

# Outpatient preoperative assessment: the anaesthetist's view

Anita Holdcroft FFARCS

Senior Lecturer, Department of Anaesthetics, Charing Cross Hospital Medical School, London

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## Summary

The functions of an outpatient anaesthetic clinic are discussed in relation to the first 100 patients who attended. Preoperative assessment excluded 11 patients who would have been refused anaesthesia for elective operations without further treatment. Six of these required preoperative physiotherapy, 4 anti-hypertensive therapy, and 1 hospital admission for incipient myocardial infarction. The clinic also played an important role with regard to advice and reassurance of the patient from an experienced anaesthetist, organising suitable admission dates, and detecting anaesthetic and surgical hazards, especially dental caries and obesity, which could be corrected before operation. Two patients developed postoperative complications which could not have been foreseen.

## Introduction

Outpatient anaesthetic preoperative assessment can serve the following functions: screening for pre-existing disease which can be treated before operation; providing advice and reassurance for the patient with regard to anaesthesia and surgery; organising a suitable date for surgery; and the treatment of any disorder which may complicate anaesthesia or surgery. It has recently been debated whether this is the province of the anaesthetist or the surgeon (1). This study describes the results of a clinic served only by one anaesthetist.

## Method

A half-day clinic once a week was established for the preoperative assessment of patients

who were under the care of one consultant general surgeon. The same anaesthetist saw all patients in the clinic and subsequently anaesthetised almost half of them. The records of the first 100 patients (49 male and 51 female) have been analysed with regard to their preoperative condition and their operative and postoperative complications. Patients were referred to the clinic after being clerked in the surgical outpatient department the week before. They had either been put on the waiting list or given a date for surgery, depending on the degree of urgency of the case.

TABLE 1: *Questionnaire*

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Please complete the following questions:

a) Have you had any serious illnesses?	Yes/No
If yes: please state	
Have you had any previous operations?	Yes/No
If yes: please state	
Were there any anaesthetic difficulties?	Yes/No
Have any members of your family had problems with anaesthetics?	Yes/No
b) Do you usually have a cough?	Yes/No
Is your sputum green?	Yes/No
Do you notice difficulty with your breathing?	Yes/No
Do you suffer from wheezing or asthma?	Yes/No
Do you smoke?	
If yes, then how many a day?	
Do you consume alcohol?	No/occasionally/moderately
	.....pints/week
c) Any pain in your chest?	Yes/No
Do your ankles swell?	Yes/No
Have you had a coronary?	Yes/No
d) Do you wear dentures?	No/partial/complete
Have you any loose teeth?	Yes/No
Have you any crowned teeth?	Yes/No
e) Do you bleed easily?	Yes/No
f) Are you allergic to anything — e.g., drugs, plaster, pollens?	Yes/No
If yes: please state what	
g) Do you take any tablets?	
If yes, please state their name.	

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TABLE II: *Types of operation*

<i>Type</i>	<i>Number</i>
Major abdominal	
Gastrectomy	1
Cholecystectomy	19
Colectomy	7
Vagotomy	6
Oesophageal resection	2
Other major operations	
Thyroidectomy	1
Parotidectomy	1
Mastectomy	2
Minor	
Varicose veins	4
Hernias	25
Urogenital	13
Breast lumps	2
Appendicectomy	1
Toenail ablation	3
	87

The average waiting time between clinic attendance and surgery was 62 days (range 4-387 days).

Because of an unsuitable waiting environment no persons less than 12 years of age were seen in the clinic unless there was particular difficulty with respiratory tract infections. Occasionally inpatients attended for assessment. The patients were required to complete a general health questionnaire (Table I) before being examined by the anaesthetist. Any patients who smoked were given advice and a leaflet on how to stop smoking. Patients were able to complete the investigations that had been requested at the clinic on the same day (apart from detailed lung function tests), and the results were obtained the same week by the surgeon's secretary. She notified the anaesthetist so that appropriate action could be taken.

**Results and discussion**

At the present time 87 patients have been admitted for operation and 5 patients remain on the waiting list. Two patients were admitted to other hospitals for operation and of the remaining 6 patients, 4 acknowledged that their symptoms had disappeared and did not require surgery and the others failed to attend for follow-up. The types of operation performed are listed in Table II.

PREOPERATIVE MEDICAL SCREENING (TABLE III)  
 In a surgical preoperative assessment clinic (1) 2% of patients were suffering from undiagnosed hypertension and 1% had upper respiratory tract infections. These are the two major problems which require preoperative treatment.

In the present study the prediction of post-operative respiratory complications was considered to be a useful exercise and each patient who presented to the anaesthetic clinic underwent spirometry with a Vitalograph (Vitalograph Ltd, Buckingham) to measure the forced vital capacity and forced expiratory volume in 1 s. The results from the best recording were analysed. Only one patient was found to be below the lower limit of normal (2) and he had gross clinical signs of chronic obstructive airways disease and hypoxia. Simple spirometry may not indicate those at risk of developing respiratory complications (3). Cessation of smoking for a week or less before an operation is inadequate to prevent respiratory disorders in the post-operative period (4). This is one reason for patients to be referred to an outpatient anaesthetic clinic as soon as they are put on the waiting list. Fourteen of the 19 patients on whom cholecystectomy was performed were smokers (of more than 10 cigarettes/day) and half of these developed postoperative chest complications—that is, two or more of the following: increase in sputum, cough, pyrexia (>38°C), and abnormal physical signs in the chest (5). The non-smokers had no respiratory difficulties in this period and this is a significant finding ( $\chi^2 = 4.75$ ;

TABLE III: *Positive findings in preoperative medical assessment*

<i>Finding</i>	<i>No. of patients</i>
Pre-existing medical conditions*	48
Drug therapy	32
Allergy	7
Cervical spondylitis	4
Obesity	2
Sinusitis	1
Dental: caries	3
crowns	2
dentures	30

\*includes respiratory disease (27 cases) and cardiovascular disease (15 patients).

$p < 0.05$ ). Two of the smokers who developed respiratory complications had given up smoking for more than a month before their operation. Pulmonary dysfunction can be considered to be the main sequel of general anaesthesia and it was the most frequent complication in this study (11 out of 87 patients (12.7%)). Campbell (6) observed that in patients over the age of 60 postoperative chest infections were 3 times more common than in younger patients. In the present study, however, only 2 of the 11 patients who developed postoperative pulmonary infections were over 60; 3 of them were under 30 but were heavy smokers. Preoperative risk factors include not only smoking, previous infection, and the state of hydration but also the amount of sputum produced. Physiotherapy has been shown to be beneficial in clearing sputum and preventing a residual nidus of infection (7). Three patients received outpatient chest physiotherapy and 4 intensive inpatient physiotherapy before operation. In none of these cases did postoperative chest symptoms occur.

The economics of preoperative chest radiology have been discussed in a National Study by the Royal College of Radiologists (8) and the procedure in the anaesthetic clinic was only to order a chest radiograph if there was a history of cardiopulmonary disease. The radiographs taken provided no useful preoperative or postoperative information. In retrospect it is probably wiser to perform radiography on patients who smoke and present for major surgery because they are more likely to develop postoperative respiratory dysfunction.

Electrocardiography was more informative than chest radiography and was performed on the same patients. Ischaemic heart disease was diagnosed in 9 patients and incipient myocardial infarction in 1, who was admitted to hospital. The Wolff-Parkinson-White syndrome was observed in 2 patients and the appropriate anaesthetic agents were used at operation (9).

Hypertension, which was arbitrarily defined as a diastolic blood pressure of 120 mm Hg (16 kPa) or more in the supine position, was diagnosed for the first time in 4 patients, who were referred to their general practitioner for

investigation and treatment. All were subsequently admitted on antihypertensive therapy for surgery and their postoperative recovery was without incident.

Although a drug history was taken from each patient and 32% were receiving medication, this only required interference in 1 case, in which the patient was taking an oral contraceptive pill. A history of allergy (7 patients) is important with regard to any subsequent reaction to anaesthetic drugs.

Haemoglobin concentration was assessed in more than half the patients, but no abnormality was found. However, the haemoglobin concentration must not be considered in isolation from other factors of oxygen flux.

#### PATIENT REASSURANCE

It was evident from talking to the patients that the initial suggestions as regards surgery had been considered and discussed with family and friends so that they presented with sensible, searching questions which could be answered in a relaxed situation. Preoperative anxiety is best alleviated by a visit from or to the anaesthetist (10). The availability of the advice of a consultant anaesthetist in this clinic was important to 3 patients who rejected the suggestion of local anaesthesia in the clinic but subsequently requested it because of medical problems. Patients required reassurance with regard to a number of minor difficulties such as postoperative vomiting, cervical spondylitis, and migraine and the anaesthetist was able to discuss their management.

#### TIMING OF SURGERY

All patients were requested not to present for operation if they were suffering from upper respiratory tract infections and this prevented routine admission and subsequent rejection for anaesthesia in 3 cases. Domestic arrangements and the admission of children could be planned and, with regard to ward referrals, the proposed date and time of operation could be fixed to suit all concerned.

#### Preventable and unavoidable hazards

The control of other hazards which may complicate anaesthesia and surgery mainly involves educating the patient to achieve a high level of personal hygiene, especially in relation

to the treatment of dental caries and to following an appropriate diet in the case of obesity, and alerting the anaesthetist who will be in charge of the patient at operation to potential difficulties such as joint stiffness, airway problems, and deafness. This function of the clinic proved to be the most difficult in which to achieve positive results. There was a waiting list for dental appointments so the caries was only partly treated despite patient willingness. Of the patients who were not anaesthetised by the anaesthetist who assessed them in the clinic, 2 were given inappropriate anaesthetics despite written instructions.

In 2 cases postoperative complications occurred which were not anticipated. One elderly man developed prolonged neuromuscular blockade following the use of suxamethonium and was found to have an abnormal genotype for cholinesterase and the other patient died from pulmonary embolism despite intraoperative precautions for its prevention.

### Conclusion

The specialist anaesthetist has a role in the preoperative assessment of surgical patients, not to provide basic clerking but to be more fully involved in their medical management, in the more efficient use of surgical beds, and in the detection and prevention of potential anaesthetic complications. The closer co-operation of surgeons and anaesthetists in this field is recommended.

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