

# Patient satisfaction after ambulatory inguinal hernia repair in Hong Kong

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Received 6 November 1999; accepted 25 November 1999

## Abstract

Ambulatory surgery was introduced to Asia in the 1990s. Acceptance of ambulatory surgery by oriental patients remains largely unknown. A telephone survey was conducted to evaluate the level of patient satisfaction following ambulatory inguinal hernia repair. A total of 157 patients (61%) completed the telephone survey. More than 90% of the respondents expressed satisfaction with regard to the pre-operative, operative and post-operative service. The majority of the respondents (> 80%) preferred to undergo day surgery again in case of hernia recurrence. Our findings prove that ambulatory surgery has a high level of acceptance in Chinese patients and supports the expansion of a day surgery service in Hong Kong. © 2000 Elsevier Science B.V. All rights reserved.

*Keywords:* Day surgery; Survey; Satisfaction; Chinese

## 1. Introduction

A Day Surgery Centre was established at Tung Wah Hospital, University of Hong Kong Medical Centre in 1995. Inguinal hernia repair has been the most common day case operation. The introduction of day surgery has substantially enhanced the efficiency of patient care [1,2]. The waiting time for hernia repair has been shortened from a few months to a few weeks. Concerns regarding the acceptance of day surgery by Chinese patients have arisen with the rapid development of day surgery. Studies have been conducted to evaluate the level of patient satisfaction following day surgery but very few in Asian countries [3–8]. A telephone survey was conducted to evaluate the level of patient satisfaction following ambulatory inguinal hernia repair in Chinese patients.

Patient satisfaction is an important factor in the evaluation of the quality of health care [9]. It reflects the patients judgement of all aspects of care, including the health care process and the clinical outcome of operation. The present study helps to ensure the contin-

uation of a quality clinical service and to identify room for further improvement.

## 2. Subjects and methods

From December 1995 to December 1998, 271 ambulatory inguinal hernia repairs were performed at the Day Surgery Centre of Tung Wah Hospital, University of Hong Kong Medical Centre. There were 240 men and 19 women. The ages of the study population ranged from 15 to 72 with a mean age of 48 years. Eleven patients with bilateral inguinal hernias underwent staged repairs and only one patient had a simultaneous repair of both hernias.

### 2.1. Pre-anaesthetic assessment

All patients with inguinal hernias were initially screened by an attending clinician at the general outpatient clinics. Patients who were considered fit for day surgery were referred to our Day Surgery Centre for more detailed assessment. A pre-anaesthetic assessment clinic was arranged by phone at our Day Surgery Centre. During the pre-anaesthetic assessment, the pa-

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tient was invited to complete a questionnaire to evaluate his or her social circumstances and suitability for day surgery. Medical fitness for general anaesthesia was assessed by a senior anaesthetist. Clinical assessment of the hernia was then conducted by a specialist surgeon. If assessed suitable for day case hernia repair a date for admission was given to the patient. Written instructions on post-operative care and management were also explained by the nursing staff.

## 2.2. Day of operation

All patients were admitted to our Day Surgery Centre on the day of operation after an overnight fast. The procedures were scheduled for the morning session of the operation list. Inguinal hernia repair was performed under general anaesthesia. Operative methods included nylon darn ( $n = 169$ ), Bassini method ( $n = 62$ ), Prolene mesh hernioplasty ( $n = 36$ ), iliopubic tract repair ( $n = 2$ ) and herniotomy with Lytle's repair of the deep inguinal ring ( $n = 2$ ). Local infiltration of the wound with about 10 ml of 0.25% bupivacaine was routinely performed before wound closure.

## 2.3. Post-operative management

After assessment by the operating surgeon and the anaesthetist, the patients were discharged in the afternoon. All patients were given a supply of oral dextropropoxyphene 32.5 mg q.i.d. p.r.n. and voltaren suppository 50 mg b.d. p.r.n. for analgesia. They had to be accompanied by a responsible adult on discharge. A 24-h telephone hotline was available to the patient in case of any problems or queries.

## 2.4. Follow-up

Telephone follow-ups on the patient's condition were carried out by the nurse specialist on post-operative days 1 and 3. Under a shared care program with selected primary health care physicians, 16 patients were referred back to their doctors for follow up. Other patients had their follow up at our general surgical out-patient clinic 1–2 weeks postoperatively.

## 2.5. Telephone survey

A telephone survey was conducted to evaluate the level of patient satisfaction on the pre- and post-operative services, facilities, operative outcomes and adequacy of pain relief at home. Preoperative service referred to the experience at the pre-anaesthetic assessment clinic and sufficiency of pre-operative advice. Post-operative service concerned the recovery process at home and subsequent follow-up. Patients were asked to answer questions on their level of satisfaction in the

above-mentioned areas, with three possible answers: not satisfied, satisfied or very satisfied. The causes of dissatisfaction were recorded. Patients were asked specifically whether they would prefer to undergo day surgery or in-patient hernia repair in case of recurrence or development of a contralateral inguinal hernia.

## 3. Results

### 3.1. Demographic features and clinical outcomes

A total of 157 patients completed the telephone survey, leading to a response rate of 61%. There were 136 men and 21 women. The mean age of the study population was  $49 \pm 15.4$ , (S.D.) years. The early outcomes of ambulatory inguinal hernia repair ( $n = 271$ ) in our unit have been reported [10]. Of the 157 patients, 153 (97.5%) were discharged on the day of operation. Four patients were admitted to the ward after operation because of dizziness ( $n = 1$ ), hyperglycaemia ( $n = 1$ ), pain ( $n = 1$ ) and haemoptysis ( $n = 1$ ). All were discharged uneventfully within 1–2 days. None of the patients ( $n = 157$ ) were re-admitted after discharge.

During follow-up, four complications were documented, namely wound bruising ( $n = 1$ ), scrotal swelling ( $n = 1$ ), pulmonary tuberculosis ( $n = 1$ ) and wound haematoma requiring drainage ( $n = 1$ ). The post-operative morbidity rate was 2.5%. There was no mortality.

### 3.2. Level of patient satisfaction

Fig. 1 shows the level of patient satisfaction on the pre-operative service, facilities, post operative service, operative outcomes and adequacy of pain relief. Only one patient reported dissatisfaction with the pre-operative service because of the missed diagnosis of pulmonary tuberculosis prior to operation. Two patients commented that the hospital complex was old.

Only one patient considered the operative outcome unsatisfactory. It was mainly related to the development of a hypertrophic scar with occasional pain. The four patients with post-operative complications accepted the morbidity and were satisfied with the operative outcome.

Unsatisfactory post-operative pain control was reported by eleven patients (7%).

With regard to the reasons of unsatisfied post-operative service ( $n = 8$ ), five patients found postoperative follow ups inadequate. One patient complained of the poor attitude of the attending clinician during follow-up. Another patient felt unsatisfied with the post-operative service because he was directed to attend the accident and emergency department when the patient rang the telephone hotline for postoperative wound bleeding at night. No specific reason could be elicited in one patient.

### 3.3. Preference for day surgery or in-patient care

A total of 127 patients, 81% of the respondents, expressed willingness to undertake day case hernia repair again in the future. However; 26 patients would favour in-patient care for a further hernia repair mainly because of post-operative pain. One patient preferred to rest in hospital rather than to resume normal activity immediately after operation.

## 4. Discussion

Ambulatory surgery has been practised in the West for almost 3 decades but it was introduced in Asia in the 1990s [1,11]. Escalating costs of health care have become the driving force towards the development of day surgery in our territory [12,13].

Based on the Western experience, our day surgery unit incorporated the pre-anaesthetic assessment clinic, operation theatre and recovery room at the same place [3,14,15]. This allowed the patient to become familiar with the environment and reduced anxiety prior to operation. Adequate instruction is provided in the form of video tape, written instructions and verbal explanation. These accounted for the excellent level of patient satisfaction with the preoperative service. None of the patients complained of inadequate pre-operative instruction and only one respondent expressed dissatisfaction. This patient suffered from sub-clinical pulmonary tuberculosis, which was not diagnosed prior to operation. Pre-operative chest roentgenogram was not routinely performed unless indicated.

Two patients were not satisfied with the old hospital complex, which had a history of more than a century. Our hospital is currently undergoing extensive renovation. Hopefully, this will satisfy patients' expectations of a more modern hospital environment.

The clinical outcomes of our ambulatory inguinal hernia repairs have been encouraging [10]. Only one patient considered the operative outcome unsatisfactory because of hypertrophic scar. As virtually all day case operations were performed by specialist surgeons, the post-operative morbidity rate was low in the past 3 years. Other experienced staff, inclusive of anaesthetists and nursing staff were also pivotal to the promising clinical outcome.

The majority of patients (> 90%) expressed satisfaction with the post-operative service. Nonetheless, in contrast to the practice in the UK, home visits by community nurses are not available in our locality [16,17]. To ensure the safety of the patients at home, we provide the patients with a 24-h telephone hotline and conduct telephone follow-ups on post operative days 1–3. The future introduction of home visits by community nurses could help to reduce the workload of the day surgery unit.

The main reason for dissatisfaction in the post-operative period was inadequate pain relief [16,18,19]. Advances in the control of post-operative pain can substantially enhance patient satisfaction and support the continued growth of day surgery. Multi-modal analgesia, with the combination of local anaesthesia, opioids and non-steroidal anti-inflammatory drugs appears to be the best contemporary choice of method

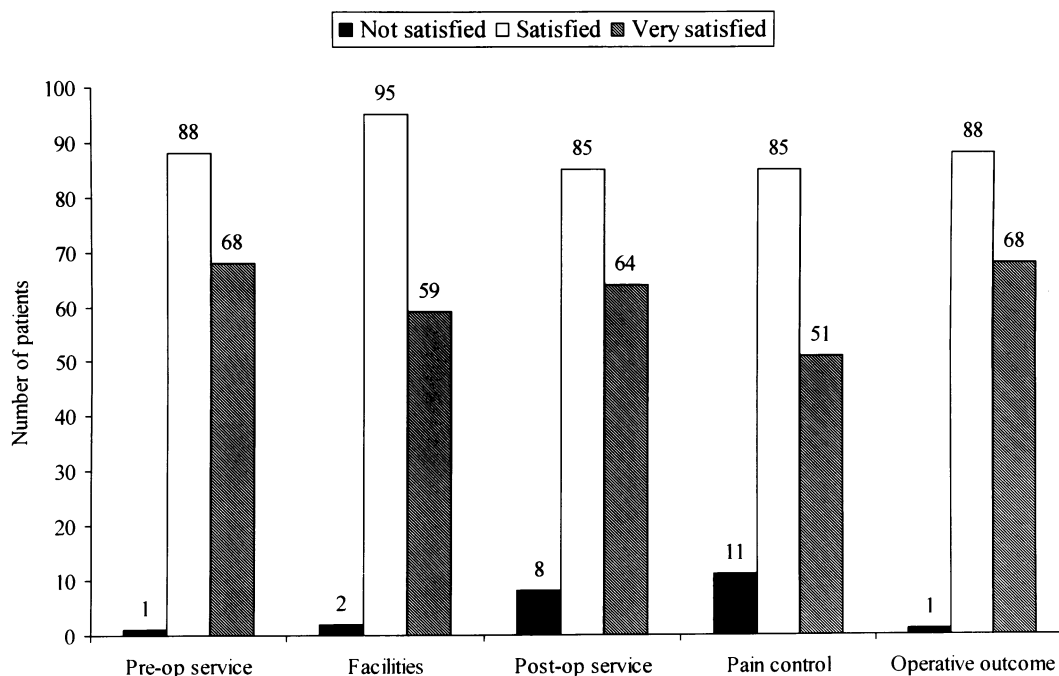


Fig. 1. Bar chart showing the level of patient satisfaction ( $n = 157$ ).

[20]. Other techniques, like continuous infusion of local anaesthetic, remain to be proven [21].

Another reason for dissatisfaction was inadequate follow-up after operation. More than 90% of the patients were followed up at the general surgical out-patient clinic of our hospital after discharge. Very often, patients were discharged after the first visit if the wound healed well without clinical evidence of recurrence. Apparently, some patients welcomed further follow-ups. A shared care program with primary health care physicians was only established 3 years ago. Continued growth of this program will allow more patients to be followed up by their family physicians.

More than 80% of the respondents preferred to have further day case surgery if they developed a recurrent hernia or a contralateral inguinal hernia. Only a minority of our patients expressed a preference for in-patient surgery in the future. Our findings are similar to those reported in the West [18,22,23].

## 5. Conclusion

The high level of patient satisfaction of all aspects of the clinical service proved that day surgery has been successfully implemented in our hospital over the past 3 years. It reflected a high level of acceptance of day surgery by Chinese patients. Our findings support the further expansion of day surgery in Hong Kong, which will become more important with the rising cost of health care in the next millennium.

## Acknowledgements

The authors wish to acknowledge the kind assistance of the staff at Day Surgery Centre in data collection and Dr T.C. Tan for editing the manuscript.

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