing the patients after the nurse, collected the data. Information was collected on patient's age, American Society of Anaesthesiology (ASA) grade (as an indicator of general health), proposed procedure and whether the doctor changed anything from the nurse's pre-clerking. If the doctor did amend anything, the details were collected. Statistical analysis was by SPSS software, using Pearson's Chi square test.

Results and analysis

All patients seen by participating senior house offices (SHOs) and pre-registration house officers (PRHO) in the pre-admission clinic over a seven-week period were included in the study, giving a total of 184 patients. Of those, 103 (56 per cent) were aged under 50 years, 48 (26 per cent) were between 50 and 65 years, and 33 (18 per cent) were over 65 years. The ASA grade I patients accounted for 73 per cent of cases, ASA II for 22 per cent and ASA III for 4 per cent; there were no ASA IV patients seen in the clinic during the study period.

The doctor made changes in 47 out of 184 patients, and there was a total of 64 different changes; these are detailed in the Table. The overall rate of the doctor making a change or addition was 26 per cent (47 out of 184 patients). Among patients under the age of 50 years, changes were made in 20 out of 103 patients (19 per cent), but in patients aged 50 years or over, changes were made in 27 out of 81 patients (33 per cent), this difference being statistically significant as tested by the Pearson's Chi square test ($p < 0.05$). Similarly, there was also a statistically significant difference in change rate between different ASA grades, with the ASA I change rate being 20 per cent (27 of 108 patients), ASA II 41 per cent (17 of 41 patients) and ASA grade III change rate being 38 per cent (three of eight patients) ($p < 0.05$). Patients having head and neck surgery, as opposed to general ENT surgery, also had a higher rate of the doctor changing the nurse's pre-clerking (38 per cent versus 21 per cent, $p < 0.05$).

Discussion

Nurse-led adult pre-admission clinics are well established in a number of hospitals. A study comparing specialist nurses with PRHOs in a general surgical pre-admission clinic found that the nurse was as accurate or more accurate than the PRHO in taking a proforma-based history, with the exception of the drug history; both the nurse and the doctor performed equally well in ordering pre-operative investigations based on the hospital protocol.[2] Specifically within ENT, Koay and Marks[3] carried out a retrospective analysis of the notes of patients who had been to a nurse-led pre-admission clinic and found that the notes were all well kept, with 97 per cent of patients undergoing their surgery without complications. However, the authors did note a tendency towards ordering unnecessary investigations.

- **There have been increasing moves towards employing nurse practitioners in otolaryngology, to reduce costs and satisfy legislation limiting junior doctors' hours**
- **In a UK ENT pre-admission clinic, 26 per cent of clerkings and investigations planned by nurses were subsequently amended by doctors**
- **All ENT depts should consider implementing nurse-led pre-admission clinics, with strict protocols for both doctors and nurses**
- **Further prospective studies are needed**

However, our study goes further, as it makes a direct comparison between ENT doctors and nurses in a setting where both see the patient. The findings of Whiteley *et al.*[2] regarding poorer drug history taking by nurses are in agreement with this study, in which eight out of 64 changes related to drugs or allergies. As expected, changes were more likely to be made by the doctor in cases of patients who were older, of higher ASA grade or having head and neck surgery, but a significant number of changes were also made in patients who were younger, of lower ASA and having general ENT surgery.

None of the changes represented anything that could not be dealt with by a nurse following a pre-admission protocol, and it is the authors' opinion that the difference between nurses' and doctors' pre-clerking could be abolished by the use of such a protocol. For example, regarding blood tests, ECGs and chest X-rays, National Institute of Clinical Excellence guidelines on pre-operative testing could be followed.[4] There is no reason why an appropriately trained nurse should not be able to

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obtain old notes, scans and investigations, organize photographs for cosmetic procedures and audiograms for ear surgery, refer hypertensive patients back to their GP (as per protocol), and request a medical review in difficult cases. Drug and allergy history would be improved by a better-designed pre-clerking proforma than was used at the time of study. Difficult patients seen in out-patients' clinics could be booked direct to a combined rather than a nurse-led clinic, or the nurse could request medical review if needed.

It is possible that some of the changes made by the doctor in this study were simply the result of the doctor seeing the patient after the nurse; i.e., if the doctor had seen patients first, the nurse may also have made changes. However, if this were the case, then the argument in favour of nurses would be strengthened even more. This study does not address the role of anaesthetists, who would be expected to make their own contribution to assessment and investigations; we know from previous work that anaesthetists record different information to ENT trainees,[1] but the remit of this study was specifically to compare ENT trainees with nurses.

The use of nurse-led pre-admission clinics would allow a reduction in junior doctors' hours, as dictated by the introduction of the European Working Time Directive. It may be felt that this would reduce the experience of junior doctors in assessing routine patients, but in reality the training benefits to the junior doctor of running this service are small.

Conclusion

Nurse-led pre-admission clinics are already in use in some ENT departments. This study indicates that in our clinic, consisting of a nurse (with no protocol on routine pre-operative tests) and a doctor, most changes made by the doctor were simply a matter of protocol that could be followed by a nurse. The authors conclude that nurse-led pre-admission clinics would be as effective as combined doctor-and-nurse clinics, and recommend that all ENT surgery departments consider nurse-led pre-admission clinics.

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