

Postoperative symptoms 24 hours after ambulatory anaesthesia

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Purpose: To test the hypothesis that the type of surgical procedure influences the incidence of postoperative symptoms. Also the effect of demographic and clinical risk variables: age, sex, ASA status, duration of anaesthesia on the postoperative symptoms were evaluated for each type of surgery.

Methods: Demographic, medical, anaesthetic and surgical data on 1,017 patients were prospectively collected by a research assistant who telephoned each patient 24 hr after discharge to administer a questionnaire to determine postoperative symptoms. Postoperative symptoms included incisional pain, nausea/vomiting, drowsiness, dizziness, headache and fever. In addition, 270 patients were asked the % (0–100) of their return to daily living function at 24 hr.

Results: Incisional pain (26.9%), headache (11.6%), and drowsiness (11.5%) were the most frequently reported symptoms. Dizziness was reported by 9.7% and nausea/vomiting by 7.1%. Approximately 50% of patients undergoing laparoscopy, orthopaedic and general surgery reported 24-hr postoperative incisional pain. The incidence of 24-hr postoperative nausea/vomiting was highest after general 17.4%, orthopaedic, 11.2%, and laparoscopic surgery, 9.4%. Drowsiness was highest after laparoscopy 36.1%, followed by general surgery, 21.4%. Dizziness was most frequent after laparoscopy, 24.1%, followed by general surgery, 16.1%. After laparoscopy, postoperative drowsiness or dizziness was related to anaesthesia duration. After general surgery, postoperative dizziness or drowsiness were related to age; the younger the patient, the more likely the symptoms.

Conclusions: Postoperative pain, nausea/vomiting, drowsiness, dizziness, and headache were the more frequent postoperative symptoms 24 hr after ambulatory surgery and they

were influenced by the type of surgical procedure. In addition, the type of surgery and the 24-hr postoperative symptoms determined the degree of return to daily living function.

Objectif: Vérifier l'hypothèse selon laquelle le type d'intervention influence la symptomatologie postopératoire. De plus, l'influence sur les symptômes postopératoires des facteurs de risque démographiques et cliniques comme l'âge, le sexe, la classe ASA, la durée de l'anesthésie a été évaluée en tenant compte du type de chirurgie.

Méthodes: Un assistant de recherche a recueilli prospectivement les données démographiques, médicales, anesthésiques et chirurgicales de 1 017 opérés qui ont été contactés par téléphone 24 h après leur congé de l'hôpital pour connaître leurs symptômes postopératoires. Ces symptômes comprenaient la douleur au site de l'incision, les nausées et vomissements, la somnolence, les étourdissements, la céphalée et la fièvre. En outre, on a demandé à 270 patients d'estimer en pourcentage (0–100%) la reprise de leurs activités quotidiennes usuelles après 24 h.

Résultats: La douleur de l'incision (26,90%), la céphalée (11,6%) et la somnolence (11,5%) représentaient les symptômes les plus fréquents. Les patients se sont aussi plaints d'étourdissements (9,7%) et de nausées et vomissements (7,1%). Environ 50% des patients soumis à une laparoscopie, à des interventions orthopédiques et chirurgicales générales ont rapporté une douleur au site de l'incision à la 24^e heure. À la suite d'une chirurgie générale, l'incidence après 24 h de nausées et vomissements était plus élevée (17,4%) qu'après une chirurgie orthopédique (11,2%) ou laparoscopique (9,4%). L'incidence de la somnolence était la plus élevée après une laparoscopie (26,1%); suivait la chirurgie générale (21,4%). Les étourdissements étaient les plus fréquents après la laparoscopie (24,1%); suivait la chirurgie générale (16,1%). Après une laparoscopie, la somnolence et les étourdissements étaient proportionnels à la durée de l'anesthésie. Après une chirurgie générale, la somnolence et les étourdissements postopératoires dépendaient de l'âge, la susceptibilité étant plus grande chez le patient jeune.

Conclusion: La douleur postopératoire, les nausées, les vomissements, la somnolence, les étourdissements et la céphalée constituaient les symptômes postopératoires les plus fréquents 24 h après une chirurgie ambulatoire. Ces symptômes étaient influencés par le type d'intervention. En outre, le type d'inter-

Key words

ANAESTHESIA: ambulatory care;
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vention et les symptômes déterminaient 24 h après l'intervention le degré de retour à la vie quotidienne fonctionnelle.

Advances in anaesthetic and surgical techniques have allowed increasingly complex operations to be performed on an ambulatory basis. It is important to determine morbidity of these outpatients, a determinant of the quality of perioperative care.

In a prospective study of 13,433 patients at a free-standing ambulatory surgical centre, 106 medical, surgical or anaesthetic complications were identified in the patient population.¹ In 6,000 outpatients, perioperative complications related to surgery were more frequent than those related to anaesthesia and pre-existing medical problems.² Patients with preoperative medical conditions, even when optimally managed, were found to be more prone to adverse perioperative events, such as patients with preoperative respiratory problems, asthma or chronic obstructive pulmonary disease, were at higher risk for lower respiratory events and those with hypertension had more labile blood pressure intraoperatively.³ The incidence of major morbidity, such as myocardial infarction, pulmonary emboli, or stroke, was 1:1,455 after 45,090 ambulatory surgical procedures.⁴ There are five other reports of postoperative symptoms after ambulatory surgery, four in the adult⁵⁻⁸ and one in the paediatric population.⁹ These studies were mostly retrospective and symptoms reported occurred over a variable time. Examination of the data did not allow us to identify specific factors which could predict the occurrence of complications.

Thus, we prospectively studied 1,017 patients, examining postoperative symptoms 24 hr after ambulatory surgery. The study tested the hypothesis that the type of surgical procedure played a major influence on the incidence of postoperative symptoms. It also evaluated the effect of the demographic and clinical risk variables: age, sex, ASA status, and duration of anaesthesia, on postoperative symptoms for each type of surgery.

Methods

The study was approved by the Institutional Human Ethical Committee. Informed consent was obtained from 1,017 patients attending the Toronto Western Division, Toronto Hospital for ambulatory surgery. These patients were randomly selected in a 12-mo period from 6,000 patients in an attempt to ensure that the sample was representative of the ambulatory surgery population at Toronto Western Division, Toronto Hospital. Demographic, medical, anaesthetic and surgical data were prospectively collected for each patient by a research assistant.

The anaesthetic management was at the discretion of the individual anaesthetist. Postoperative management of pain and nausea/vomiting was standardized. For treatment of postoperative moderate to severe pain, intravenous morphine, 1–2 mg, was titrated until the patient was comfortable. For mild postoperative pain, acetaminophen or acetaminophen with codeine *po* was used. Nausea/vomiting was treated with 25–50 mg dimenhydrinate *iv*.

After undergoing surgery, patients were scored with the Post-anaesthetic Discharge Scoring System (PADSS) by a research assistant every 30 min after arrival in the ambulatory surgical unit and were discharged home when the score was ≥ 9 .¹⁰ The patients were interviewed by the same research assistant by telephone 24 hr after surgery, using a standardized questionnaire designed to determine the postoperative symptoms with defined criteria (Appendix).

In addition, 270 patients were asked specifically to assess the percentage (0–100) of their return to normal daily living at 24 hr. If the patients could not be contacted with the first phone call, a second attempt was made on the 2nd postoperative day. Patients were also questioned about unexpected visits to their physicians or emergency departments. Any re-admissions after 24 hr were identified by utilizing the Toronto Hospital computer system (Ulticare), up to two weeks after surgery.

All data were stored in a computerized database (Dbase III plus). Descriptive statistics in the form of frequencies, means and standard deviations, and percentages were calculated from the demographic data. Mean doses of anaesthetic drugs for each type of surgery were tabulated. An ANOVA test was used to test the duration of surgery among each of the procedure groups. In order to test the relationship between postoperative symptoms or to test the effect of one postoperative symptom on another, the relationship between pairs of the postoperative symptoms measurements (pain, nausea/vomiting, drowsy, dizzy, headache, bleeding, fever, at least one postoperative symptom) was analyzed through the Fisher's Exact Test (two-sided) for 2×2 contingency tables.

The effect of the type of surgery on the postoperative symptom was analyzed by 2×5 contingency tables. The relationship of the type of surgery to the postoperative symptom measurements was analyzed through the application of single risk factor variable logistic regressions.¹¹ In order to test the effect of demographic and clinical risk factor variables of age, sex, ASA physical status, and duration of anaesthesia on the postoperative symptom measurement, multiple logistic regressions were used for each type of surgery. The significant effect of risk factor on the postoperative symptom was

TABLE Ia Demographic data

Sex (n)	Male – 145		Female – 633	
Age (yr)	48 ± 18		34 ± 15	
ASA	I	II	III	IV
n	605	151	17	1
(%)	78.2	19.5	2.2	0.1

TABLE Ib Surgery and anaesthesia details

Surgery	Laparoscopy	General	Orthopaedic	D & C	Eye	Total
n	83	98	117	395	85	778
(%)	11	13	15	51	11	
Anaesthesia GA	83	80	115	393	13	684 – (87.9%)
– Monitored	–	17	1	2	72	92 – 11.8%
– Spinal	–	1	1	–	–	2 – (0.3%)
– Duration – min	44.3 ± 17.6	71.7 ± 33.7	67.3 ± 18.7	23.4 ± 11.3	60.9 ± 18.4	

Mean ± SD.

Postoperative Symptoms

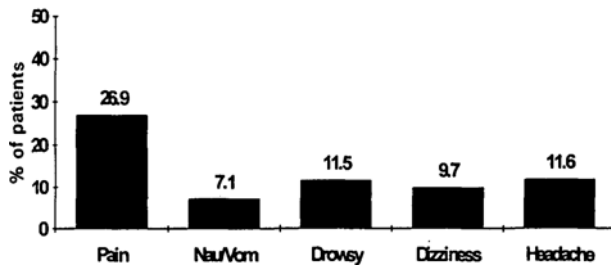


FIGURE 1 Postoperative symptoms 24 hr after ambulatory surgery by telephone interview. Nau/vom = nausea/vomiting

reported as Wald statistics *P* value and odds ratio with its 95% confidence interval (CI).

For the multivariate logistic regressions, the correlation between clinical and demographic risk factors were scrutinized first. For the diagnosis of multicollinearity among the risk factors: age, sex, ASA physical status, duration of surgery, types of surgery and anaesthetic, pair comparison was done by a phi or Spearman correlation coefficient, correlation coefficient equal to or exceeding 0.80 was considered to be multi collinear. For all statistical tests *P* < 0.05 was used to conclude statistical significance. The Statistical Analyses System (SAS) version 6.10 was used.¹²

Results

One thousand and seventeen patients were studied.

Postoperative telephone interviews were successful in 778 out of 1,017 patients (76.4%). We were unable to contact 23.6% of patients with two attempts at postoperative phone call. The demographic data are shown in Table I. The ambulatory surgical procedures were laparoscopy, general, orthopaedic, D&C, and eye surgery. The type and duration of anaesthesia are also shown in Table I. The overall incidences of a number of 24-hr postoperative symptoms are shown in Figure 1.

Incisional pain was the most frequently reported symptom followed by headache and drowsiness. Dizziness was reported by 9.7% and nausea/vomiting by 7.1%. Five per cent reported postoperative fever. There was no relationship between pairs of postoperative symptoms, i.e., when the effect of one postoperative symptom on the other, such as pain and nausea/vomiting, drowsiness and dizziness, was tested, no correlation was found.

The types of anaesthetic drugs and the mean dose used in the different types of surgery were tabulated (Table II). The incidences of pain, nausea/vomiting, drowsiness and dizziness in the different surgical procedures are shown in Figures 2 and 3. The incidence of 24-hr postoperative incisional pain was higher in patients undergoing laparoscopy, orthopaedic and general surgery than in patients undergoing eye or D&C surgery (*P* < 0.05, Figure 2). Patients undergoing eye surgery reported a higher incidence of pain than D&C patients (*P* < 0.05, Figure 2). Patients undergoing laparoscopy, orthopaedic and general surgery procedures reported higher incidences of nausea/vomiting than patients with eye or D&C surgery, (Figure 2).

TABLE II Medication doses

	D&C (393)		Laparoscopy (83)		Orthopaedic (115)		General (97)		Eye Surgery (85)					
	n	GA	n	GA	n	GA	n	GA (80)	n	Monitored (17)	n	GA (13)	n	Monitored (72)
Propofol (mg)	259	180 ± 74	62	171 ± 53	48	207 ± 89	60	162 ± 69	8	44 ± 64	6	84 ± 72	31	25 ± 15
STP (mg)	123	353 ± 105	24	306 ± 131	65	374 ± 105	18	361 ± 102	0	—	0	—	0	—
Droperidol (mg)	152	0.6 ± 0.5	43	0.9 ± 1.1	47	0.7 ± 0.4	27	1.0 ± 1.1	3	0.5 ± 0.1	6	0.7 ± 0.4	12	1.7 ± 2.7
Midazolam (mg)	23	1.4 ± 2.2	8	2.1 ± 2.8	12	1.1 ± 0.7	24	1.1 ± 0.5	12	1.3 ± 0.7	8	1.3 ± 0.9	57	1.1 ± 0.7
Fentanyl (µg)	212	59 ± 35	45	71 ± 31	94	92 ± 41	60	89 ± 37	13	58 ± 21	8	59 ± 19	47	49 ± 20
Alfentanil (µg)	142	628 ± 264	36	849 ± 338	16	1050 ± 647	8	953 ± 674	2	500 ± 0	3	667 ± 289	22	575 ± 213
Sux (mg)	28	120 ± 65	67	131 ± 38	39	118 ± 39	26	112 ± 25	0	—	1	80	0	—
Atracurium (mg)	0	—	6	9.3 ± 8.3	11	20 ± 6	4	13 ± 12	0	—	0	—	0	—
Vecuronium (mg)	0	—	10	2.4 ± 0.8	14	14 ± 27	18	5 ± 4	0	—	1	6	0	—

Mean ± SD. GA = general anaesthesia; Monitored = monitored anaesthesia care.

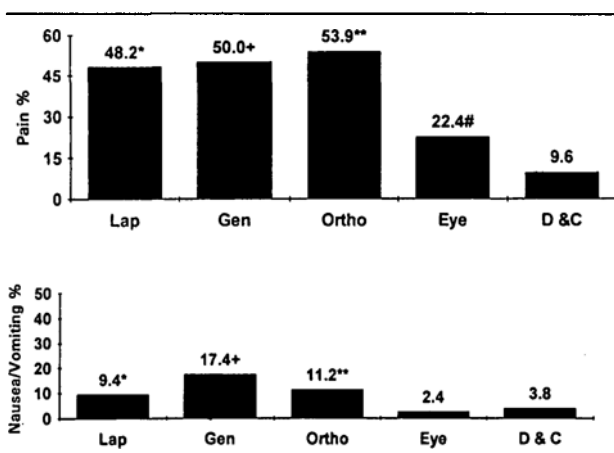


FIGURE 2 Percentage of patients with postoperative pain 24 hr after ambulatory surgery. Lap = laparoscopy ($n = 83$); Gen = general surgery ($n = 98$); Ortho = orthopaedic surgery ($n = 117$); Eye = eye surgery ($n = 85$); D&C = dilatation and curettage of uterus ($n = 395$). * $P < 0.05$ vs eye, D&C; + $P < 0.05$ vs eye, D&C; ** $P < 0.05$ vs eye, D&C; # $P < 0.05$ vs D&C. Percentage of patients with postoperative nausea/vomiting 24 h after ambulatory surgery. * $P < 0.05$ vs eye, D&C; + $P < 0.05$ vs eye, D&C; ** $P < 0.05$ vs eye, D&C.

The incidence of drowsiness in laparoscopic patients was higher than in all other ambulatory surgery procedures. The general surgical patients had a higher incidence of drowsiness than did the D&C, orthopaedic and eye patients but lower than the laparoscopic patients, (Figure 3). The incidence of dizziness was higher in patients undergoing laparoscopy and general surgery than in those undergoing the D&C, orthopaedic or eye surgery, (Figure 3). The incidence of headache was highest in laparoscopic patients, 22.9%, followed by general surgery, 17.4%, and eye surgery, 15.7%. The incidence of headache was lower in the orthopaedic and D&C patients.

There was no evidence for multicollinearity among the variables of age, sex, duration of anaesthesia, and

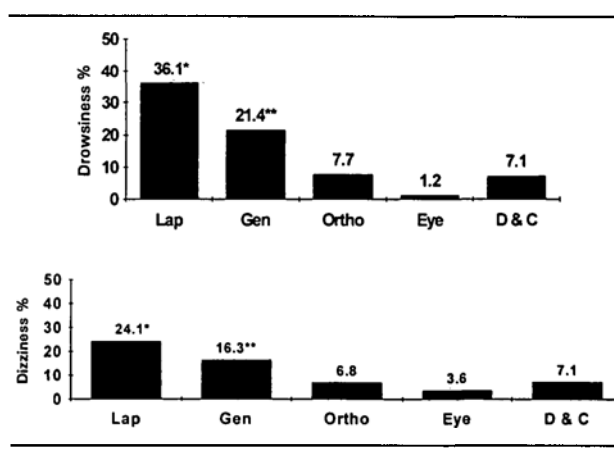


FIGURE 3 Percentage of patients with drowsiness 24 hr after ambulatory surgery. Lap = laparoscopy ($n = 83$); Gen = general surgery ($n = 98$); Ortho = orthopaedic surgery ($n = 117$); Eye = eye surgery ($n = 85$); D&C = dilatation and curettage of uterus ($n = 395$). * $P < 0.05$ vs general, orthopaedic, eye surgery, D&C; ** $P < 0.05$ vs laparoscopy, orthopaedic, eye surgery, D&C. Percentage of patients with dizziness 24 hr after ambulatory surgery. * $P < 0.05$ vs orthopaedic, eye surgery, D&C; ** $P < 0.05$ vs orthopaedic, eye surgery, D&C.

ASA physical status. Therefore, where intended, all risk factors were included in the multiple logistic regression models. Table III illustrates only the statistically significant risk factors for day surgery postoperative complications using multiple logistic regression. Demographic and clinical risk factor variables (age, sex, ASA physical status, duration of surgery, type of anaesthesia) were included in all models. Sex was not included in the D&C and laparoscopy models.

For continued measures, the odds ratio reflects the adjusted odds for each unit increase in the factor¹³ (i.e., each minute in duration of drowsiness for laparoscopy in Table III, increases the odd by 1.035). After laparoscopy, postoperative symptoms of drowsiness or dizziness increased with the duration of anaesthesia. After general surgery, postoperative symptoms of drow-

TABLE III Significant risk factors for day surgery postoperative complications using multiple logistic regression

Outcome event	Wald statistics			Confidence limits	
	Factor	P	Odds ratio	Lower	Upper
Laparoscopy (n = 83)					
- Drowsy	Duration (min)	0.270	1.035	1.006	1.069
- Dizziness	Duration (min)	0.0044	1.052	1.019	1.095
General surgery (n = 98)					
- Drowsy	Age	0.0029	0.934	0.888	0.973
- Dizziness	Age	0.0340	0.954	0.909	0.993
- ≥1 complication	Age	0.0002	0.924	0.883	0.959
	Sex (male)	0.001	10.48	2.663	55.201
- Fever	Duration (min)	0.0183	1.024	1.004	1.045
Orthopaedic surgery (n = 117) No significant factor					
D & C (n = 395)					
- Headache	Age	0.0462	1.034	0.999	1.068
Eye surgery (n = 85)					
- ≥1 complication	Age	0.0429	0.962	0.925	0.997

ness or dizziness increased with younger patients. Younger patients also complained of at least one postoperative symptom more than older patients. Male patients reported at least one postoperative symptom more than female patients (Table III). After general surgery, the postoperative fever increased with the duration of anaesthesia. After D&C, headache increased with the age of the patient and after eye surgery, the chance of at least one postoperative symptom increased with younger patients.

Of the 1,017 patients studied, there were a total of 8 readmissions (0.78%) (Table IV). The ability to return to normal daily living function was studied in 270 patients. At 24 hr after surgery, patients who underwent D&C had recovered 80.7 ± 3%, eye surgery, 69.7 ± 4%, and laparoscopy, orthopaedic and general surgery 60 ± 3% of their daily living function. Patients who had no 24-hr postoperative symptoms had a higher return to daily living function than those patients who had at least one postoperative symptom (77.6 ± 3% vs 61.2 ± 3%, *P* < 0.05).

Discussion

Incisional pain, nausea/vomiting, drowsiness, dizziness, headache, and fever were found to be amongst the more frequent minor sequelae that occurred after patients are discharged home after their ambulatory surgery. The type of surgery was found to play a role in determining the 24-hr postoperative symptoms. Approximately 50% of patients undergoing laparoscopic, orthopaedic and general surgery reported 24 hr postoperative incisional pain. The incidence of 24 hr postoperative nausea and

TABLE IV Patients readmitted

Patient	Reason
1	Swollen breast 2 weeks postop
2	Admitted 26 hr postop with abdominal pain from low grade endometritis
3	Admitted 13 days postop with ectopic pregnancy
4	Admitted 4 days postop with cellulitis of hand
5	Admitted 24 hours postop for redness and eye pain
6	Admitted same day after discharge with persistent weakness and vomiting
7	Admitted 2 weeks postop with abdominal pain from missed abortion
8	Admitted 23 hours postop with shortness of breath and cold perspirations

vomiting was highest in patients undergoing general, orthopaedic and laparoscopic surgery (17.4–9.4%). The incidence of drowsiness and dizziness was highest in laparoscopic patients followed by general surgery. After laparoscopy, postoperative drowsiness and dizziness were related to the duration of anaesthesia. After general surgery, postoperative dizziness or drowsiness were related to the age of the patient, the younger the patient the more likely were the symptoms to occur.

There are very few studies on the adverse outcomes of ambulatory surgical patients. Fahy and Marshall retrospectively collected data from 408 patients all of whom had had general anaesthesia for ambulatory surgery.⁵ The follow up rate was 54.4%. The most important finding was that increasing the length of oper-

ation increased the severity of post-anaesthetic morbidity. Brindle and Soliman studied 500 ASA 1 patients undergoing laparoscopic tubal electrocoagulation.⁶ A questionnaire was sent out after an interval of one week to four months, with 88.4% respondents claiming very good memory of their day of surgery.

Philip sent a return-mail questionnaire to 3,722 unselected patients with a response rate of 41%.⁷ Of all the respondents, 86% reported at least one minor sequel that persisted after discharge. The main reasons for delayed recovery included general malaise (57%) and surgical discomfort (38%). Ogg also collected data on 100 outpatients 48 hr after surgery using a standardized questionnaire.⁸ The spectrum and incidence of adverse outcomes varied widely mainly due to the retrospective nature of the studies. Furthermore, the time of documentation of postoperative symptoms varied from one week to one month or was unspecified.

In contrast, this study was prospective. The data were collected specifically at 24 hr after surgery and two research assistants were trained to use a standardized questionnaire. In addition, the postoperative symptoms may have been less than in previous studies because of newer, shorter acting anaesthetic agents which were introduced in the last few years. Although we requested a specific telephone contact number, we were able to contact 76.4% of patients. We only telephoned our patients in the daytime hours, not in the evening which might have yielded a higher success rate. Therefore, this study may have indicated a higher percentage of adverse postoperative symptoms as the patients who felt better did not stay at home.

The incidence of postoperative pain was found to be high at 26.9%. The incidence of pain was never reported in other studies. The incidence of nausea/vomiting was 1.5–3 times lower and drowsiness was 3–5 times lower than in previous studies.^{5–7} The incidence of dizziness and headache were two-to-four times lower than in two previous studies.^{6,7} Our method of data collection was more vigorous and specific, thus ensuring a more accurate representation of the true incidence of 24-hr postoperative symptoms. Although the types of surgery in our study may have been different from previous studies, the lower incidence of nausea/vomiting, drowsiness, dizziness, headache may reflect the advantages of the new shorter acting anaesthetic agents used.

In their prospective study of 112,721 in-patients, Duncan and Cohen found that the type of surgical procedure did not influence post-anaesthetic complication rates.¹⁴ They showed that the duration of anaesthetic exposure and the experience of the anaesthetist were the most important factors affecting the degree of postoperative morbidity. In contrast, our study showed that the

type of ambulatory surgical procedure did influence the 24-hour postoperative symptoms.

Postoperative pain occurred in almost one third of the patients. We found that the majority of patients, 50%, reporting 24-hr postoperative pain had undergone laparoscopic, orthopaedic or general surgical procedures. Emphasis needs to be placed on treatment of postoperative pain in ambulatory surgical patients: our current practice requires reappraisal and improvement.

Postoperative nausea/vomiting is troublesome to patients. We found that the incidence of nausea/vomiting was greater than 9% after laparoscopic, orthopaedic and general surgical procedures. Patients in the general surgery group were more likely to experience postoperative nausea and vomiting but less likely to receive droperidol. Re-examination of the anaesthetic technique is necessary to reduce the incidence of postoperative nausea/vomiting.

One third of the patients undergoing laparoscopy and one fifth of the patients undergoing general surgery complained of drowsiness. The D&C and the eye patients had a lower incidence of drowsiness. The high incidence of 24-hr drowsiness after laparoscopy and general surgical procedures merits further studies for improvement. The overall incidence of dizziness, 9.7%, was less than reported in other studies.^{6–8} The effects on dizziness may be dose related: a higher dose causes more symptoms.

After laparoscopy, the incidence of postoperative symptoms of drowsiness and dizziness were very high, 36.1% and 24.1% respectively. These symptoms increased with the duration of anaesthesia. Postoperative dizziness and drowsiness delayed return to daily living function. Most patients wish to resume their normal activities and delayed recovery means inconvenience. In this study, we found that this group of patients had only 60% recovery of daily living function at 24 hr. Therefore, there is room for improvement in anaesthesia technique for laparoscopic patients.

After general surgery, it was interesting to note that the incidence of drowsiness or dizziness increased with young patients, and the younger patient was more likely to complain of at least one complication. Similarly after eye surgery, younger patients were more likely to complain of at least one postoperative symptom than elderly patients. The elderly patient undergoing eye surgery was less likely to complain of postoperative symptoms. It is possible that elderly patients are more accommodating or that the younger patients, being more active, are more acutely aware of postoperative symptoms and more likely to report them.

The 24-hr postoperative symptoms and the type of surgery played a major role in determining the degree of

return to daily living function. Patients who had 24-hr postoperative symptoms had a decreased return to daily living function by 16% compared with those who had no postoperative symptoms. Anaesthetic and surgical techniques aimed at reducing postoperative symptoms will improve return to daily living function.

In summary, postoperative pain, nausea/vomiting, drowsiness, dizziness, headache, are the most frequent postoperative symptoms and they occurred after patients were discharged home. The type of surgical procedure did influence the incidence of 24-hr postoperative symptoms. The incidence of postoperative pain, nausea/vomiting, drowsiness, and dizziness were high after laparoscopic, general surgical and orthopaedic surgical procedures, and low after D&C and eye surgical procedures. After laparoscopy, postoperative symptoms of drowsiness or dizziness were related to the duration of anaesthesia. After general surgery, postoperative dizziness or drowsiness were related to the age of the patient; the younger the patient, the more likely the symptoms would occur. The type of surgery and the 24-hr postoperative symptoms determined the degree of return to daily living function. Further studies on anaesthetic techniques to reduce 24-hour postoperative symptoms is warranted.

Appendix

Telephone questionnaire

POSTOPERATIVE EVALUATION PHONE CALL

Date and Time of Post-Op Call / / Hrs

PROBLEMS SINCE DISCHARGE:

- Was there any bleeding significant enough for you to return to the hospital or to your doctor? Yes No
- Did you feel you had a temperature? Yes No
- Did you experience any pain at the operative area? Yes No
- Did you experience any pain at the injection site? Yes No
- Did you experience any pain in other area? Yes No
- Have you been nauseous or felt that you wanted to vomit? Yes No
- Did you actually throw up? Yes No
- Did you experience any headache? Yes No
- Did you find yourself very sleepy or difficult to wake-up? Yes No
- Did you feel faint, or lightheaded? Yes No
- Do you feel any form of generalized discomfort, or weakness? Yes No
- Do you have any other complaints? _____

What medications did you take? _____

On a scale of 1 to 10, 1 being no activity and 10 being back to your normal activities where would you rate yourself? (Score 1-10)* _____

Did you have to go back to the ER or the hospital? Yes No

Did you have to call your doctor since discharge? Yes No

Reason: _____

Do you wish to make any additional comments? _____

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