

## Governing time in operating rooms

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**Aim.** This paper examines how time is controlled and governed in operating rooms through interpersonal communication between nurses and doctors.

**Background.** Time is a valuable commodity in organizations with improvements often directed towards maximizing efficiencies. As a consequence, time can be a source of tension and interpersonal conflict as individuals compete for control of its use.

**Methods.** The data in this paper emanate from an ethnographic study that explored a range of communication practices in operating room nursing. Participants comprised 11 operating room nurses. Data were collected over two years in three different institutional settings and involved participant observation, interviews and the keeping of a personal diary. A deconstructive analysis of the data was undertaken.

**Results.** Results are discussed in terms of the practices, in which clinicians are engaged in, to govern and control their use of time. The four practices presented in this paper include; questioning judgment and timing, controlling speed, estimating surgeons' use of time and coping with different perceptions of time.

**Conclusions.** Time and speed were hotly contested by nurses. They used their personal knowledge of individual surgeon's habits of time to govern and control practice. Nurses thought about surgeons in terms of time and developed commonly accepted understandings about the length of surgical procedures. They used this knowledge to manage the scheduling of operations in the departments and to control the workflow in individual operating rooms. Knowledge of individual surgeons was a source of power for operating room nurses.

**Relevance to clinical practice.** Nurses have more power in the operating room than might be imagined but they exercise this power in subtle ways. If operating rooms are to work effectively, the operating room team must understand each others' work better.

**Key words:** management, nurses, nursing, operating rooms, power, time

### Introduction

Time is a pervasive and valued construct in Western societies and is one of the ways in which social and professional life is organized (Adam 1995). In operating rooms it is no different.

Time has been identified as central to the management and structure of work and is a salient topic in communication between nurses and doctors. In addition, it has often been cited as a topic that causes tension and conflict as nurses, doctors and managers compete for its control (Espin & Lingard 2001,

Walker & Adam 2001, Lingard *et al.* 2002). However, few studies have examined how power struggles for the control of time are played out in the clinical setting and the effects of those struggles on interpersonal relationships and practice.

This paper aims to provide a deeper understanding of how time is governed and controlled in operating rooms. Here, governance was interpreted in a broader sense than that used in traditional political terms and matters of state control. We understood governance to mean the actions undertaken to control the practice of others, or the tactics used to mould and shape the conduct and choices of individuals (Foucault 1979, 1982).

Excerpts of data from a larger ethnographic study, which explored communication processes in operating rooms, are used as exemplars to demonstrate the power struggles that emerge as individuals vie for control and ownership of time. To establish some context, we begin with a brief discussion of the literature on time in relation to operating rooms. We then provide a brief overview of the methodology used in the study, before presenting the data itself.

## Background

Time is hierarchically ordered. Organizations give people with higher status more flexibility in the use of their time than subordinates (Zerubavel 1979). In hospitals, for instance, doctors are afforded the privilege of regulating their own time. For nurses it is different. Nurses work within fixed schedules of shiftwork, have developed routines to accomplish their specific nursing tasks within the specified time limits (Street 1992) and are given little flexibility in the use of time. It has been suggested that nursing time in hospitals is dominated by, and indistinct from, medical and clock time (Jones 2001). Nursing research and sociological analyses of time in hospital settings (Zerubavel 1979, Frankenberg 1992) are largely devoid of considerations of 'nursing time' and this absence can be seen as a reflection of the status of nursing work.

In operating rooms, the allocation of session time to surgeons is based on use. Surgeons who fail to use their allotted operating sessions fully are replaced by surgeons who can assure improved efficiencies (Walker & Adam 2001, Weinbroum *et al.* 2003). For surgeons, conflicts over time arise because of the threat to professional judgment and clinical autonomy, which can be in opposition to managerial objectives of efficiency and the daily running of operating room. In recognizing this, Fox (1992) claimed:

For the clinician, professionalism, flexibility and thoughtfulness are attributes to be prized, while for managers, and for non-clinical staff

in the OT [operating theatres], these are threats to efficiency which need to be 'organized' out of the system (p. 129).

Management studies have looked, specifically, at improving efficiencies in the use of time in operating rooms. They focus on surveillance of nursing and medical practice to identify wasted time and maximize efficiencies. For instance, Dexter (1999, 2000), concentrated on improving operating room scheduling, Mathias (2000) focused on reducing turnover time, or the time needed to clean up after a case has finished and prepare for the next case and Weinbroum *et al.* (2003) looked at the cost of time when scheduled sessions were not utilized. However, only a few studies have looked at the impact of maximizing time on individuals and the practical effect on clinical practice.

In a study examining the effect of introducing case-mix funding in operating rooms, Walker and Adam (2001) explained that imposed changes to time management aimed at increasing efficiency, such as increased throughput of patients and decreased time between cases, led to a greater level of responsibility for experienced nurses. However, there were no corresponding changes to supporting nurses' social structure or professional responsibilities. Nurses saw the lack of support from management as having an impact on safety with the speed of activities as potentially resulting in injury to patients and staff, as well as damage to equipment.

Time is a catalyst for tensions in the operating room (Espin & Lingard 2001). Studying communication patterns between nurses and surgeons, Espin and Lingard found that sites of tension revolved on resources, roles and relationships and safety and sterility, with time being the most salient and dominant theme. When tensions occurred over time nurses often engaged in the practice of deflection to direct attention away from the communication issue causing conflict, as a coping strategy. By deflecting, nurses 'possibly create another target for the surgeon's ire' (Espin & Lingard 2001, p. 677) and remove themselves from the centre of a budding conflict.

In a study that aimed to identify the patterns of communication and the impact of tension on student doctors and residents, Lingard *et al.* (2002) also found that time was a dominant theme. High-tension events occurred between surgeons and nursing staff and spread with a 'ripple effect' (p. 232) to others. Tension was perceived to be negative and counter-productive for students and junior medical staff. They coped by withdrawing themselves from conversation or by mimicking the communication of the senior surgeon, which was thought to intensify rather than resolve inter-professional conflict. However, written from a medical perspective, operating room nurses were portrayed in a negative and counterproductive fashion. The research project that we present was aimed at identifying how nurses govern and

control their practice in the clinical setting and had a more productive and positive end point in mind.

## Method

The research design used in the study was ethnography (Hammersley & Atkinson 1997), a method stemming from cultural anthropology and aimed at gaining an understanding of the culture of a group. While data are collected via multiple methods, such as interviews and document analysis, the hallmark of ethnography is participant observation where the researcher interacts with participants in their own environment to gain a sense of their world as they experience it.

In this study, participants comprised 11 registered nurses, purposefully selected to act as informants about their cultural groups and social environment. Data collection methods involved observational fieldwork, individual and group interviews and the maintenance of a personal diary by the first author, who was working as a clinician during the course of the study. Over 230 hours of observational fieldwork were conducted between 2001 and 2003 and involved sequential data collection from three different institutional settings, a large metropolitan not-for profit hospital, an outer suburban public hospital and an inner city publiclyfunded specialist hospital. Eleven individual interviews and four group interviews were conducted and the information was tape-recorded and transcribed.

Ethical approval was obtained from each of the participating hospitals and subjects gave their informed consent in accordance with the national statement on ethical conduct in research involving humans ([National Health and Medical Research Council (NH&MRC) 1999]). In this paper, pseudonyms have been used to protect the identity of participants and the hospitals at which data collection was undertaken.

Rather than trying to find the deep meaning within the data, or do a thematic analysis, we sought to explore and challenge taken-for-granted assumptions about social reality by undertaking a deconstruction (Powers 1996). That is, the practice of participants was broken down to a micro-level to expose the politics involved in aspects of time management in operating rooms.

## Results

In operating rooms all work and activity is structured around management of 'the operating list'. It provides the material infrastructure for practice. In this section the discursive practices of 'questioning judgement and timing', 'controlling speed', 'estimating surgeons' use of time', and 'different perceptions of time' are discussed in terms of how nurses and

doctors attempted to control and govern the use of time, and management of the list.

## Questioning judgement and timing

For elective surgery, surgeons decided the order of their list at the time of submitting it for booking. For semi-elective surgery, cases that were not immediately life threatening, a time had to be negotiated with the nurse coordinators of the departments. However, surgeons often contested nurses' decisions about the scheduling of out-of-hours semi-elective cases, as one nurse found when working as nurse coordinator on weekend shift. Two patients for insertion of pacemaker had been booked the evening before and the surgeon telephoned on the day of the scheduled surgery to inquire about the exact time an operating room would be available. This is what the nurse said about the call:

He (the surgeon) just rang to give the details of the second patient – the pacemakers that he had booked from last night, and I (the coordinator) was told that it was not a definite time of 19:00 hours. He was adamant that it was going to be at 19:00 hrs and I then progressed to tell him that it may not necessarily be at 19:00 hours and that if we get something else in that he might be bumped. He then told me that 'how do we make the decision of what's more important than a pacemaker, the patient could die. The patient...da, da, da,' and he kept going on. And then he told me I 'needed to be fair on how we made our decision of what's more important than that'. But I guess if a women is in labour, and she needs a Caesar, and the patient...the baby's at risk, then what is more important...he was not happy. Told me he was originally...he had originally been booked in at 13:30 hours and was moved to 19:00 hours.

I sort of said to him, 'look I'm not saying that yours isn't important but this is what I've come onto, this is the list that we are just working through, and if you think you need to do it now you can speak with whoever is the next case'.

This surgeon questioned the nurses' legitimate authority to determine urgency of his cases by appealing to a discourse of safety. While the surgeon had intimate case knowledge (Liaschenko & Fisher 1999) of the patients involved, or pathophysiology, by virtue of confinement to operating rooms, the nurses did not. However, she clearly articulated a priority of cases based on urgency, her knowledge of which was gained through experience and by being exposed to similar situations. Nevertheless, the legitimacy of this knowledge about urgency was subordinated by the hierarchical power of the surgeon and his access to knowledge about his patients.

Furthermore, the surgeon's decision-making was confined to medical judgment. The nurse, on the other hand, had to

consider organizational discourses of efficiency: only a limited number of nursing staff were available and they had to be used to maximum effectiveness. The nurse was cognizant of how this lack of medical knowledge had an impact on her decision-making ability and realized that she had little influence over the rostering of staff. She was frustrated when the surgeon appealed to issues outside her immediate control and was caught between the competing positions of a clinician and an administrator.

The surgeon was irritated by the organizational restrictions placed on his use of time. The nurse later recounted how the surgeon had said: 'it's not fair that surgeons have to sit around all day'. He was inferring a professional injustice when his interests were subordinated to the concerns of the organization: medical time was of great value and importance and should not be wasted. Later, when a more experienced nurse coordinator presented for the afternoon shift, the morning coordinator referred the matter to her. The surgeon was offered an earlier time but subsequently refused, electing to use the time that the nurse had originally organized for him.

Officially, judging the urgency of cases lay with medical staff. Unofficially, nurses used clinical judgment to screen the urgency of cases and determine the legitimacy of surgeons' case designation. Between themselves, clinical nurses privately questioned surgeons' designations of urgency. For instance, nurses differentiated between a 'social Caesar', where they deemed it to be done to fit in with surgeons' daily timetable, and a clinically urgent Caesarean section where there was an immediate threat to life. As one participant said at interview: 'I'm sure they put it over us at times because of convenience... How can we call it when we don't know the patient? We would not like to say 'no you can't do it'. This nurse was aware of her limited access to clinical knowledge about individual patients and realized how this affected her ability to judge the urgency of cases. Although it seemed at times that some cases were not as urgent as surgeons related, she felt that nurses were not in a position to override their judgement.

### Controlling speed

Nurses struggled to partition time for nursing duties and patient care. This was evident in the following episode, which was recorded in field notes after observing a junior anaesthetic nurse during a busy general surgery session:

Paul (nurse participant) moved into the anaesthetic room when he had completed cleaning the equipment and started to prime an IV line. The surgeon wandered in and said:

Surgeon: We may as well get the patient in. Is that OK Paul?

Paul: No not really.

He was still running the drip through and had just responded to the surgeon when the anaesthetist appeared and said:

Anaesthetist: Can I bring the patient in?

Paul: OK then, if you want to.

It was clear to me that Paul was not ready and that he did not want the patient yet. When the surgeon and anaesthetist left the anaesthetic room Paul said, looking at me:

Paul: It's very frustrating.

He then went back into the theatre and started getting out clean equipment for the drawers in the anaesthetic trolley. The anaesthetist and the technician wheeled that patient into the anaesthetic room and the patient was upset and crying. Paul went in to comfort her while the anaesthetist was drawing up drugs. A minute or so later the surgeon wandered in to the theatre again and said:

Surgeon: OK, we haven't progressed very far. What are we waiting for?

No one answered, as the surgeon was not addressing his comment to anyone in particular. He seemed to be prowling and this time wandered off to talk to the nurses in the set-up room. They were preparing the sterile instruments for the case and from where I was sitting I could see him leaning casually against the wall, having a bit of a chat. He was not wearing a mask and it seemed that nobody told him to put one on.

A short time later the patient was wheeled into theatre (by the anaesthetists and orderly) but she did not have a pillow. Paul had to leave and find one. There was a delay in transferring the patient to the operating table – she was still was on a trolley that had been wheeled up parallel to the table, and there were three people standing by to transfer her, all waiting for Paul to get the pillow. The surgeon wandered in again:

Surgeon: Why are we waiting?

Nurse: We need a pillow – she hasn't got one.

Surgeon: Has someone gone to find one?

Nurse: Yes.

The surgeon wandered off and as he did he said:

Surgeon: Let's get a pillow, for God sake, somebody find a pillow.

Paul was a relatively inexperienced anaesthetic nurse. At first he actively resisted the surgeon's moves to increase the speed of the operating list by expressing his opposition to bringing the next patient to the anaesthetic room. Paul already felt hurried but even so, when the anaesthetist joined the surgeon in the request to start the next case, he felt unable to resist the pressure, despite his state of unreadiness. In the privacy of the anaesthetic room, after the medical staff had left, Paul expressed his frustration about being rushed, indicating the

extent to which nurses control their emotional responses in order to facilitate the work of nursing (James 1989).

Seeing the patient upset Paul assumed the position of an advocate and attended to her emotional state, rather than technical aspects of his work that would have benefited the surgeon and anaesthetist. For Paul, providing emotional support and physical comfort to the patient, assumed a greater priority than the surgeon's drive for increased efficiency. Providing patient care competed with efficiency, and once again highlights how nursing work involves the regulation of feeling and emotions, not just of nurses themselves, but also in how they manage and regulate the feelings of patients (James 1989).

Experienced nurses also had difficulty in resisting efforts to increase turn-around time. When questioned by medical staff, 'can we bring the next patient in?', experienced nurse were sometimes able to resist by saying 'just give us five minutes', but often nurses were not consulted and patients would be brought to the operating room before nurses were prepared. Surgeons would scrub and stand in their sterile gowns and gloves watching nurses prepare instruments, waiting for them to compete the sterile set-up. In such instances, nurses felt rushed and driven to keep up with the pace set by anaesthetists and surgeons. However, instrument and circulating nurses had their own characteristic ways of exercising power to contest this use of time. They related many instances of how they controlled time by playing games to subtly divert the drive for speed and improved efficiency.

Circulating nurses would deliberately avoid putting out the surgeons' sterile gloves so that they had to stand and wait until the nurses were ready, or nurses would avoid pouring the antiseptic solution for preparing the patient, to create more time to prepare for a case. At the operating table, instrument nurses would make sure that sterile light handles were attached; that the diathermy and suction was connected and avoid putting the blade on the scalpel handle; perhaps, even asking the circulating nurse not to open it, once again, to create their own time and ensure that they were ready and organized before commencing surgery. Nurses attended to their own hierarchy of duties, described above, as a form of resistance to the speed of the operating list.

Clinical nurses disputed the ethics of maximizing time and indicated that speed compromised patient safety. When speed was privileged, nurses felt that aseptic technique and cleaning was not given the precise attention to detail that they valued. When hurried nurses felt that patient safety and the ability to provide individualized care was compromised and attention to the finer points of practice were lost. Once again, organizational discourses of time, in the form of speed, conflicted with discourses of patient care, safety and standards of practice.

### Estimating surgeons' use of time

Operating room nurses had personal, detailed knowledge of individual surgeons that helped them to manage and control the operating room list. One form of this knowledge related to surgeons' use of time and their efficiency in completing their work. Nurses' knowledge of individual surgeons was apparent in the following exchange between two nurses. They said:

Nonie: There was Jack and Tricia doing an appendix with Mr S which was starting at 8:00 O'clock (p.m.) and Jack said, 'do you want to do it?' And Tricia said 'are you kidding, no way I want to be finished by 9:30'. She said 'no you can scrub' because he was on till 10:00. And it didn't - 9:50. From 8:00, so it took him two and a bit hours to do an appendix, and she knew because she works with him.

Louise: People look at you and say, 'are you kidding?'

Nonie: Anyone else can do it in 10 minutes.

Louise: Yeah, but its Mr S. Like a haemorrhoid might take him all morning.

The nurses in the episode had knowledge of this individual surgeon, they knew him as slow. As well, these nurses had technical knowledge about the normal length of time taken for surgical procedures. These forms of knowledge were derived from working with a range of surgeons. Surgeons did not work with their colleagues, whereas nurses worked with a variety of surgeons and could judge and compare them against each other. As a consequence, nurses arrive at normalized understandings about the time that surgical procedures should take, as well as the surgeons responsible for the 'outliers', beyond the bell-shaped curve. They used this knowledge to manage the organization of work practices in the department and the operating rooms in which they were assigned. In the episode above, the two nurses organized their own work practices, based on their knowledge of the surgeon and how long he took for one particular procedure.

### Different perceptions of time

Nurses recognized a disparity between nurses' time and surgeons' time. At an interview, one participant related an incident about a surgeon wanting to book an extra case. She recalled that:

He (the surgeon) said, 'it will only take an hour to do it', and we're like well, you've got to anaesthetise and position the patient because it's the shoulder and he's going, 'well I can't control that, its not my fault if the anesthetist takes an hour to put them to sleep and (for you) to get the instruments ready'.

Being able to predict accurately the time needed for surgical procedures was an important form of knowledge for operating

room nurses, which had an impact on the efficient running of the operating room departments. In the episode above, the nurse talked about how this surgeon's time was limited to his own operating time and how, through his failure to consider nurses time, it was devalued. Nurses' time incorporated operating time as well as the periods before and after the surgery for preparation of the patient and instruments and patient recovery time. Differences in understandings and the ownership of time was a common cause of disputes, where both nurses and medical staff exercised power to apply and put into practice their own values and priorities.

In this study, it was evident that nurses and doctors engaged in negotiating the order (Svensson 1996) of the operating list. For nurses, this negotiation was based on their knowledge of logistics, the movement of stock and how best to secure efficiencies for maximizing the use of available time. As well, nurses and doctors engaged in a non-negotiated blurring of the boundaries (Allen 1997), where the legitimate right of the surgeon to determine the order of the operating room list, based on their biomedical knowledge of patients, was transcended by nurse coordinators as an accepted part of everyday practice. This non-negotiated blurring of the boundaries occurred most commonly in emergency situations.

## Discussion

Like other studies in which researchers have examined communication in operating rooms, this study confirmed the centrality of time as a source of interprofessional conflict (Espin & Lingard 2001, Walker & Adam 2001, Lingard *et al.* 2002). Unlike other studies, although this study demonstrated how the conflicts about time were played out in the clinical settings and how individuals exercised power in communication to control and shape the activities of others.

Organizational time conflicted with surgeons' professional and legitimate authority to organize their own time. While surgeons arbitrarily exercised power to manipulate and control their use of time, often, clinical nurses and coordinators were caught in the conflicts that were produced when the dual interests the surgeon and the organization clashed. However, nurse coordinators were positioned as mediators, charged with the responsibility of negotiating an outcome. In such instances, the hierarchical power exercised by nurse coordinators was derived, not from an individual arbitrary command or order, but from their organizational authority as the legitimate coordinators of time in the department.

In extreme emergencies, nurse coordinators were best placed to make a decision about which elective operating sessions to stop. In such instances, their decisions were not questioned, not withstanding a few grumbles. To borrow a

term used by Hughes (1988), there are instances in clinical practice when 'nurses know best'. In operating rooms, this involved nurses' knowledge of best about how to organize the scheduling of surgery. Paradoxically, in less urgent situations, where there was more time to contemplate the decision, their decisions were contested and resisted. Nurse coordinators had legitimate authority to make a decision about the use of time and space for life threatening emergencies, but not so for semi-elective cases.

For clinical nurses time was also problematic. Nurses scorned speed and saw it as a threat to patient safety and their ability to practice with due care and provide emotional support to patients. Paradoxically, being efficient, doing the instrument and pack count quickly or saving time during the changeover in between cases, was something to be strived for and constructed operating room nurses as 'good'.

The management of time in operating rooms was shaped by nurses' knowledge of individual surgeons. Surgeons were known to nurses for more than their technical requirements for procedures – they had knowledge about individual surgeons. Nurses thought about surgeons and differentiated between them, in terms of time. Through working with them on a regular basis nurses knew surgeons as fast or slow, as punctual or as someone who is always late. They compared and contrasted the time surgeons took for specific procedures against each other to arrive at accepted times for how long operations should take. Nurses used this knowledge to inform, govern and control the operating list.

Nurse coordinators accepted or refused elective and semi-elective bookings, or cancelled cases, based on their knowledge of how long it would take individual surgeons to complete a case. In these instances, nurse coordinators used their unofficial clinical judgment to determine urgency and exercise power to position themselves as organizational gatekeepers, through whom all requests for time and space by surgeons were screened. Accordingly, the overt hierarchical power of the nurse coordinators constituted them as gatekeepers for the department and transcended the traditional nurse–doctor relationship. It was founded not only in their legitimate authority as institutional employees who were charged with the responsibility of maximizing efficiency, but also in their knowledge of individual surgeons and their habits of time.

Clinical nurses also used knowledge of individual surgeons and their habits of time, together with commonly accepted understandings of how long procedures would take, to structure and guide their own actions. Thinking about surgeons in terms of time provided nurses with a means of measuring the latitude, or the degree of flexibility, they had to organize their work in operating rooms, to determine who

would be best placed to work in the role of instrument and circulating nurse before it was time to go off duty, when to take meal breaks, when to commence the instrument setup and when to send for the next patient. Knowing surgeons in terms of time was a characteristic way of thinking and speaking for operating room nurses, and as such, was a technology of power (Dean 1999) that constituted nurses' governance in clinical practice.

Unlike scientific knowledge of surgery, although, nurses' personal knowledge of individual surgeons was not generalizable to operating room nursing at large, but highly contextual and mediated by the social circumstances within each institution. Nurses acquired knowledge of surgeon through experience, by direct interaction with them in everyday clinical practice. It was an unsophisticated, simple form of knowledge, uninformed by any rigorous means or method. Foucault referred to it as 'naive knowledge' (Foucault 1980, p. 82).

In the past, having such personal knowledge of individuals has been confined to nurses' knowledge of their patients (May 1992, Liaschenko & Fisher 1999) and has been seen as a source of power by providing professional leverage for nurses in their dealings with the doctors. Knowing surgeons has, until now, been invisible. Neither the nursing nor medical literature provides evidence of nurses come to know members of the medical profession and, still further, the effect of this form of knowing on nursing practice. Mostly, as the literature on nurse–doctor communication portrays, the relationship between nurses and doctors has been hierarchically ordered and 'wounded' (Wicks 1999, p.xii), emphasizing distance and differences rather than closeness and similarities. Indeed, the profession of nursing has striven for difference to the medical profession in an effort to resist patriarchal oppression and establish professional autonomy (Wicks 1999) and in doing so we suggest that closeness to the medical profession, ways of knowing them, has been overlooked and progressively marginalized. Although, this study adds another dimension to nurses' repertoire of knowing by extending it to how they know the medical profession and how they use this knowledge to govern their practice.

What this means is that operating rooms have available to them a possible strategy for strengthening practice. Nurses' knowledge about how they know surgeons and control their practice can serve to build a better understanding of nursing in this specialty area of practice. It provides a tangible way of thinking about the shaping and conduct of nursing work, and helps to counteract some of the mystique and invisibility of operating room practice. Furthermore, nurses' knowledge of medical colleagues may be applicable across a range of nursing practice settings. Nurses in ward environments may come to knowledge medical staff in ways that operating room

nurses do not. As such, these different ways of knowing doctors can offer a productive and beneficial way of thinking about closer and more collegial relationships between the two groups. Further research and exploration can only enhance and build on what we have begun.

## Contributions

Study design: RR, EM; data collection and analysis: RR; manuscript preparation: RR, EM.

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