

# Day Surgery : A Post Operative Audit

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## Summary

Fifty-five patients were followed up after day surgery for breast lumpectomy. It was found that local infiltration with bupivacaine significantly decreased analgesic requirement in recovery. Almost half of the patients could not be contacted during the 24 hour post-operative follow-up by telephone. 7.1% complained of severe pain despite oral analgesics. 14.3% of patients had queries regarding wound care and 78.6% of the patients were willing to undergo day surgery again. Ongoing patient education and good post operative analgesia are crucial to enable successful establishment of ambulatory surgery. Post-operative follow-up is encouraged to audit clinical and social outcomes of day surgery.

**Key Words:** Day surgery, Breast lumpectomy, Audit, Patient education

## Introduction

In spite of the acknowledged importance of the 24 hour post-operative follow-up, it is often not conducted by many Day Surgical Units in Malaysia, for a variety of reasons which may include lack of manpower and increased cost. Because of this, there is little information available regarding clinical and social outcomes within 24 hours following day surgery, as well as patients' acceptance of day surgery in Malaysia.

A three month survey was thus carried out on a group of patients undergoing excision biopsy of breast lumps from February to May 1996 in the University Hospital, Kuala Lumpur. The primary aim of this survey was as an audit to determine the effects of anaesthesia and surgery on the patients at home after 24 hours and to determine if day surgical procedures were as successful and acceptable to the Malaysian population as they have proven to be elsewhere in the world.

## Materials and Methods

All patients undergoing excision biopsy of breast lumps

as day surgical procedures for the three month period from February to May 1996 were included in the survey.

The patients were all screened for general health status and suitability for day surgery, and listed by the surgeon when seen at the surgical outpatient clinic. Anaesthetic assessment by the anaesthetist was done the day before surgery. The consultant surgeon and consultant anaesthetist involved in this list were the same throughout the duration of the survey.

The choice of whether to premedicate or not, the anaesthetic drugs and technique was left to the anaesthetic medical officer assisting in the list. Patient particulars were documented as were the various anaesthetic details as indicated by a data collection form. Before induction, the patients were told that they would be contacted the following evening by telephone and their contact telephone number was noted.

On having completed the procedure, the patient's recovery was monitored as usual and presence of complications were queried for and noted. The need for analgesia in recovery was also documented and the

time spent in recovery before discharge by an anaesthetic medical officer stationed in recovery was noted. Following the usual practice in our centre, all patients upon discharge from recovery were sent to the surgical ward until discharge from hospital. The patients were all fully conscious, orientated and comfortable when sent to the ward. They were allowed to go home only when they were able to drink without vomiting, dress themselves and ambulate unassisted.

The next evening, attempts were made to contact all the patients at the telephone numbers given. During the telephone interview, they were asked for presence of anaesthetic side effects such as nausea, vomiting, dizziness and lethargy, other problems with the surgical wound such as bleeding, the severity of post-operative pain if any, analgesic requirements, their impression of the Day Surgical Unit setup and any other comments they wished to make.

Results were analysed using the Statistical Package for the Social Sciences (SPSS) for Windows 6.0.  $p < 0.05$  was considered significant.

## Results

A total of 55 patients were surveyed. They were all female, ages ranging from 18 to 57 yrs with a mean of 29.6 yrs. They were all in the American Society of Anaesthesiologists (ASA) physical status class I and II.

The anaesthetic technique was fairly uniform with midazolam premedication being given in 18 (32.7%) of the patients. All were given general anaesthesia, maintained by a volatile agent, breathing spontaneously. All were induced with iv propofol 1 - 2 mg/kg and given iv fentanyl 0.5 - 1 mcg/kg. Isoflurane was used in 24 patients (43.6%) and enflurane in 31 patients (56.4%). 39 patients (70.9%) were allowed to breathe spontaneously through a mask whereas the rest had a laryngeal mask inserted. 39 of the patients (70.9%) had bupivacaine infiltration of the wound at the end of surgery and the anaesthetic lasted a mean of 27.5 min, with a range of 10 - 65 min.

In recovery, there were 16 patients (29.1%) who experienced complications, which were nausea and

vomiting (6), dizziness (4) and wound pain (12) either alone or in combination. Therefore, pain was present in 75% of the patients who suffered immediate post-operative complications. Of these patients however, only five required iv analgesia administration in recovery. There was no correlation found between the incidence of post-operative pain and local infiltration of the wound. However, the severity of pain experienced by the patients in recovery correlated significantly (Chi square test) with absence of wound infiltration, where more patients without local infiltration required iv analgesia ( $p < 0.01$ ). (Table I)

The mean duration of stay in recovery was 41.8 min, the mode was 30 min and ranged from 20 to 130 min. One patient was observed uneventfully for 130 min for a possible allergic reaction, when she developed a red and swollen right eye with a running nose, before being sent back to the ward.

**Table I**  
No. of patients requiring iv. analgesia in recovery in relation to local infiltration of the wound

		LA infiltration	
		No	Yes
iv analgesia given	No	12	38
	Yes	4	1

**Table II**  
Reasons why patients were lost to the 24hr telephone follow-up

Reasons	No.	%
No telephone	8	14.5
Out of state	9	16.4
No answer	5	9.1
Wrong number	5	9.1
Total	27	49.1

In the 24 hour post-operative follow-up by telephone, only 28 patients (50.9%) were actually contacted. The reasons why the rest were not contacted are listed in Table II. Of the 28 patients interviewed, seven (25%) suffered some anaesthetic sequelae in the past 24 hours, in the form of nausea, vomiting, lethargy, dizziness and headache, alone or in combination. 92.8% experienced post-operative wound pain despite oral mefenemic acid given. (Table III)

Of the 28 patients, four (14.3%) had queries regarding wound care and what to do if they encountered problems and six patients (21.4%) complained about the service. The complaints were divided equally into those who would have liked to stay longer in the ward before discharge, those who thought the ward was too disorganised and that they were too rushed, and those who were not given medical leave or not given adequate leave. Nineteen out of the 28 (67.9%) thought the day surgery service good, five fair, three were ambivalent and one was dissatisfied. It is perhaps significant that this patient complained of severe wound pain at home. Patients were then asked if they

**Table III**  
Incidence of wound pain within 24 hrs

Wound pain	No.	%
Nil	2	7.2
Mild	12	42.8
Moderate	12	42.8
Severe	2	7.2
Total	28	100.0

**Table IV**  
Patients' acceptance of day surgery

Patient response	No.	%
Willing to repeat experience	22	78.6
Not sure	2	7.1
Prefer admission	4	14.3
Total	28	100.0

would repeat the day surgical experience. (Table IV) None of the 55 patients were readmitted to hospital.

## Discussion

In this survey, it was found that patients undergoing short anaesthesia (30min) for minor surgery in general experienced minimal side effects and pain, as would be expected. However, it would appear from the results obtained that wound infiltration with local anaesthetics does in fact significantly decrease the severity of post-operative pain and analgesic requirement. Woolf<sup>1</sup> discusses the mechanisms of pre-emptive analgesia and its possible effects on post-operative pain, where it is believed central sensitization may be prevented or minimised by presurgical opioid administration as well as local tissue infiltration. It has also been proposed that local anaesthetics possess anti-inflammatory effects which could help explain their added efficacy in reducing post-operative pain<sup>2</sup>.

Of note is the number of patients who could actually be contacted the following day. Almost half (27 out of 55 patients) were lost to follow-up, although nine of them who had left the state were not strictly speaking, uncontactable. Most of the patients who had left the state were university or nursing students who had gone back to their hometown to recuperate and no attempt was made to contact them.

From the number of patients interviewed after 24 hrs, it was found that 25% had mild sequelae of nausea or vomiting, usually on the day of surgery, and other constitutional symptoms which were not debilitating. One patient however, described back and shoulder pain which could possibly have been caused by improper positioning (over extension) of the arm during surgery, which could have been avoided with more care. Philip<sup>3</sup> surveyed ambulatory surgery patients about their home recovery and found that 86% had one or more minor sequelae following discharge.

92.9% of the patients had no, mild or moderate pain which was well controlled with the oral analgesic mefenamic acid. The two patients who complained of severe pain despite treatment, although the pain diminished in severity with time, serves to remind us of the variability of pain perception and the extreme

importance of adequate analgesia for patients at home. Indeed, adequate management of post-operative pain at home, particularly in more extensive surgery such as laparoscopies and herniorrhaphies, may prove to be the main obstacle barring success and acceptance of day surgery.

This survey revealed that a large proportion of patients (78.6%) were sufficiently satisfied with the experience to have other procedures done on an outpatient basis again. In comparison, 97% of patients in Philip's<sup>3</sup> survey would be happy to have day surgery again. While most of the patients were happy to manage themselves at home, 14.3% still had queries regarding wound care and what to do if they had problems. This could be improved with the provision of written discharge instructions and contact telephone numbers in the case of an emergency.

In day surgery, surgical and anaesthetic techniques and drugs are aimed at early and safe discharge of the patient. Indeed, the general conclusion drawn from several studies involving short stay and day case surgery was that the decreased length of hospital stay had no significant effect in increasing the risk of major complications in minor surgical procedures<sup>4</sup>. This is supported by this survey, where there were no readmissions and only minor, non-debilitating side effects were experienced by the patients. However, as greater familiarity and confidence is gained with the establishment of day case surgery, procedures of greater complexity and duration, and patients with greater physiological impairment (ASA III and IV) are likely to be included in day surgery lists. This may then necessitate some prearranged community based nursing services to provide support to patients after discharge. Osborne<sup>5</sup> noted that 1.9% of the first 6000 cases managed in the Day Surgical Unit in the Royal Adelaide Hospital, Australia, from 1989 until 1992 made use of home visit nurses for wound care, instillation of eye drops and analgesic supplementation. He also noted a five fold increase in the use of this service in recent years, related to increasing numbers of day case laparoscopic and open inguinal herniorrhaphies.

Unlike for minor surgery, the question of clinical desirability and patient acceptance arises when

intermediate surgical procedures such as herniorrhaphies are performed on an ambulatory basis. In these cases, successful outcomes achieved are more dependent on proper patient selection, patient preparation and perhaps occasional help from community nursing services. Patient factors such as advanced age, ASA status, socio economic status, disabilities and lack of carers at home often necessitate hospital admission which may be avoided with the development of reliable home care services, such as home visit nurses for simple wound care or drug administration. In the event of more complex surgical procedures, parenteral analgesic supplementation by nurses may help improve patient comfort and thus the social outcome of day surgery.

The establishment of Day Surgical Units on a large scale basis in Malaysia is only a matter of time in view of the pressure on hospital beds, decreased cost of an ambulatory procedure and minimised disruption of patients' daily life among other things. While the expertise and facilities required to provide such services are already at hand, it would appear that Ambulatory surgery is still relatively new to the majority, and not completely desirable to some of the Malaysian population. So, effort should not be spared to educate patients and their families on the advantages of day surgery and their responsibilities as day surgical candidates, which are greater than those of inpatients. With time, patients' preferences and expectations will change, as long as the safety of day surgical procedures and patient comfort and convenience are maintained. With better educated patients and an efficient system of auditing the clinical and social outcomes of day surgery, we may yet be able to attain the desired target of performing a significant percentage of our elective surgery on an outpatient basis.

### Conclusion

From the 50.9% positive follow-up rate, one may suspect that post-operative audits, while desirable, may be easier said than done in the local setting. Also, it is evident that the issue of adequate pain control after discharge will pose a great challenge, in view of the fact that 50% of the patients in this study who underwent minor surgery complained of moderate to severe pain despite the prescribed oral analgesic. Finally,

written post-operative instructions and contact numbers must be given to each patient as part of the total day surgical care. In the infancy of a Day Surgical Unit here, close follow-up and auditing are essential to maximise the efficiency and safety of a unit and ultimately maintain the standard of practice we wish to achieve, while ensuring good patient satisfaction.

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