PRACTICE OBSERVED

Organising a Practice

Converting to practice premises

M J FARMER

Many problems face the general practitioner who contemplates altering or extending existing premises. The premises may be specially purchased by a practice for use as a surgery and thus are substantially altered to suit requirements, or those already in use as a surgery but in need of extension, modification, or refurbishment. Many general practitioners still practise from inadequate premises, which have become too small and congested owing to extended patient lists, a growing number of staff who have to cope with bureaucracy, and expanding partnerships, and these combine with changes and new attitudes to the practice of modern medicine. Thus the practice team needs to reassess their working conditions with a view to seriously considering a building programme, helped financially by the "cost rent scheme."

Having made the decision to pursue a building programme, the first consideration must be a consultation with the local family practitioner administrator. Many administrators and their senior officers have considerable experience of surgery development and of the cost rent scheme set out in the "Red Book." They will advise the practice on the location and suitability of the proposed surgery. The staff of the regional medical officer are also available for informal discussions at this stage. By having these early consultations, the practice should at least obtain some assurance that subject to submitting suitable plans and areas for the FPC to approve the project has potential.

At this stage the practice team must draw up a working brief by discussing their requirements and creating a design philosophy and a series of parameters suitable to modern practice. It is important that the brief is an assessment of up-to-date methods of practice and not just a reiteration of existing methods, which are probably the reasons for considering a building programme. The brief should look critically at some of the following: the organisation of consulting suites/examination

rooms; facilities for trainees; treatment areas; storage of records; appointment system; reception areas waiting room; office areas; office administration; computerisation of information and records; staff accommodation; special staff commitments; and as many aspects of good medical practice as can be feasibly included in the scheme.

Enter the architect

It is now prudent to engage an architect who has had considerable experience in designing surgeries and knows the conditions that are set out in clause 51 of the "Red Book." It is essential that the architect produces a feasibility study based on information given him in the initial working brief. This study should provide the practice with a detailed building and site survey, planning information that is vital to the viability of the project, suitable sketch plans, and some indication of the estimated cost of the work. In connection with this study it is important to engage through the architect or the FPC administrator two further members of the professional team: a quantity surveyor and an independent valuer. The quantity surveyor, or cost consultant, will consider the architect's feasibility study and produce a reasonably accurate estimate of building costs, which is vital when equating these figures with the allowable costs set out in the "Red Book." It will also furnish the practice team with a good guide to the probable overall financial commitments—important when making further decisions concerning the viability of the project. It must be remembered, however, that the estimate of cost will be subject to some adjustment and should not be considered final. The quantity surveyor cannot be held responsible for the inevitable minor or major changes that can occur in finalising the plans after detailed consultations between the practice and their architect. The architect's sketch, although the germ of the design, is not necessarily the final design. During further consultation with the architect when details regarding the scheme are discussed in depth, such as storage of records, design of individual rooms, and layout and finishes (carpets, decorations) these details can alter the initial

Booth and Farmer, Leeds LS10 1JN
M J FARMER, BBA, DIPP, architect FRC

The GP and the Specialist

Cardiology

J R HAMPTON

Diseases of the heart and blood vessels are common and lead to many hospital admissions. This means that medical students become fairly well educated in cardiovascular disease and carry the knowledge with them into general practice. Greater specialisation of medical firms in teaching hospitals may mean that future generations of students—many of whom will not have "cardiology attachments"—will be less well trained, but most cardiovascular problems seem to me to be well managed by general practitioners. Most of the drugs now available are simple to use, and GPs can now treat very satisfactorily many of the problems that 10 or more years ago would have presented considerable difficulty to the specialist. The main things that the cardiology specialist has to offer are diagnostic help when expensive equipment is required, advice about indications for surgery, and hospital treatment for a fairly limited range of acute problems.

Whom to refer to

There are two sorts of cardiologists, sometimes called "type A" and "type B." Type A cardiologists work in regional centres and are closely associated with cardiothoracic surgeons; they have at their disposal a full range of techniques for investigation, including cardiac catheterisation. There should be a type B cardiologist in every district general hospital, who should be a general physician with an "interest" in cardiology. He should be responsible for the coronary care unit and should have a simpler range of investigational techniques, including a treadmill for stress testing, facilities for recording and analysing 24-hour electrocardiographic tapes, and a simple "M mode" echocardiogram for studying valve movement. In larger hospitals the type B cardiologist may also have access to nuclear scintigraphy, which can be used to study myocardial perfusion and left ventricular wall movement. Type B cardiologists should not, however, perform elective cardiac catheterisations. Type A cardiologists are highly specialised and very expensive. They should provide a rapid and efficient technical service, but they can only do this if the patients referred to them are well worked up and can be returned whence they came as soon as the need for extremely specialised help is over. Type A cardiologists should not follow patients for prolonged periods. For maximum efficiency GPs should therefore not refer patients directly to type A cardiologists in regional centres, but should seek help from the type B cardiologist in the local district general hospital.

Department of Medicine, University Hospital, Nottingham NG7 2UH
J R HAMPTON, MD, FRCP, professor of cardiology

When to refer

CHEST PAIN

In an ideal world a patient who developed pain in the chest suggesting a heart attack would get help immediately to hospital by calling direct for an emergency ambulance. In the real world this often does not happen, and many patients delay for several hours before calling for help and then call their GP rather than an ambulance. If a GP sees a patient at home and suspects that he has had a heart attack, a choice between home and hospital care must be made. If the patient has had symptoms for less than two hours, and if there is a hospital with a coronary care unit relatively nearby, the patient should be admitted forthwith; hospital admission is, of course, also necessary if the patient has some complication of the heart attack that precludes home management. It is entirely reasonable for the GP to take a decision purely on the basis of information given over the telephone, and to send an ambulance without first seeing the patient. If it turns out that the patient has had no indigestion the GP may be attacked by the senior house officer in the local accident and emergency department, but he is entirely justified in rebuffing the attack with vigour. If, however, by the time the GP is summoned the patient has had pain for more than four hours the advantages of hospital care are less clear-cut, and a decision about hospital admission can be made with a little more leisure. In patients with symptoms of between two and four hours' duration the GP's decision must be based on local circumstances, and particularly on the proximity of the hospital.

When chest pain is intermittent and the problem is to decide whether or not the patient has angina the most important thing for the GP to do is to take an adequate history. This can be time-consuming, but many patients do attend hospital clinics unnecessarily with "non-specific" chest pain. Patients—and some GPs—have an unfounded faith in the value of the resting ECG as a "heart check." In fact, if an adequate history has been taken the ECG seldom shows anything unexpected; the ECG should always be assessed together with the patient, and for this reason "open access" ECG facilities are not necessarily desirable. In cases when the diagnosis remains doubtful the cardiologist may ask the patient to perform an exercise test: to give a reliable result this requires a treadmill with ECG monitoring in multiple leads, and it is beyond the scope of the GP. Simple exercise testing in a GP's surgery without adequate monitoring may fail to provide a diagnosis, and as arrhythmias may be induced a GP is probably best advised not to attempt stress-testing.

A cardiologist may also use isotope scintigraphy to help make the diagnosis. Injection of radioactive thallium immediately after a stress test will show ischaemic areas of myocardium because the isotope is not taken up by areas of heart muscle that are inadequately perfused. This is a non-invasive technique which carries no risk, but its precise role in diagnosis is not yet certain.

Coronary angiography remains the final arbiter for the diagnosis of coronary artery disease. The procedure may now

concept of the plan by providing more equipment, better finishes, and special requirements. Items like these can alter the quantity surveyor's initial appraisal of cost, sometimes only marginally. This is a normal process in design and should be carefully monitored by the quantity surveyor and the architect. A good architect who is experienced in the work should always design within the areas and costs set out in the "Red Book." The private valuer has an important role to play, because his estimated value of the property, as assessed when complete, has a direct bearing on the borrowing power, from whatever source the money is to be obtained; therefore this valuation should be as high as possible with minimal short fall, if any. The lending potential is often based on the sale value and the possible use of the property at any time it had to be relinquished by the practice and taken over by the initial finance source. This is highly unlikely, but it is possible that the National Health Service could go out of existence. Having obtained the quantity surveyor's report regarding the potential cost and having amended these against the allowable expenses, it is important then to investigate the ways and means of borrowing money for the project. Whether it is from the General Practice Finance Corporation, bank, or insurance company, your accountant is possibly the best man to advise on the various methods of obtaining finance at any given time.

Once all the information from the various professional advisers has been collected the scheme can be presented to the FPC for approval. The information needed is the architect's sketch plans, a statement of areas within the external walls, and the quantity surveyor's estimate of project costs. The plans should also include any exceptional site or building conditions, such as requests by the planners to build in stone. This may affect the cost of the building over and above the limits set out in the "Red Book" and could be subject to further claims within the cost rent scheme.

Seeking statutory permission to build

After being given the approval from the FPC and the regional medical officer instructions can be given to your architect to proceed with the next stage—namely, seeking the various statutory permissions from the local planning authority and the building bylaw inspectorate. Your architect should have contacted the local authority during the feasibility process. Full planning permission is sought when the architect has developed the detailed design and produced final plans, sections, and elevations. This gives the authorities information regarding detailed site planning and aesthetics. It is essential that these permissions are obtained, and it is up to the architect to liaise with the authorities and design the project to their requirements. Also, as a statutory requirement drawings must be submitted to the local building bylaw inspectorate, which has the power to grant or reject the scheme on technical grounds. It is your architect's responsibility to produce drawings that conform to standard building and fire regulations. While obtaining these statutory permissions—which can take as long as two months through the bureaucratic system of local government—your architect should have further consultations with the practice team to discuss the more detailed aspects of the project, such as the layout of individual rooms, electrical points, heating, special equipment, intercom systems, record storage, decoration, and many other finishes. From these meetings the architect will be able to co-ordinate his larger scale detailed drawings, indicating the special requirements of the practice team. All these detailed drawings are passed to the quantity surveyor to produce a bill of quantities for tendering.

Finding a builder

While the quantity surveyor and architect are finalising the bill of quantities and drawings, preliminary tender procedures

can be discussed with the client. Selective tendering procedures should be adopted for the project for the following reasons:

- (a) the FPC require one to consult at least three tenders;
- (b) the selective tendering process allows the architect and practice team to select builders who are considered capable of carrying out the contract;
- (c) the size of the proposed building firm corresponds with the size of the contract.

To enlarge on the last point, very large builders often have big overheads, which can help inflate the tender price; but, on the other hand, a jobbing builder could be incapable of handling a contract of suitable proportion. The quotation between the building costs of the project and the choice of contractor is therefore critical, and the selection of the builders should be carefully made.

When a list of possible main contractors has been drawn up between the architect and the client a letter of invitation to tender should be sent out to the firms asking them if they are prepared to submit a bona-fide competitive tender. The architect should state whether the contract is to be based on a tender at a "fixed price" or a "fluctuating price." A fixed-price contract is better for the client because it is not affected by increases in wages and materials over the building period, and therefore the tender can be considered as realistic at the time of acceptance. The fluctuating tender, however, favours the builder because it is subject to the costs of wages and materials while the building is being erected, and the initial tender figure is not realistic because these increases will be added to the tender figure on the final account and will usually inflate the original amount considerably.

The architect usually calls for the three lowest tenders to submit a copy of the priced bill of quantities for checking. The quantity surveyor then meets the client with an analysis of the tender and they should accept it. At this stage the architect, who has had close connection with his client, changes his role slightly from that of an architect/client relationship to arbitrator between the builder and client. On signing the contract documents, the client employs the builder to carry out his instructions through his architect. At times the architect must arbitrate between the two parties—often a difficult job when the client is paying him for his services. The contract document has been formulated by the Royal Institute of British Architects and is designed to protect client and builder, the two parties who sign it. The architect usually points out the clauses in the contract that affect the client, such as termination of contract, payments of interim certificates, and obligations of the contract. The contract documents are then signed by the contractor first and the client second, with witnesses to the signatures.

The architect instructs the contractor to take possession of the site, and he supplies drawings, bills of quantities, local authority consent, and notices, together with names and addresses of all concerned with the work. It is essential that the contractor prepares and submits a programme of the works to the architect; this should show work loads and timings of each building operation in a logical sequence, so that the architect on his visits to the site can keep a time control over the contract. Regular site meetings are held between the contractor, architect, and quantity surveyor.

One important factor in running a contract is issuing interim payment certificates, which indicate how much the client owes the builder monthly. The quantity surveyor prepares a valuation at periods stated in the contract of the work done on site and the materials delivered to site but not fixed. The valuation is sent to the architect, who issues to the contractor the interim certificate for payment and notifies the client of this. The contractor submits the certificate to the client for payment direct, and this payment must be made within the period stated in the contract, which is usually 14 days. As the works progress and the building takes shape the stage of practical completion is eventually reached. This is considered to be the state at which the building is ready for occupation by the client without any inconvenience.

be regarded as routine, but it is a risk to the patient (albeit an extremely small one) and it is expensive in terms of both equipment and personnel; it should therefore be reserved for patients who might benefit from coronary artery bypass grafting and for those in whom the cause of chest pain remains in doubt despite all other measures.

A GP should consider referring a patient with angina for investigation and possible surgery if the pain limits the patient's activities despite treatment with nitrates, a beta-blocker, and calcium antagonists. Most GPs use beta-blockers effectively, but a surprising number try to restrict the quantity of trinitrin tablets a patient uses. Sublingual glyceryl trinitrate should be used both as treatment and prophylaxis; the patient should be encouraged to use as many tablets each day as he wishes, taking one before any exercise that may induce pain. Preparations of glyceryl trinitrate that are applied to the skin are often effective in patients with nocturnal angina, and these are often overlooked by GPs.

Patients with disease of the main trunk of the left coronary artery probably do live longer if they have a coronary vein graft than if they are treated medically. Although a positive exercise test may provide a clue to this particular anatomical pattern it may only be diagnosed for certain by angiography. Angina in patients aged less than 50 years therefore is a reasonable indication for angiography, but no definite evidence of the place of routine angiography in young patients with ischaemic heart disease is yet available. Patients aged between 50 and 60 years who have angina should at least have a treadmill test, but above the age of 60 investigations become less important because the risks of surgery are higher and operations are less desirable. The indications for routine coronary angiography in young patients who have recovered from a myocardial infarction are far from clear. Angiography should certainly be delayed for two or three months, and by then the risk of death is low. It is now certain that all such patients should be treated with a beta-blocker, but a comparison between such treatment and surgery has yet to be made.

Heart failure

The sodium and water retention associated with heart failure can usually be treated very easily with diuretics. A mistake that is still too common, however, is to use diuretics to treat ankle swelling when the cause is postural or venous and has nothing to do with heart failure at all. Some doctors also have a tendency to use powerful diuretics such as frusemide and bumetanide for all patients, even when a simple thiazide preparation would be adequate.

A more important fallacy, however, is a tendency to accept "heart failure" as a diagnosis. Patients with heart failure for which no underlying cause is evident should be referred to a specialist to make sure that a shaggy treatable heart has not been missed. A single clinic visit will usually suffice, and there is no need for all patients with heart failure to attend hospital frequently.

Cardiologists now tend to use a variety of vasodilators to treat heart failure. Venous dilators, such as nitroglycerin, reduce filling pressure ("pre-load") and arterial dilators, such as hydralazine, reduce the pressure the heart has to generate ("after-load"). The relative advantages of pre-load and after-load reduction are not yet clear, and as most cardiologists are still feeling their way with this type of treatment it is probably best that patients who might benefit from it are referred to hospital. As a rough guide, patients needing 120 mg or more of frusemide daily should be considered for vasodilator treatment.

Palpitations

As with chest pain, a carefully-elicited history will usually show whether palpitations are due to an arrhythmia or not. The sinus tachycardia of anxiety is usually easy to detect, and if in doubt a GP can exclude thyrotoxicosis with the appropriate blood test without hospital referral. Extrasystoles may be diagnosed from the history; they occur mainly at rest and when the patient lies down at night. Extrasystoles in large groups of patients the presence of ventricular extrasystoles is a risk factor because it identifies a group with a higher than average risk, this is not important for an individual. Furthermore, there is no evidence that suppressing extrasystoles prolongs life, and patients are better treated by reassurance than by drugs.

When a patient seems to be having a true paroxysmal tachycardia the cardiologist can offer ambulatory 24-hour ECG monitoring by tape-recorder, and this may be very helpful.

Patients with bradycardias that seem to be causing symptoms should also be sent to hospital. There are probably still quite a lot of patients in the community who would benefit from a permanent pacemaker, and no one is too old to have one implanted.

Heart murmurs

With the disappearance of rheumatic fever GPs are getting less practised at, and therefore less confident in, recognising murmurs. As a rule of thumb any patient with a diastolic murmur should be referred to a specialist, and so should any patient with a systolic murmur whose heart is enlarged either clinically or on x-ray examination.

The important thing about valve disease is to ensure that any surgery that may be needed is performed at the right time—and the right time is when the patient will receive the maximum benefit for the minimum operative risk. The balance between benefit and risk is sometimes difficult to judge, and any patient who at some stage may need valve replacement should be under regular supervision by a cardiologist.

Many patients with rheumatic mitral valve disease will need prophylactic anticoagulant drugs, and where a good and convenient system exists in hospital for dosage control the GP is probably best advised to use it.

High blood pressure

High blood pressure is now undoubtedly—and very properly—"the GP disease." If the GP bears in mind the tiny proportion of patients who have treatable causes for high blood pressure, like coarctation of the aorta and Cushing's disease, few investigations are required. In fact, it is perfectly reasonable not to carry out any investigations at all. Although the patient proves refractory to treatment, the stepped care approach to treatment, beginning with either a thiazide or a beta-blocker, then if necessary adding whichever drug is not used first, and finally adding a vasodilator, will control hypertension in most patients. Those who do not respond may justifiably be referred to hospital.

Conclusions

Cardiovascular diseases are common, and most of them are easy to diagnose and treat. The GP should look to the cardiologist at his local district general hospital for help with diagnosis and for advice about management, but few patients with cardiovascular problems need long-term supervision in hospital clinics.