

# The effect of written advice on preoperative cigarette consumption

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## Summary

Two groups, each of 100 smokers, were compared in terms of reduction in cigarette consumption in the 5 days prior to elective surgery.

One group was admitted to hospital in the routine way and information on preoperative cigarette consumption obtained by questioning each patient after recovery from anaesthesia. In the second group, a letter strongly advising the patient to stop smoking for 5 days preoperatively was enclosed with the admission letter. A proforma to record the daily cigarette consumption was also enclosed.

By the day before surgery the mean cigarette consumption had fallen to 52% in Group I and 16% in Group II and 14 and 46 patients respectively had then stopped smoking completely. The differences were highly significant ( $P < 0.001$ ).

## Introduction

A significant number of patients who present for surgery are smokers and the anaesthetist often finds at the preoperative visit that patients have not reduced their cigarette consumption.

Hospital physicians have a responsibility in the prevention of cigarette smoking (1) and recent reports have shown that appropriate verbal advice is effective to a significant degree in reducing the level of cigarette consumption of patients with smoking-related illnesses (2,3). Previous workers have recommended that patients should stop smoking 1 (4) or 3 (5) days preoperatively. Some preliminary investigation showed that many patients were not getting adequate advice from physicians to stop smoking before surgery and as anaesthetists usually see patients only on the day before surgery they are unable to give timely advice. It would seem therefore that appropriate written advice given to patients prior to admission to hospital for surgery might be helpful in this respect.

This study was undertaken to compare the immediate preoperative smoking patterns of surgical patients who were admitted to hospital in the usual way and patients who received written advice prior to admission.

## Method

Patients were admitted to one of three wards, for a mixed range of surgical procedures. The preoperative smoking

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habits of 2 groups, each of 100 patients, were studied serially so that neither group influenced the other.

Group I consisted of 100 smokers who were interviewed by one of the authors on the day of the operation after recovery from anaesthesia. A questionnaire was completed regarding the normal smoking level and the change in cigarette consumption over 5 preoperative days and on the day of the operation. No request to record preoperative smoking was sent to these patients before operation in case this prompted a change in their smoking pattern.

The data in Group II were obtained by sending a letter to all the patients admitted to the three wards until results from 100 smokers had been collected. This letter, which was sent with the admission note, strongly advised the patient to stop smoking for 5 days before the operation. Patients were asked to record their usual daily cigarette consumption and the number of cigarettes consumed over each of the 5 days prior to operation and on the day of operation. Non-smokers were asked to disregard the letter. The completed forms were collected by the authors on the day of operation.

Comparisons between the two groups were made using Student's *t*-test for unpaired data.

## Results

There were 58 women and 42 men (mean age 43.3 years) in Group I and 54 women and 46 men (mean age 53.4 years) in Group II.

Table I shows the mean cigarette consumption of the 2 groups, on each day, expressed as a percentage of the usual cigarette consumption. The decrease in cigarettes smoked in Group II compared to Group I is highly significant over each of the 5 days as well as on the day of the operation ( $P < 0.001$ ). A few patients in Group II smoked more cigarettes than usual because they were anxious about the operation. More patients in Group I increased their cigarette consumption, some because they felt anxious and some smoked due to boredom during the stay in hospital.

Table II shows the number of patients from each group, who stopped smoking for at least 1, 2, 3, 4 or 5 days preoperatively. (Note that the patients who stopped smoking for, say, 5 days are necessarily included in those who stopped for at least any lesser number of days.) More patients in Group II stopped smoking over any given period than in Group I.

TABLE I Changes in cigarette smoking of patients in group I (n=100) and in group II (n=100)

	Group	Preoperative days					Day of operation
		5	4	3	2	1	
Cigarette consumption of patients as % of normal	I	98.4 (2.3)	94.7 (2.6)	97.4 (4.7)	78.7 (5.9)	52.5 (4.3)	6.4 (1.6)
Mean and (SE)	II	50.3 (3.7)	42.5 (3.6)	36.6 (3.5)	27.1 (3.2)	16.2 (2.3)	1.2 (0.4)
Number of patients not changing cigarette consumption	I	87	84	74	45	17	1
	II	18	9	7	5	2	0
Number of patients increasing cigarette consumption	I	6	4	8	10	6	0
	II	1	2	3	2	0	0

TABLE II Number of patients who stopped for at least n days preoperatively

Number of days (n)	Group I	Group II
5	0	14
4	0	19
3	0	26
2	7	31
1	14	46

### Discussion

This study shows that strongly worded written advice sent to patients preoperatively substantially reduced the cigarette consumption amongst smokers.

There have been a number of benefits demonstrated in patients who stop smoking preoperatively. Bronchial irritability which often contributes to a stormy induction and difficult maintenance of anaesthesia has been shown to be reduced after a week's abstinence from smoking (5). The increased levels of carboxyhaemoglobin found in smokers (6) and its effect on the oxyhaemoglobin dissociation curve are also reversed after discontinuing the habit (7). It has also been shown that in pregnant women who stop smoking for 48 hours there is a significant increase in oxygen availability (8). Obviously it is unlikely that cessation of smoking for such a short period of time (9,10) will reverse pathological changes of chronic pulmonary disease.

Previous workers (4,5) have recommended that patients should stop smoking before surgery without suggesting an adequate practical method. Preoperative written advice to achieve this goal is effective and we believe that some written

advice could profitably form part of normal clinical practice. Furthermore, at least some of the smokers who abstain prior to surgery might stop smoking permanently.

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