

The Singapore Family Physician



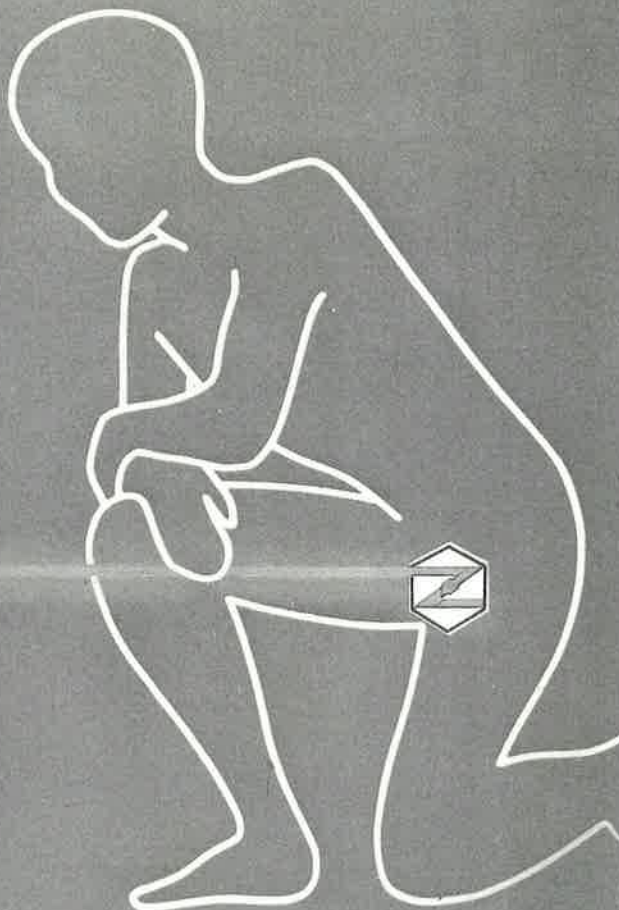
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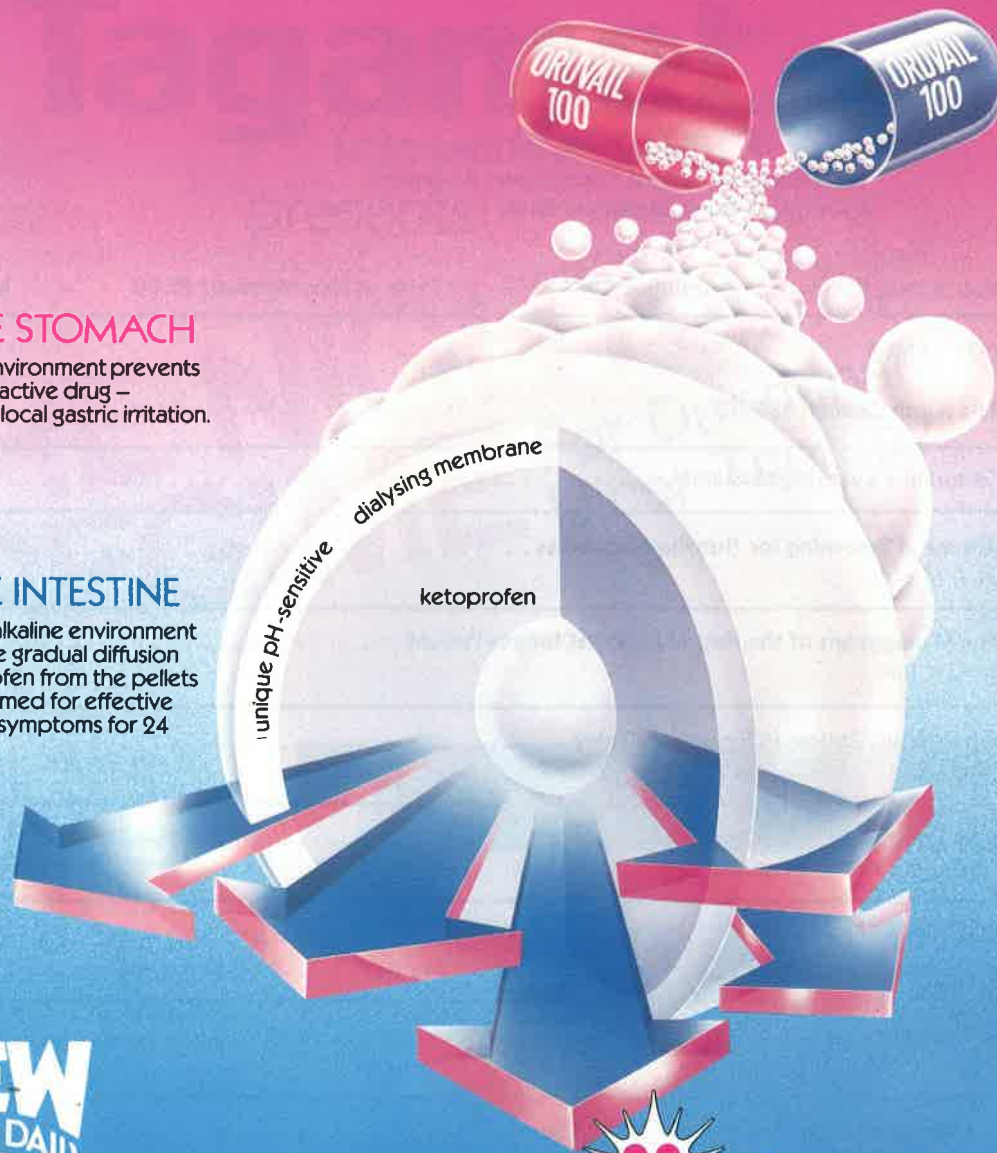
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Editorial – Learning Medicine

The education of a doctor never ends. One must therefore learn how to learn. Only in this way can one hope to cope with the ever widening scope of medical technology.

Learning is not memorising facts. Neither is it simple recall. It requires a change of behaviour as the result of it. Learning requires the acquisition of the ability to rearrange facts and the ability to apply these facts.

There are two aspects of learning medicine. One is to learn what is a caring attitude. The other is to learn what is good clinical judgement.

Knowing is not the same as caring. The doctor who treats patients must care about them. In fact, if one cares about the patient it stimulates one to work night and day to know about the disease process the patient has. To care for the patient, and not to know about disease that the patient has, is not being a doctor. To know about disease and not care for the patient is worse. A good doctor cares and knows.

One may ask what is good clinical judgement and can such an entity, if it exists, be learnt. Although we have little information on this subject, one can presume that a doctor with good clinical judgement makes good decisions and implements them in a splendid fashion.

What are the attributes of such a doctor that one can learn to acquire? It has been observed that:

- * Doctors with good clinical judgement know the types of patient information (data) they need to collect. They are quite good at collecting such data accurately and efficiently.

- * Such doctors know the diagnostic value (predictive value) of each abnormality that they discover.

- * Such doctors also know the definition of disease processes. They do not label a patient as having a disease process unless they know the criteria required for such a diagnosis and have found the abnormalities required to fulfill the criteria of that patient. They are not afraid to state their convictions when ample data are present to support their views. They are not ashamed to state the patient's problems at a level that is far short of a diagnosis.

- * Such doctors identify all of the patient's problems. Having done so, it becomes possible to ask what is the relationship of one problem to another. Whilst one may identify all the problems, it is not necessary to clarify every one of them. Doctors with good judgement will instantly ask themselves whether the pursuit of the clarification of a problem is justified in the light of the pa-

tient's other problems.

- * Such doctors establish goals for each problem and for the patient as a whole. They know that at times the goal should be simply to relieve discomfort, when cure is not possible. Therapy for one problem is determined by viewing the problem in the light of all other problems. Coronary by-pass surgery may be indicated in a young patient with mild angina pectoris who has proximal triple vessel coronary obstruction but the same type of angina may not prompt one to offer a coronary arteriogram in an elderly patient with carotid artery obstruction, cerebral atrophy and poor memory and advanced pulmonary emphysema.

- * Medical consultation often takes place in an environment charged with emotion. Doctors with good judgment leads the patient and family to reasonable conclusions as to what is wrong and what should be done.

- * Doctors with good clinical judgement always consider the safety of the patient. In fact, safety may, at times, be more important than accuracy. For example, it is safer to admit a patient to the coronary care unit when myocardial infarction is only one of the diagnostic possibilities than to try to be accurate with inadequate data.

- * Doctors with good clinical judgement have discarded the old axiom – if you wish to diagnose condition X you must have a high index of suspicion. They have replaced it with – keep in mind those conditions that really matter – start with those that can kill (like cancer) and then consider those for which therapy really makes a difference.

Methods in Learning Medicine

The sharp cutting edge of clinical judgement will be dull in a few years after graduation unless a doctor has developed some defined plan to insure that he will continue to learn. In a sense each doctor must function as a one-person curriculum committee that will organise an effective lifetime course for one person.

Several methods are open to the doctor to learn medicine: reading, listening and talking, self-assessment examinations, clinical investigation and teaching.

(1) Reading

Reading the medical literature is an essential feature of a doctor's continuing education. This is true because it is mainly through medical literature that doctors communicate with one another. We must however, remember that even experts

can be wrong and cited references may be used improperly to support a point of view. Whilst reading is a superb method of learning, Hurst cautions us that the following questions should be asked as one reads an article in a journal.

* Do the authors state in a precise manner the problems they are investigating?

* Is the experimental design conceived properly and are all elements defined clearly?

* Are the statistical data displayed properly? Are the appropriate statistics used? Are the statistics added just to mask the poorly designed experimental method?

* Are the conclusions stated properly? Are the data that support the conclusions shown? Do the authors intermingle their hopes with the outcome of the study?

(2) Listening and Talking

A great deal of medicine is learned by listening and talking to other doctors. The more precise a doctor formulates a question the more likely he or she will get a clear answer.

Lectures are commonly used to "teach" medicine. This is because they are a convenient way to present information to a large group of listeners. Many try to make the lecture substitute for the learning process of the listener. Lectures will not and cannot do that.

Many lecturers convey fact after fact to their audiences. They forget the purpose of a lecture: to stimulate the audience to look carefully at the subject matter that the lecturer presents. The objective of a good lecture is to make members of the audience aware of an important area of medicine. The lecturer's personality shines through and excites the members of the audience to think. The greatest limitation of the lecture form of teaching is that answers may be given before questions are raised in the listeners' minds.

Audiotapes of medical lectures are very popular. They have the advantage of being convenient. The disadvantages are: visual stimuli are absent and the listener often depends on the reputation of the speaker for the quality of the scientific data they are not given. It has the same disadvantage of the lecture in that answers are given before the listener has questions.

Videotapes are a step ahead of audiotapes in that there is also visual stimuli but the same limitations of the audiotape remain.

Self-assessment examinations are now popular. Doctors are asked to answer questions prepared by authors of articles and lectures. Various organisations and even certain state governments require a certain amount of continuing medical education credits be obtained annually by their members and doctor citizens. While such an approach guarantees

that doctors participate in an educational program it does not guarantee they will alter their practice response.

(3) Clinical Investigation

Doctors in academic institutions are obliged to seek new knowledge, to teach and to write. Doctors in practice, especially in group practice, can and should also engage in clinical research, teaching and writing. The reason practising doctors do not investigate disease is not that they cannot, but that the profession, including medical schools, has not emphasized investigation as an important goal for the practitioner. Accordingly, the practitioner has not recognised that clinical investigation is an important method of learning. The practising doctor may have been led to believe that basic research was the only respectable form of research. Since that form of research often required the support of a university, the practitioner simply felt there was no place for any investigation in his or her own career. The fact is, clinical investigation is just as respectable as basic research.

Certain problems facing the practitioner will not be found in a basic science laboratory or even a hospital. For example, what should be done during an examination? How often should certain observations be made on a patient? Such investigation is not done in the hope of new and earth-shaking discoveries. It is done because it is one way the practitioner learns. It permits the practising doctor to be at the cutting edge of progress.

(4) Teaching

Teaching should be a major goal of every doctor. The word doctor means to teach. The doctor may teach his patients, medical students, his staff and fellow doctors and so on. Doctors in group practice have a golden opportunity. They can create an excellent teaching program in their offices. They can set aside two hours each week and discuss — in depth — the problems of their patients. They can review and agree on the criteria they are to use for making a diagnosis. This will enable them to communicate with one another in a more meaningful way. They can discuss the plans for various problems and determine whether their followup of problems is appropriate. By teaching one learns.

Finally learning must be related to what doctors do day after day — caring for patients. Doctors must explore ways to link minute to minute work with information found in up-to-date textbooks. They must be problem orientated for by being so, they are in a better position to appreciate their blind areas and hopefully take steps to eliminate these areas through learning.

GLG

Views in the Editorial are not necessarily the official views of the College.

Antenatal Screening for Rubella Antibodies

DR A M SEET BSc(Hons), PhD, AIFST, C Chem, FRSC, FSNIC, FAIC

Rubella is not a notifiable infectious disease in Singapore, hence its actual extent is not known. However, monitoring of the number of cases admitted to Middleton Hospital for isolation indicate that in the decade 1974-83 there have been two widespread outbreaks of Rubella in Singapore, one in 1975/76 and the other in 1977/78. The 1975/76 outbreak was followed by a marked increase in the incidence of congenital Rubella as reflected in the number of cases diagnosed at three Government hospitals between 1972 and 1981. No similar increase was seen following the 1977/78 outbreak, probably reflecting the more liberal practice of termination of pregnancy during the outbreak.⁽¹⁾

In spite of the widespread outbreaks in the past decade, serological studies between 1975 and 1979 of females in the reproductive age group show that about 50% (range 44% - 51%) of them are still susceptible to Rubella infection.⁽²⁾

The national Rubella vaccination program for girls 11+ years of age was introduced in November 1976. Coverage has been very encouraging with about 97% of female Primary 6 school leavers having been vaccinated each year.⁽¹⁾

The Ministry of Health has also stepped up its efforts to prevent congenital Rubella by offering Rubella vaccine to females who are getting married or planning to start a family since July 1979⁽³⁾ and making Rubella vaccine readily available to private medical practitioners since September 1979.⁽⁴⁾

The effects of these latter programs are however unlikely to make much impact at least for the next 2 to 3 years and Rubella will continue to be the infectious disease of most concern to the pregnant patient and her attending doctor. This paper reports on the experience of a private medical laboratory performing Rubella antibody assay as part of its antenatal screening panel.

Patients and Methods

1076 patients aged between 20 and 40 years were referred for antenatal screening during the period 1 January 1983 to 31 December 1983.

Assay for Rubella antibodies was carried out using the Rubazyme Assay Kit from Abbott Laboratories. It is an Enzyme Immunoassay for the IgG antibody to Rubella virus which

provides an unequivocal and objective numerical immune status result which has excellent agreement with Haemagglutination Inhibition (HAI) methodology.

Results

Table 1 shows the distribution of the assay results in terms of the Rubazyme Index (RI).

The RI has been shown to have a high degree of correlation with HAI titres and a RI of < 1.0 is considered to be equivalent to a HAI titre of 8 or less i.e. "negative". 400 (37.2%) of the patients screened are therefore susceptible to Rubella infection.

TABLE 1. Distribution of Patients by Rubazyme Index

<1.0	1.1 - 2.0	2.1 - 3.0	>3.0	TOTAL
400	224	416	36	1076
37.2%	20.8%	38.7%	3.3%	100.0%

Discussion

Although the population described can be considered to be a selected one, comprising only of private patients, the observation that some 37% of pregnant women are susceptible to Rubella infection is a significant one, especially in view of the adverse effects of Rubella infection if acquired during the first trimester of pregnancy. It confirms that the national Rubella vaccination program has yet to make its full impact felt among women in the child bearing age and emphasizes the need to encourage vaccination of the population not already immune and adequate routine Rubella antibody screening as part of antenatal care. This will help greatly in separating those mothers liable to infection from those who are immune.

Antenatal patients found susceptible during pregnancy should be vaccinated immediately after delivery. It is important to point out to those who have been vaccinated that they should allow **at least two months** to elapse between vaccination and conception. Appropriate contraceptive advice should therefore be given. Vaccination itself can affect the fetus and carrying out vaccination with-

out ensuring that the patient is not already pregnant or knows that she must not conceive **within 2 months** is to be deplored. Post-partum vaccination though effective, is not ideal, as it can only provide protection for second and subsequent pregnancies and it has been found that 44% of children with congenital Rubella are first-born.⁽⁵⁾

Conclusion

In conclusion, I quote the recommendations of the Committee on Epidemic Diseases, Ministry of Health⁽²⁾:

"Medical practitioners should encourage women of reproductive age to have themselves screened for Rubella immunity. Non-immune females should be vaccinated well before pregnancy or in the immediate post-partum period. As the vaccine consists of live attenuated virus, which has yet to be proven to be harmless to the foetus,

pregnant women must not be vaccinated, and non-pregnant women must avoid becoming pregnant for three months following vaccination."

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The Management of the Post Myocardial Infarct Patient

DR C H LIM MBBS, M Med, FRACP

Most family physicians are apprehensive about managing post myocardial infarction patients because of the possibility of recurrent infarction and sudden death. They feel insecure with lack of equipment and facilities to manage these patients adequately. With the widespread publicity and numerous advances in the management of ischaemic heart disease, this is made more difficult. Treadmill stress testing, nuclear imaging, echocardiography and coronary angiography have left many family physicians even more reluctant to treat such patients. When and where to send patients for coronary bypass surgery is not an easy matter to decide and most family physicians would leave it to cardiologists to decide on this topic. Many patients in Singapore are fairly well informed and are in the habit of hopping from one doctor to another, making management more difficult. Worsening of angina may not be due to the medicines given by a previous doctor but to the worsening of his coronary arteries. In this paper I would like to highlight some of the new thoughts on the management of the post infarct patient.

Acute myocardial infarction is almost always the result of coronary thrombosis, i.e. a severe, sudden and sustained reduction in coronary blood flow resulting in death of myocardial tissue. Most of the complications of acute myocardial infarction occur at and around its onset. These complications are treated in the coronary care unit (CCU) of a hospital. However, the risk of death or reinfarction does not end after discharge from the CCU or after hospital discharge. The greatest risk of death occurs during the first six months of infarction. The average post-hospital mortality rate is 10% in the first year, 5% in the second year, and 3-4% thereafter. This shows that a substantial number of patients die in the first year following myocardial infarction.

At least 20% of survivors have some degree of physical, psycho-social and vocational disability. Survival of the infarction is related to the extent of damaged myocardium or the extent of potentially ischaemic myocardium. Patients with anterior myocardial infarction, left ventricular failure, ventricular arrhythmias and poor ejection fraction are at risk of reinfarction and death.

The patient who has had a previous myocardial infarction would have a less favourable outcome. Patients with basal crepitations in the upper lung fields and the presence of a prominent third heart sound during their hospital stay reflect extensive myocardial damage. These patients have a one year post-hospital mortality of 30-40%. Echocardiography and nuclear studies would enable quantitation of the degree of left ventricular impairment. Those patients with low ejection fraction, i.e. values less than 0.4, will have a higher mortality.

The role of the family physician is to firstly assess the cardio-vascular status of the post myocardial infarction patients, i.e. to assess the degree of functional disability by questioning the presence and severity of angina pectoris. Secondly, to detect the presence of left ventricular failure. Thirdly, to try and correct the conventional atherosclerotic risk factors. The first two have been discussed earlier, while the third is just as important. Most patients after the acute onset of infarction would promise to stop smoking but will continue after leaving hospital. Continued cigarette smoking increases the likelihood of reinfarction and coronary deaths in men and women of all ages. Therefore, recommending cessation of smoking is important even for elderly patients. Patients should maintain their near ideal body weight and their lipid levels should be kept normal. Dietary restriction of salt and sugar is important if the patient has heart failure, hypertension or diabetes. Although trials of dietary restriction to lower lipid levels have not significantly alter prognosis, one should control the intake of fat so as to maintain near ideal body weight. Blood pressure and diabetes if present, should be adequately controlled. Hypertension, if present, can be controlled with beta-blockers which have the advantage of concomitantly controlling angina pectoris.

The second step in the management of the post infarction patient is the use of anti-anginal drugs. Nitrates reduce preload by increasing venous capacitance. This causes a decrease in venous return and reducing left ventricular pressure, volume and myocardial demand, i.e. reduction of peripheral vascular resistance. There is some degree of

The Medical Polyclinic, #10-01 Mt Elizabeth Medical Centre, Singapore 0922.

coronary artery dilatation and improvement of collateral blood flow.

Beta-blocking drugs are a cornerstone of treatment in this group of patients. Beta-blockers reduce heart rate, systolic blood pressure, and myocardial contractility. They reduce cardiac work and myocardial oxygen demand. There has been three large trials of beta-blockers in the long term treatment of patients after myocardial infarction. The first study was the multi-centre international study published in 1975. This was a study of Practolol (400 mg a day) given within four weeks after the onset of infarction. The study was terminated prematurely because of the side-effects of Practolol. It was recommended in this study that those patients with uncomplicated anterior infarction be treated with beta-blockers for two years. They found a statistically significant reduction in mortality with a trend towards reduction in nonfatal reinfarction. A follow-up of this study using Inderal 40 mg three times a day by Baber saw no reduction in total cardiac mortality. However, this study was criticised because there was a high incidence of withdrawal and the study was only for a period of nine months. It is believed that the low doses of Propanolol used was the reason for this lack of effect on mortality. The second large chronic trial of beta-blockers was a Norwegian study using Timolol 10 mg twice a day. In this study there was a highly significant reduction of total and sudden cardiac mortality. The rate of reinfarction was also significantly reduced. This trial also showed that the reduction in cardiac mortality was regardless of the site of infarction. The most recent trial is the beta-blocker heart attack trial (BHAT). This was a large multi-centre trial involving 21 medical centres in the United States. In this study they used a total dose of Propanolol of 180-240 mg a day administered in three daily doses. The study showed a reduction in total cardiac mortality of 26% in the average follow-up period of two years. Mortality was reduced regardless of sudden infarction and was effective in reducing mortality in patients with previous myocardial infarction. This study and BHAT provide the strongest arguments for the use of beta-blockers for at least three years. These two studies show that all patients with myocardial infarction without congestive heart failure should be given beta-blockers. They emphasised that the dosage of the beta-blockers must be adequate. Propanolol, if given, must be given 60-80 mg three times a day. Timolol must be given as 10 mg twice a day. The beta-blockers should be given within five days to one month after acute myocardial infarction. The beta-blockers should

be given for at least 2-3 years.

The side-effects of beta-blockers and the contraindications to their use are well known to most doctors and need not be repeated. The new class of drugs are the calcium blocking agents, for example, Nifedipine and Verapamil. These drugs act differently from beta-blockers and were initially used for patients with Prinzmetal angina. These drugs reduce systemic vascular resistance and myocardial contractility. They reduce myocardial oxygen demand. They also cause a decrease in coronary artery vascular resistance and an increase in the size of the epicardial coronary artery thereby increasing coronary blood flow. The calcium channel blocking agents are presently used in place of beta-blockers with patients who have contraindications to beta-blockers, for example asthma. They can also be used concomitantly with beta-blockers for more effective reduction of angina. Nifedipine can be given in doses of 10 mg three times a day and Propanolol from 120-240 mg a day. Those patients with severe angina can be treated with beta-blocking drugs alone, or if beta-blockers alone cannot control angina, the addition of a calcium channel blocker like Nifedipine will synergistically control anginal symptoms. This combination will also control severe hypertension. Those patients with peripheral vascular disease or obstructive airway disease are best given calcium channel blockers as first choice. In those patients with angina at rest, calcium antagonists are to be given as a first choice drug. For decubitus angina, they are clearly superior to beta-blockers although occasionally patients fail to respond satisfactorily. In exertional angina, the results using Nifedipine appear comparable to those obtained with beta-blockers.

There has been no conclusive evidence that combination of Persantin and Aspirin would reduce reinfarction. It is not routinely used except in the post coronary bypass patients.

Exercise training can reduce heart rate and pressure response to any level of submaximal work and this allows a decrease in myocardial oxygen demand. Patients are therefore, further from the ischaemic threshold while performing daily activities and maximal oxygen uptake is enhanced. Because of the increase in peripheral arterio-venous extraction of oxygen occurring with training, it further decreases the demand for oxygen and thus for blood flow to trained muscles. Exercise appears to aid patients in feeling well and aid in the early return to a normal lifestyle. There has been no definite evidence that exercise training in patients recovering from myocardial infarction will reduce coronary mortality or coronary events.

Those patients who have persistent angina or develop significant angina after infarction would have to be evaluated to assess the possibility of coronary artery bypass surgery as they are at risk of reinfarction and sudden death. A treadmill stress test with symptoms, significant ST segment depression at a heart rate of 110/min or with hypertension should be subjected to coronary angiography. The treadmill exercise test provides the following information:

- 1) Extent of coronary artery disease — this is reflected by
 - a) the presence of ST segment depression,
 - b) the amount of ST segment depression, and
 - c) the presence of chest pain during exercise test.
- 2) Assessment of left ventricular function — this is reflected by
 - a) tolerance to exercise,
 - b) blood pressure response,
 - c) heart rate response, and
 - d) ST segment elevation.

3) It also reveals the presence of electrical instability. If malignant ventricular premature complexes are seen during exercise, they reflect the presence of ventricular instability. The presence of chest pain and ST segment depression would indicate potential residual myocardial ischaemia and extensive coronary artery disease. The presence of ST segment elevation would occur in akinetic or dyskinetic areas of the left ventricular wall. The presence of poor left ventricular function will influence the exercise heart rate and blood pressure response and reduced exercise tolerance, i.e. the short duration of exercise and the fall in blood pressure would indicate poor left ventricular function.

The decision to subject a patient to coronary bypass surgery is not an easy one. In patients who are markedly restricted by angina, i.e. those patients who have severe angina refractory to medical treatment, surgery is indicated. However, in some selected mild or moderately symptomatic patients with coronary heart disease, i.e. patients who have left mainstem disease, those with triple vessel disease and those with two-vessel disease

involving the proximal left anterior descending coronary artery, surgery has been found to be beneficial. Patients with a decreased ejection fraction appear to be an increased risk of coronary events and would benefit from coronary bypass surgery. It has been found that the severity of anginal symptoms does not correlate well with the extent of the underlying coronary obstructive lesions, and it does not identify patients with an increased mortality risk. Because many patients are discharged home with potent anti-anginal drugs, their symptomatic status is not readily apparent. It is best to omit in this article the detailed criteria for selection of patients for bypass grafts as there are many subsets to discuss.

It is clear from this discussion that the management of the post infarction patient involves evaluation of the patient by history taking, physical examination, ECG, chest x-ray and lipid profiles. He can also be evaluated further with non-invasive tests like treadmill stress test, echocardiography, Thallium scanning and coronary angiography. The patient is managed medically with drugs like nitrates, beta-blockers and Nifedipine to restore and maintain normal function of the heart and to ensure that he has the minimum of symptoms and is able to lead a fairly normal life. Complications are treated accordingly, for example heart failure, ventricular arrhythmias. Associated medical conditions are also treated, for example hypertension, diabetes and hyperlipidemia. Patients are also advised to change their lifestyles, their activities and diet. Those who remain symptomatic are evaluated for possible bypass surgery.

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Intrauterine Devices in Singapore Today

ASSOC PROF T G McCARTHY MBBS(Lond), FRCS(Eng), MRCOG

and

PROF S S RATNAM MD, FRCOG, FRCS(Eng), FRCS(Ed), FRCS(Glas) FRACS, FACS, FRACOG (Hon)

Introduction

Condoms, oral pills and sterilisation are popular methods of contraception in Singapore but the IUD has in the past 15 years been used by less than 1% of patients⁽¹⁾. This has both a historical and practical basis.

In the late 1960's there was considerable public concern following the high incidence of IUD perforations following immediate post partum insertion of the Lippes Loop^(2,3). The exaggerated rumours — for instance that an IUD could swim to the brain or heart — were so widespread that the Singapore Family Planning and Population Board (SFPPB) stopped active promotion of IUD use in the National Family Planning Program which was rapidly gaining momentum with its first 5 year plan 1966-1970⁽⁴⁾.

The practical reason is that IUD insertion requires a gynaecological examination, sterile equipment and some clinical training in insertion technique. Insertions have been available to Singapore women through only a limited number of sources including the University Unit at Kandang Kerbau Hospital, a small number of Maternal and Child Health clinics (MCH) and from some gynaecologists in the private sector⁽⁵⁾.

Concise "guidelines for use of IUDs" have been published⁽⁶⁾ and no attempt will be made here to cover all well known aspects of IUD use. This paper includes a brief review of the IUDs that have been used in Singapore followed by discussion of selected topics which are of particular importance today.

IUDs in Singapore

From mid 1966 to 1983, the government MCH clinics have given a low profile to IUDs and have only used the Lippes Loop. However, very positive results have been reported with up to 16 years of use for the Loop though no figures are given for 'loss to follow up' in this series⁽⁷⁾. Recently increasing public awareness of the possible complications of contraceptive pills and the irreversibility of sterilisation have renewed interest in IUDs and in response to demand the Singapore Family Planning and Po-

pulation Board (SFPPB) has introduced the Multiload Cu 250 (MLCu 250) at its headquarters clinic⁽⁸⁾.

From 1974 — 1984, the University Unit at Kandang Kerbau Hospital has used a total of 14 IUDs including inert devices (Lippes Loop, Dalkon Shield), copper releasing devices (TCu 200, Cu 7, Latex Leaf, MLCu 250, MLCu 375, TCu 220C, TCu 380 Ag Nova T,) and progesterone releasing devices (Progestasert, Alza T IPCS 52, d-Norgestrel releasing Nova T) in prospective randomised clinical studies. Results from some of the early trials have been published elsewhere⁽⁹⁾.

During this period gynaecologists in the private sector and a few general practitioners have been using IUDs in patients who specifically requested this method. At least one doctor has been inserting the Ota ring but most have used either the TCu 200 or the Cu 7. However, the MLCu 250 and Nova T have become more widely used in the last 3-5 years.

Which Device is best?

Contraception is a very lucrative field for pharmaceutical companies and even with IUDs each company is anxious to introduce its own device claiming significant advantages, lower pregnancy rates and less complications for its own product. This sponsorship of particular devices extends even to the large international agencies which are in theory at least free from financial bias. From a practical view point the decision to use a particular device should depend partly on its reported effectiveness and complication rates in large well controlled trials and partly on the previous experience of the practitioner.

There is now strong evidence that newer copper bearing devices offer significant advantages^(9,10). The intrauterine pregnancy rate in Lippes D users is at least twice that of TCu 220C users after 2 years use and the expulsion rate one and a half times more⁽¹¹⁾. Copper bearing devices are in general smaller in size than inert devices with lower termination rates for expulsion and pain or bleeding⁽¹²⁾.

Dept of Obstetrics & Gynaecology, National University of Singapore, Kandang Kerbau Hospital, Singapore 0821.

Though the Gravigard (Cu 7) has been widely used throughout the world data from Singapore studies⁽⁹⁾ and World Health Organisation (WHO) multicentric trials^(11,13) have shown that the Cu 7 has a higher expulsion rate than other IUDs. The assymetrical "7" configuration (which was apparently designed after a patent had been taken out of the 'T' configuration) appears to be inherently inferior. The TCu 200 is also a standard device but has probably been superceded by devices which have copper on the side arms (eg TCu 220C, TCu 380 Ag) and therefore higher in the uterine cavity with a more effective contraceptive effect⁽¹⁴⁾.

Many practitioners who only rarely insert IUDs worry that insertion may be difficult and this is probably a major barrier to recommending their use. A questionnaire to gynaecologists in the University Department showed that the Multiload configuration is preferred (Table 1). This is because no complicated "push-pull-push-pull" technique (as is necessary for the Nova T) is involved. There is also less problem with contamination during insertion which may occur when the device has to be digitally loaded into the introducer just before insertion (eg TCu 200). The Cu 7 has a smaller diameter sheath (3 mm) than other devices and may be more suitable for nulliparous patients⁽¹⁵⁾ but in view of recent evidence on infection⁽¹⁶⁾ other contraceptive methods should be preferred in these patients.

Who should use an IUD?

A list of indications and contraindications for IUD use can be found in any standard text. The major serious complications of IUD use seem to be ectopic pregnancy and pelvic inflammatory disease (PID) with their associated sequelae including subfertility. It has been found that 2 to 5% of pregnancies occurring with inert or copper bearing devices are ectopic compared with an incidence of 0.5% in non contracepting women⁽¹⁷⁾. However, this is thought to represent a greater protection against intra-uterine pregnancy rather than an increase in extrauterine conception. There is at present no clear evidence to show that the incidence of ectopic pregnancies is increased by IUD use but if a user becomes pregnant there is a higher risk that this pregnancy will be ectopic.

In a similar way IUD users have a 3-7 fold increased rate of PID when compared to other contraceptive users. However, both the barrier methods and oral pills have been shown to offer protection against PID and the actual increased risk is only about 1.5 fold if IUD users are compared to non contraceptive users⁽¹⁵⁾.

Because both ectopics and PID are more common in those who have had these conditions in the past they are now considered to be relative contraindications to IUD use. Even these small risks of PID or ectopic pregnancy would seem unacceptable for the majority of nulliparous and unmarried patients if alternative contraceptive methods are available. IUDs have a place in young women who do not have the motivation to use other methods (for instance after repeated abortions) but the real indication for use is with women who think they have completed their families but do not want to take the irreversible step of sterilisation. IUDs are also useful for women over 35 in whom the risks of oral contraceptives are increased.

When best to insert a Device?

The traditional teaching is to insert a device within 5 days of the start of the menses. At this time the cervical os is relatively dilated and a little additional spotting of blood will pass unnoticed. However, some women prefer to have their device inserted immediately the decision for IUD contraception has been made and there is generally no difficulty with insertion at any time. However, it is of great importance to be sure that the patient is not pregnant.

Insertion immediately after legal abortion or curettage following a spontaneous complete abortion has been shown to be a safe procedure in Singapore and elsewhere^(9,18). Copper IUDs have also been shown to offer good protection against pregnancy if inserted up to 5 days after one act of unprotected intercourse and have the advantage of providing effective ongoing contraception⁽¹⁹⁾.

Pregnancy and IUDs

If a woman becomes pregnant with a device in situ, the device should be removed by traction on the strings in the usual way. Surprisingly this decreases the risk of spontaneous abortion from 50% to 20% in women who wish to continue with the pregnancy. In those in whom the thread is not visible, abortion should be advised because of the infrequent but potentially fatal risk of septic mid trimester abortion⁽⁶⁾. In patients who refuse termination there is increased risk of spontaneous abortion, premature delivery, stillbirth and low birth weight infants but no evidence that IUDs in-situ cause birth defects⁽¹²⁾.

How long should a Device be left in Situ?

A patient who is happy with an IUD will often wish to continue using it for several years and she

must depend on her physician's advice when it is best removed.

Inert devices such as the Lippes Loop have been left *in situ* for over 10 years in many patients and have continued to function effectively⁽⁷⁾. However, when removal is attempted the device is often embedded in the uterine wall (Fig 1) and the nylon thread (or even the device itself) may break during attempted removal (Fig. 2). The hysteroscope has been useful in Kangar Kerbau Hospital for the removal of deeply embedded devices.

Wire coiled IUDs are effective up to 4 years and perhaps beyond⁽¹²⁾ but the copper degrades unevenly⁽²⁰⁾ and whatever the diameter of wire, a significant incidence of fragmentation may occur increasingly after 2 years (Fig. 4). On this basis Elstein⁽²¹⁾ has recommended that all copper wired devices should be replaced at 2 years and should not remain *in situ* more than 3 years. However, Newton⁽²²⁾ has pointed out that the pregnancy rate does not increase up to 5 years despite any fragmentation that may occur. If the copper is placed over a silver core (eg Nova T, T380 Ag) or in cylindrical cuffs (eg TCu 220C) fragmentation does not occur and a longer life span is predicted though as yet trials beyond 4 years are relatively few⁽¹²⁾.

A new worry has arisen over the identification of *Actinomyces israeli* in up to 25% of Papanicolaou smears in women using IUDs⁽¹⁶⁾. The incidence increases with duration of use and appears to be more frequent with inert devices. Clinical actinomyocosis is a serious disease but most authorities feel that these organisms are colonising the cervix near the IUD thread rather than invading tissue as pathogens. Our long term users of the Lippes Loop would be an ideal population to study in this respect⁽²³⁾ but as yet no case of actinomyositis related to IUD use has been reported in Singapore.

Summary

In the Singapore situation where many women have completed their family of 2 between the ages of 20 and 25 rather than opting for sterilisation or hormonal contraception for 10-15 years, the IUD offers an attractive alternative. The newer IUDs have advantages over the inert and earlier copper bearing devices. However, the placing of the device at the top of the uterine cavity is essential for effective use and the success of a device will depend as much on the experience of a physician with a particular insertion system as with the device itself. All devices should probably be changed after 4 years. This is not because of an increased risk of pregnancy but because device de-

gradation is unpredictable and complications at removal are increasingly encountered when devices are left *in situ* for longer periods.

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Question: Of the devices you have used while in the University Department, which do you feel was the easiest to insert?		
Multiload	Copper T	Dalkon Shield
16	1	1

Table 1: Response by 18 physicans to questionnaire.



Fig 1: Impacted Lippes Loop D removed with difficulty from the uterus of a post menopausal patient. A large piece of uterine wall is seen adherent to the device afte removal.

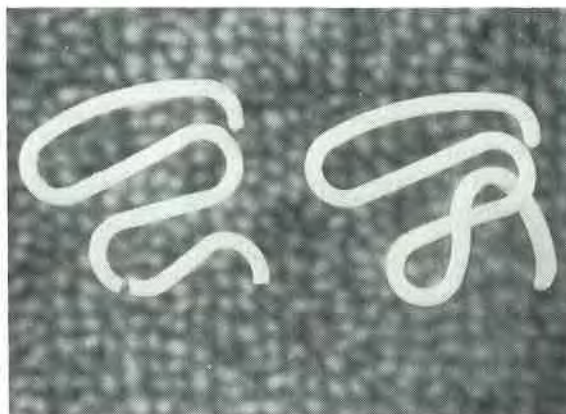


Fig 2: Lippes Loops in situ over 10 years. In both devices the nylon thread broke on attempted removal. In the left hand device a fracture of the device itself also occurred.

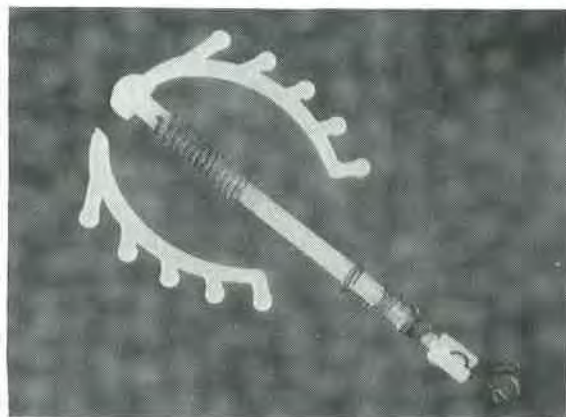


Fig 3: MLCu 250 in situ just over 4 years. The arm fractured during attempted removal of the device and the patient required curettage for removal of the broken piece from the uterine cavity.

New developments in urinary stone surgery

DR ADAM EVERT GROENEVELD MD PhD (Amsterdam)

Introduction

Urologists have always tried to find ways of directly visualizing the interior of the urinary tract. Towards the end of the nineteenth century the first useful instruments for inspection of the urethra and the urinary bladder became available.

The urethrocystoscope of today with its modern optical and light transmitting systems has come a long way from the early instruments with the small wire light bulb mounted at the tip. Those according to the older urologists, always used to blow at the 'moment supreme' to leave the doctor in the dark. After the urethra and the bladder had become accessible to direct observation, techniques to insert catheters, stone dislodgers etc. into the ureters were developed. Any of these manipulations beyond the ureterovesical junction however were blind and therefore hazardous. The urologists' ambition to move a direct viewing instrument further upstream beyond the ureterovesical junction remained as strong as ever.

In the early nineteen seventies the first flexible transurethral ureteroscopes and ureterorenoscopes were developed. With these the ureterovesical junction could be negotiated and the ureteric lumen could be directly visualized. In the late seventies distal ureteric tumors were resected and stones were dislodged under direct observation using rigid instruments that were useful but not specifically designed for the purpose, such as pediatric resectoscopes, adult cystoscopes and cystoscopic telescopes. The technique of dilatation of the orifice and intramural part of the ureter received much needed attention and various rigid and flexible dilators were designed.

The most recent developments are the 10 Fr* and 11.5 Fr rigid ureterorenoscopes. The diagnostic applications of these new instruments are in the evaluation of hematuria and in the accurate diagnosis of filling defects in contrast X-rays of the urinary tract (differentiation between non-opaque stone, tumor, bloodclot, sloughed renal tissue). Therapeutically they can be used for the removal of ureteric stones, with or without ultrasound desintegration, for the resection and coagulation of ureteric tumors and for the removal of clots, sloughed papillae and stone particles with baskets, grasping forceps etc. under direct vision.

Another important development took place when urologists realized that a pre-existing nephrostomy channel can be used to insert a viewing instrument directly into the renal collecting system. By doing this, it became possible to inspect the calyces, the pelvis and the pelviureteric segment in much the same manner as one inspects the bladder during cystoscopy. Whereas previously nephrostomies were only established during open operations for drainage of obstructed kidneys and ureters, today they are created percutaneously. Percutaneous nephroscopy enables us to make a more accurate diagnosis in cases of hematuria or X-ray filling defects on the IVP. The most important application of a percutaneous nephrostomy channel however has become the removal of stones from the kidney, thus avoiding open surgery.

With these two developments the urologists' long ambition to gain visual access to the interior of the urinary tract seems to have come true.

In a third development, a machine has been designed that enables us to desintegrate urinary stones without entering the body at all: the extracorporeal shockwave lithotripter (ESWL), popularly called 'the waterbath'.

* Fr (French) is a measure of calibre, indicating the outside circumference of an instrument in millimeters.

Instruments and Techniques

1 The Rigid Ureterorenoscope (Fig 1)

This recently developed instrument consists of a 45 cm long 11.5 Fr sheath and obturator. With the obturator removed the sheath admits a solid rod lens telescope which is available in a 5° forward viewing and a 70° variety. Cold light, originated in a distant halogen light source is guided to the instrument by a flexible fibre light cable and transmitted by glassfibres to the tip of the telescope as in the modern cystoscope. In addition to the telescope, 5 Fr flexible instruments can be accommodated such as stone baskets, biopsy forceps, alligator forceps, electrodes, brushes etc. The rest of the space within the sheath allows for adequate irrigation. The tip of the sheath is smooth and lipshaped for atraumatic introduc-

tion. The telescope can be exchanged with an ultrasound probe. Thus, the instrument can be used for ultrasonic desintegration of ureteric stones that are too large for direct extraction.

Technique

Ureterorenoscopy is performed under general anaesthesia with the patient in the cystoscopy position. Fluoroscopy should be available. Urethra and bladder are inspected in the standard manner by ordinary urethrocystoscopy. The ureteric orifice is then dilated. This can be done by insertion of ureteral catheters of increasing size but special dilators are now available. In female patients dilatation can be done under direct vision using rigid dilators introduced alongside a cystoscope. In male patients it is necessary to guide the dilators with the Albarran lever of the cystoscopic working element. Bougie a boule ureteral dilators on flexible shafts of up to 16 Fr are now available and can be used through a 23.5 Fr cystoscope sheath. Ureteral dilators that can be advanced over a guide wire will soon be marketed. After dilatation of the ureteral orifice the ureterorenoscope is introduced into the bladder under direct vision to avoid injury to the urethra. It is advanced into the now wide ureteral orifice. After passing the intramural section of the ureter there is usually no problem at all in advancing the instrument up the ureter under constant irrigation. The natural bends in the ureter are straightened by the instrument without injury (Fig 2). Once the stone or lesion is encountered the planned procedure can be carried out under direct observation. An impacted stone can usually be passed somewhere along its circumference with a stone dislodger, wriggled loose and extracted. If it is too large or impacted in edematous epithelium, the telescope can be exchanged for the ultrasound probe ('Sonotrode'). Under fluoroscopic control the stone is contacted with the tip of the probe and by short bursts of power the stone is desintegrated. The fragments can then be removed by suction and basketing. When the ureter proximal to an impacted stone is wide, manipulation can cause the stone to move upwards and away from the instrument. In such cases it is attempted to fixate the stone to the sonotrode tip with a Dormia basket for balloon catheter (fig 3). If a tumor is found, the biopsy forceps is used, followed by a coagulating electrode if necessary. The 70° telescope is used to inspect parts of the renal pelvis. For preliminary inspection a 10 Fr sheath is available. This instrument admits the 5° and 70° telescopes but has not operating channel. Entering the female ureter is hardly ever any problem.

In the male patient a large prostate may make it difficult and at times impossible to introduce and advance the sheath safely. The ureteral orifices heal quickly after dilation and postoperative reflux represents no problem.

2 The Percutaneous Nephroscope (fig 4)

This instrument consists of a nephroscope, an ultrasound probe and an ultrasound generator. The nephroscope sheath measures 24 Fr. It accommodates a 15° telescope which is set in a metal shaft together with a fibre light illumination system and an instrument channel admitting instruments of up to 12 Fr. With any of the instruments in the instrumentation channel sufficient space remains for the inflow of irrigation fluid. Outflow of irrigation fluid occurs via the space between the sheath and the nephroscope which has an oval shaped cross section. Low pressure continuous irrigation is thus guaranteed at all times.

The ultrasound probe (sonotrode) is a 10 Fr hollow steel tube mounted on an ultrasound converter. The converter, fed by the ultrasound generator, produces longitudinal vibrations in the steel probe. The action of the tip of the probe can thus be compared to that of a pneumatic hammer or drill when in contact with stone. A suction pump is attached to the lumen of the sonotrode. Continuous suction serves to keep a mobile stone constantly at the tip of the sonotrode while at the same time fragments and stone dust are aspirated in a vacuum cleaner fashion. Stone fragments with a diameter smaller than the nephroscope sheath can be extracted mechanically with a variety of stone forceps and baskets. Other instruments that can be used with the nephroscope include biopsy forceps, scissors coagulation electrodes and cutting blades (fig 5).

Technique

Percutaneous nephroscopy is a two stage procedure. The first step is the establishment of a nephrostomy channel and is done under local anaesthesia. The actual nephroscopy is done at a second stage, 24 hours to 48 hours later, under general or epidural anaesthesia. Since the nephroscope is a rigid instrument the nephrostomy channel should be straight and must lead directly onto the lesion to be investigated. For this purpose the patient is placed on an X-ray table in a prone-oblique position. After the renal collecting system is visualized by intravenous or retrograde X-ray dye, a needle can be introduced into the pelvis entering the skin approximately halfway the 12th rib, 2 cm below it and about 4 cm lateral from the border of the erector spines muscle (fig

6). In calculous disease the stone should be used as the direct target for the puncture. Fluoroscopic control is essential. Preliminary ultrasound scanning helps to determine the area of maximum thickness of the renal parenchyma and the distance from skin to collecting system. The puncture must be done beneath the 12th rib since entering the pleura is a danger when the intercostal space above the 12th rib is used. It is important to plan the channel through the parenchyma in order to avoid damage to the major renal blood vessels and to make dilatation of the tract possible. The needle is in the collecting system when urine can be aspirated. A J-guide wire is then introduced through the needle well into the collecting system or into the ureter. Dilators of increasing sizes up to 16 Fr are then passed into the pelvis over the guidewire after the needle is removed. Finally a 14 Fr nephrostomy tube is introduced and sutured to the skin. When a nephrostomogram shows the tube in the correct position, the guide wire is removed. Twenty-four or forty-eight hours later the patient is anaesthetized and placed on the operating table in a prone or prone-oblique position. Fluoroscopic and radio-graphic facilities are essential. In cases of renal stone disease a ureteric catheter has been inserted on the affected side to prevent stone fragments from entering the ureter. The procedure is started by introducing a guide wire through the nephrostomy tube well into the collecting system. The nephrostomy tube is then removed and the guide wire is used to guide the specially designed telescopic dilator set with increasing sizes of up to 21 Fr into the collecting system. All these manipulations are done under fluoroscopic control. The 24 Fr nephroscope sheath then follows, acting as the final dilator. The guide wire and the telescope dilator set are now removed from the sheath and the nephroscope is inserted. Under continuous low pressure irrigation the collecting system is inspected and the appropriate procedure is carried out as planned. In stone patients the calculus is visually identified and contacted with the tip of the sonotrode (fig 4). The ultrasound generator is then switched on. The stone disintegrates and the fragments are aspirated or removed mechanically. Continuous suction through the lumen of the probe keeps the stone at its tip and prevents fragments to move to the periphery of the collecting system. When all stone material appears to have been cleared, a plain X-ray is exposed. If no residual fragments are shown, the ureteric catheter is taken out and the patency of the ureter is checked by injecting X-ray contrast dye into the pelvis. The nephroscope is now removed from the sheath, and a 12 Fr nephrostomy

tube is inserted. The sheath is then taken away, the nephrostomy tube is sutured to the skin and the procedure is terminated. The tube is left in place for 24 to 48 hours postoperatively. After removing it the puncture site seals off quickly and the patient can leave the hospital one or two days later.

Indications

Clearly by far the most important indication for percutaneous nephroscopy is the removal of kidney stones. Originally the method was used only for those patients with renal stones who had an existing nephrostomy from previous open surgery. Later, kidney stone patients were included with high surgical or anaesthetic risks. Now, percutaneous nephrostomies are created intentionally for the purpose of stone removal. As more experience is gained, indications have come to include about 70% of all kidney stones.

Results And Complications of Percutaneous Lithotripsy

So far worldwide several hundreds of cases have been done and the procedure is gaining popularity rapidly. Most series claim success rates in the range of 90% of cases. Success is usually defined as a kidney completely free of stone at the end of the procedure. The success rate also depends on the selection of cases. The more experience one gains, the more difficult cases will be accepted. Mortality has not yet been reported. The procedure carries a minimal morbidity in comparison with conventional open renal surgery, particularly in recurrent nephrolithiasis. Most patients can walk about without pain immediately after recovery from anaesthesia and are discharged from the hospital 2 days after the procedure.

The most common complication is an inadequate nephrostomy channel or failure to establish one. Particularly calyceal stones in the midportion of the kidney may be difficult to reach. Puncturing an undilated renal pelvis, which has a volume of only a few milliliters, is at times quite difficult. Haemorrhage does occur but is seldom a serious complication. Bleeding from a nephrostomy tract can usually be stopped by temporarily inserting a bigger size tube. Residual stones should also be considered a complication although a patient with for instance a completely obstructing calculus is greatly helped by reestablishing urinary drainage without an open operation, even when one or two small granules are left behind.

3 Extracorporeal Shockwave Lithotripsy

A third recent development in stone surgery is the extracorporeal shockwave lithotripsy, popularly known as 'the waterbath'. The principle of this method will be described in general terms. An underwater spark discharge gives rise to an explosive vaporization of the water between the electrodes. This is followed by a shock wave in the surrounding fluid. The spherically propagated shock wave is focussed in such a way that the maximum energy density is concentrated in one point. With the help of sophisticated multiplane X-ray machines, this point is made to coincide with the stone in the patients' kidney. The shock wave energy disintegrates the stone into small particles that have to be passed out spontaneously by the patient.

In view of the restricted availability of these machines, the enormous cost, the necessity of specially built housing and specially trained personnel to operate them it is beyond the scope of this article to describe the operation in detail.

Summary

Fascinating developments are taking place in urinary stone surgery at present. Endoscopic removal of stones without open operations has become possible in an important percentage of patients with urolithiasis. Transurethral ureterorenoscopy and percutaneous nephroscopic lithotripsy with ultrasound are described. Extracorporeal shockwave lithotripsy is briefly mentioned.

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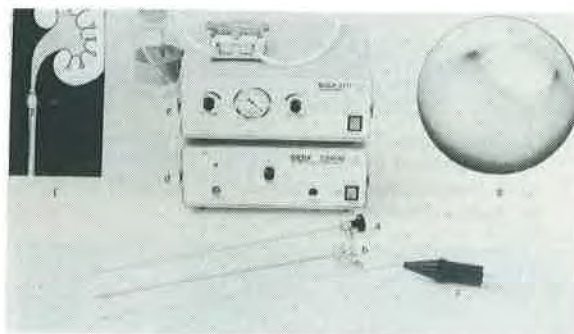


Fig 1 The rigid ureterorenoscope

- a) Telescope
- b) Sheath with channel for flexible instruments
- c) Ultrasound converter with sonotrode, connected to suction tubing
- d) Ultrasound generator
- e) Suction pump with reservoir
- f) Impacted ureteric stone contacted by the sonotrode tip
- g) Ureteroscopic view of ureteric stone

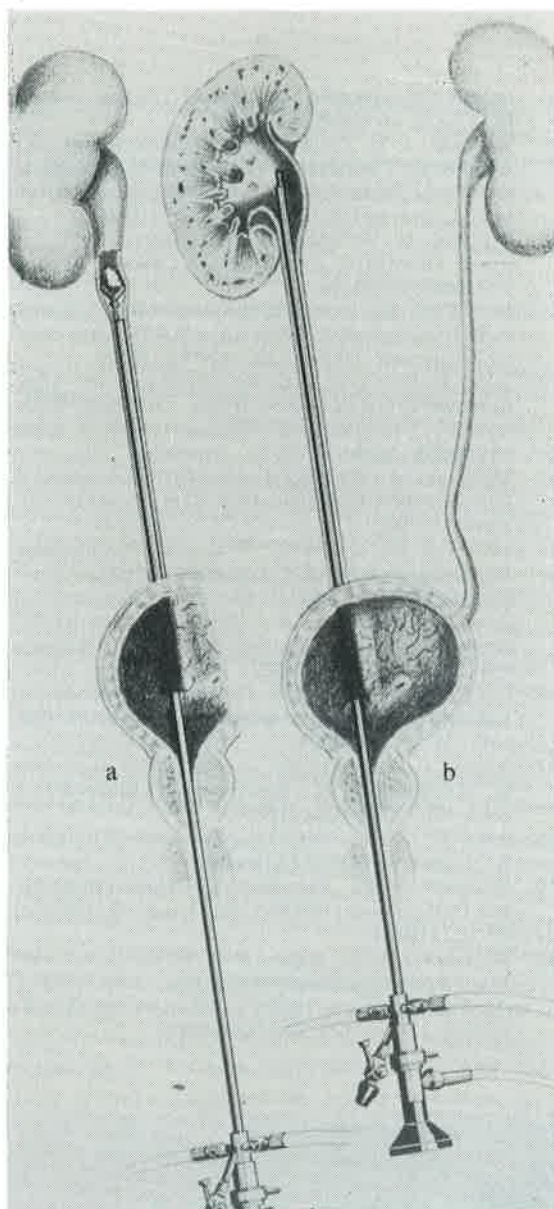


Fig 2 The ureterorenoscope in situ. The instrument has straightened the natural bends of the ureter.
a) a ureteric stone contacted with grasping forceps.
b) transurethral renoscopy.



Fig 3 Ureteroscopic stone removal in action.
a) Desintegration at the sonotrode tip.
b) Fixation of mobile stone by balloon catheter.
c) Stone caught in Dormia basket.

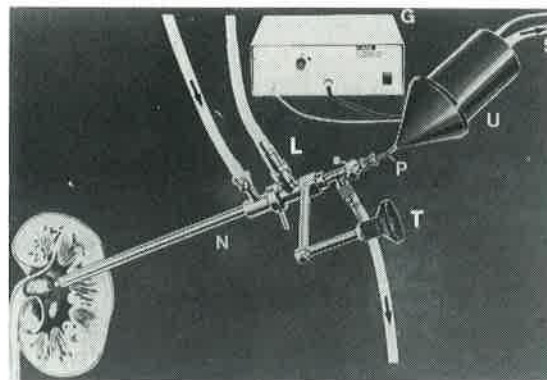


Fig 4 The percutaneous nephroscope with ultrasound lithotripter in situ. The tip of the sonotrode is in contact with a renal pelvic stone. The arrows indicate the direction of flow of the irrigating fluid.

G) Ultrasound generator
U) Ultrasound converter
P) Ultrasound probe
N) Nephroscope sheath
T) Telescope eye piece
L) Fibre optic lightcable

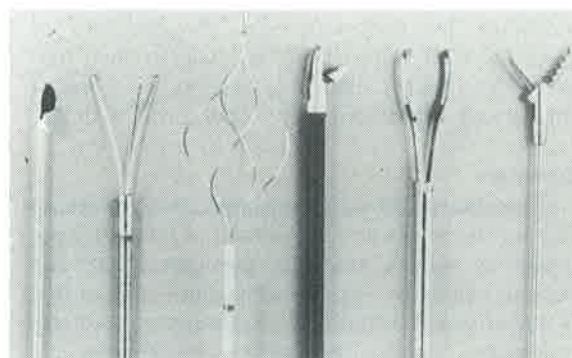


Fig 5 Various instruments that can be used via the percutaneous nephroscope. From left to right: stricture scalpel, stone grasper, stone basket, biopsy forceps, stone grasper, stone grasper/crusher with serrated jaws.

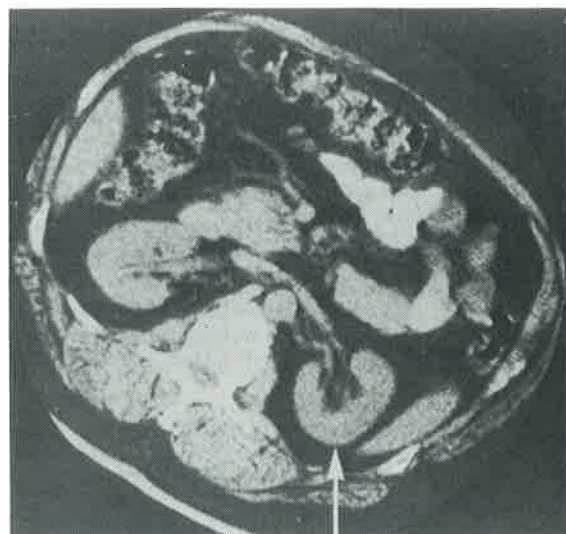


Fig 6 CAT scan picture at kidney level showing the percutaneous approach to the renal pelvis with the patient in a prone-oblique position.

HOME STUDY SECTION

Febrile Convulsions

A Definition

Febrile convulsions are seizures in association with Febrile illness. The term excludes convulsions from intra-cranial infections, and fever occurring with epileptic seizures.

B Incidence

3-5% of all children between 3 months to 6 years experience febrile convulsions. Seizures usually occur soon after onset of fever, which is invariably about 102 F.

C Forms of Febrile Convulsions

There are two forms of febrile convulsions:

- * Simple febrile convulsions
- * Complex febrile convulsions

1. Simple febrile convulsions

a. Criteria for diagnosis

- * lasts less than 15 minutes
- * no post ictal neurological deficit

b. Outlook

- * The likelihood of a subsequent febrile convulsion is 30 – 50%. The risk is higher if initial convulsion occurs in first year of life.
- * There will be no intellectual impairment in the long term.
- * Only 3% will ultimately develop epilepsy (This compares with a 2% incidence of epilepsy in the general population)

2. Complex Febrile Convulsion

a. Criteria for diagnosis

- * last more than 15 minutes
- * multiple seizures occur in the first 24 hours
- * seizure is focal in nature
- * seizure results in transient or permanent neurological deficit.
- * seizure results in transient or permanent neurological deficit.
- * background of
 - family history of non-febrile convulsions
 - developmental delay
 - previous neurological disorder

b. Outlook

- * 10% chance of developing non-febrile

convulsions, including temporal lobe epilepsy.

D. Diagnostic Evaluation

1. All children experiencing the first simple febrile convulsion and all those with complex febrile seizure should be hospitalised for observation.

Rationale: * Exclude bacterial meningitis
* Elucidate cause of febrile illness

Bacterial meningitis is particularly difficult to diagnose in a child under 18 months of age, especially if antibiotics have previously been given.

2. Lumbar puncture

Because of the difficulty in diagnosing bacterial meningitis it is generally agreed that lumbar puncture should be routinely performed if the child is under 18 months of age, and in the older child if there is clinical evidence of CNS infection.

3. Other investigations

This will be dictated by the presenting clinical history and features on clinical examination.

4. EEG

Abnormal EEGs do not reliably predict the development of epilepsy in the patient with febrile convulsions.

A febrile illness may itself result in abnormal EEG tracing. Hence, EEG should be done at least one week after the child remains afebrile.

E Management of the Acute Febrile Seizure

1. Ensure adequate airway
2. Terminate seizure
3. Other supportive treatment

1. Ensure adequate airway

It is usually sufficient to nurse the child on the side and ensure the tongue is not bitten.

2. Terminate seizure

The best method of terminating seizure is to give Diazepam intravenously; Diazepam can also be given rectally (0.5mg/kg). Alternatively, intramuscular paraldehyde (1 cc/yr) can be given.

3. Other supportive measures

Reduce fever by tepid (not ice-cold) sponging and rectal paracetamol.

F Long Term Management of Febrile Seizures

1. Anticonvulsants

a. Child with simple febrile convulsion

The current consensus of opinion is that the vast majority of such patients will not require prolonged continuous administration of anti-convulsants.

The child with simple febrile convulsions has an excellent prognosis. The occurrence of a second or subsequent febrile seizure does not itself significantly increase the risk of epilepsy; there is also no evidence to suggest that prolonged therapy with anti-convulsants prevents the development of epilepsy or significant neurological deficit.

b. Recurrent simple febrile convulsions

For a child with recurrent simple febrile convulsions, one may consider the use of intermittent anti-convulsant therapy;

- * prompt administration of rectal diazepam (0.5mg/kg) at the onset of acute febrile illness may reduce the frequency of febrile seizures, or

- * sodium valproate (Epilim) 400-600 mg daily for the total duration of illness.

c. Child with complex febrile convulsions

Long term continuous anti-convulsant therapy should be reserved for the child with complex febrile convulsions, where at least two or more risk factors are present. When anti-convulsant prophylaxis is instituted it is usually continued for at least two years or one year after the last seizure, whichever is the longer period. Discontinuation of therapy should be done over a 2-3 month period.

Drugs currently recommended for long term prophylaxis include:

- phenobarbitone (3-5mg/kg BW daily)
- sodium valproate (20-mg/kg BW daily)

Side-effects:

- phenobarbitone — behavioural changes: hyperactivity, irritability, sleep disturbance; somnolence or prolonged awakening. Cognitive function is not impaired
- sodium valproate — hepatic toxicity and pancreatitis, though rare, may result in a fatal reaction. It is thus good practice to monitor the liver function in the initial six months of valproate therapy.

2. Prophylactic measures

The following must form part of the prophylaxis programme of every case:

- discussion on management of fever by the parents/guardian;
- discussion on first-aid measures during seizures,
- discussion of the benign nature of most febrile convulsions.

The Nephritides — An Update

PROF P H FENG FRCP (G)*

The term nephritis (or glomerulonephritis) covers many renal diseases mostly of unknown aetiology but having in common similar glomerular histological abnormalities. Clinical features may or may not be present and often the only abnormality these conditions may share is proteinuria or haematuria or both during some part of their natural history. Most of the nephritides are believed to be mediated by immune mechanisms but proof is not yet available in every case.

A complete aetiological classification is at the moment not available. However most patients with nephritis present in one of the following ways:

I ASYMPTOMATIC HAEMATURIA DN PROTEINURIA

Usually discovered during medical screening for employment, national service or insurance.

Haematuria — Normal limits 1-2 rbc per h.p. field. If more than 5 abnormal.

HEMATURIA

Causes

- i) Extra-renal causes — any febrile illness, heart failure, hypertension, blood dyscrasia, part of a generalized vasculitis.
- ii) Renal causes:
 - a) Surgical — trauma, **tumour, stone**, surgical manipulation e.g. biopsy, catheterization, foreign bodies.
 - b) Medical — congenital abnormalities, **glomerular disease**, vascular disease, aneurysms, fistulas, **infections**.
 - c) Fictitious causes.

Management

History — family history, occupational history, drug history (analgesic nephropathy).

Physical examination including genital examination.

Investigations — Urine microscopy

Urine culture — pyogenic, TB.

Urea, creatinine.

X-ray abdomen, IVP, renal angiogram.

Cystoscopy, retrograde.

Renal biopsy.

PROTEINURIA

Following generalization may be of help in interpreting significance of proteinuria.

- A (i) Continuous (fixed) proteinuria should be considered presumptive evidence of renal disease.
- (ii) Heavy proteinuria > 3 mg/day indicate grossly increased GBM permeability.
- (iii) Minimal or moderate continuous proteinuria — latent or inactive GN, nephrosclerosis, pyelonephritis.
- B Intermittent proteinuria
 - a) benign
 - b) initial phase of GN.
- C Renal disease can occur in the absence of proteinuria.

Causes

Intermittent, mild proteinuria

- a) postural or orthostatic — 3-5% of healthy adults.
- b) functional-exercise, fever, heat or cold, emotional stress, heart failure.

Asymptomatic persistent proteinuria — Clinical significance is quite different. Even in the absence of other criteria for renal disease, the presence of proteinuria in all urine specimen obtained over a period of time usually means some form of renal disease.

Management

History.

Physical examination.

Investigations:

Confirm fixed proteinuria and haematuria.

Renal function tests — urea, creatinine, 24 hr. protein excretion, culture (pyogenic and TB culture).

X-ray abdomen, IVP.

Cystoscopy and retrograde.

Renal angiogram.

Commonest cause of asymptomatic haematuria and or proteinuria in young adults is **IgA nephritis**.

No specific treatment.

Close follow-up for at least two years with regard to urine examination, blood pressure and renal function.

* Senior Physician, Department of Medicine IV, Tan Tock Seng Hospital, Singapore 1130

II THE ACUTE NEPHRITIC SYNDROME

This is characterized by sudden onset of periorbital swelling, oedema of legs, and haematuria/proteinuria. Hypertension and oliguria may occur. The commonest cause of this condition is acute post-streptococcal GN. After clinical resolution the patient remains well although in some cases abnormal urinary findings persist. This may go into a latent phase with some eventually terminating in renal failure after many years.

III THE NEPHROTIC SYNDROME (N.S.)

The nephrotic syndrome (N.S.) is a clinical state having multiple causes and characterized by oedema, proteinuria, hypoproteinaemia and hypercholesterolaemia.

Causes: 80% due to primary renal disease.

20% due to secondary causes like diabetes, SLE, amyloidosis, malignancies, infection like quartan malaria and syphilis, drugs.

Treatment is usually along symptomatic lines. There are two renal diseases presenting with N.S. which usually respond well to steroids and immunosuppressive drugs. They are (a) minimal change GN and (b) lupus nephritis.

Apart from these two conditions the nephrologist is generally only able to improve lives of nephrotics by the control of oedema, hypertension and infection. In the unusual case where a precipitating cause is known it may be possible to avoid it.

IV RAPIDLY PROGRESSIVE NEPHRITIS

This is an accelerated form of "acute nephritic syndrome" characterized by oedema, hypertension, oliguria and renal failure. The glomerular lesion is usually one of "extracapillary (crescentic) proliferation." Death usually occurs within weeks or months.

V CHRONIC NEPHRITIS/RENAL INSUFFICIENCY

This is the end result of many types of acute GN which have failed to resolve. In this condition proteins and casts are always found in the urine and there is tendency to hypertension and

elevation of the blood urea. Cases of chronic nephritis may survive for many years before progressive azotaemia results from nephron loss due to scarring or hypertension.

CLASSIFICATION OF GLOMERULONEPHRITIS

GN may be classified as follows:

- A) Primary Glomerular Disease
 - 1) Minimal change
 - 2) Mesangial
 - 3) Focal proliferative
 - 4) Diffuse proliferative
 - 5) Membranous
 - 6) Membranoproliferative.
- B) As Part Of A Systemic Disease
 - 1) SLE
 - 2) Henoch-Scholein Purpura
 - 3) Polyarteritis Nodosa
 - 4) Goodpasture's Syndrome.

Management

There is as yet no specific treatment for most forms of GN. Management should be individualized. In patients with significant oedema, rest, fluid restriction and diuretics are indicated. A high protein, low salt diet is indicated until a diuresis occurs. Hypertension should be treated along usual lines. Steroid or cytotoxic therapy is not indicated except in certain cases e.g. SLE nephritis, minimal change nephrotic syndrome or rapidly progressive GN.

Prognosis

The outlook for young patients with "acute nephritis" is good but the prognosis in older patients (above 40) should be more guarded. In the uncomplicated acute post-streptococcal GN the urinary sediment becomes normal in 3-6 months but microscopic **haematuria or proteinuria may persist for two years without implying a poor prognosis.** In patients who have progressive renal failure a renal biopsy is indicated.

Old age and the management of some disorders

A L GWEE MD, FRCP

Old age can be regarded chronologically by the time in years a person has lived; or arbitrarily, by social regulations such as the retirement age; or biologically as degeneration of organs or tissues eg. 'a man is as old as his arteries'. It is clear that none of these definitions is perfect or even unobjectionable. It would suggest that a more workable definition maybe: old age is when the ability of regeneration and repair is unable to keep pace with the wear and tear of ordinary living. We all know that human lives have three phases;— the phase of growth where there is gain in maturity, size and weight; the phase of equilibrium where an organism remains much the same; and finally the phase of decline where the wear and tear exceeds the regeneration persistently.

Viewed in this light, old age is no longer an abrupt event in time, nor is it a uniform stage of change for all. Within our bodies, the decline begins differently for different organs. The muscle and bone reach their maximum bulk and strength in the early twenties, and begin to lose strength and size from the late twenties. The brain on the other hand, achieves its full potential in terms of neuronal count by the age of 7 to 9 years. It does not regenerate, and begins to lose neurones through aging from the late twenties. The ligaments and joints get into a negative state quite late in life, and the endocrine glands even later. What is even more striking is that this is not uniform for everybody, and hence it is possible for two persons of the same age to get old at different time, just as it is possible for two different organs in the same person to get old differently. Old age is therefore neither a fixed time event nor an unchanging scene.

Many of the problems of old age are known from ancient times. Old medical literature refers to problems in eye sight and hearing, aches and pains, shortness of breath, difficulty in micturition, and difficulties in locomotion. The accuracy of these observations is such that modern day gerontologists are continuing to describe the same problems. One is familiar with presbyopia, cataract, and the ease of lachrymation so much so that it has been stated that old people often shed tears without sorrow. The hearing change (presbycusis) is marked by a greater impairment of higher pitch sounds. This has led not infrequently to family problems as the daughter-in-law with the high pitch voice complaints of being slighted,

when the old folks at home seem to ignore her conversational approaches. With impairment of hearing, tinnitus and giddiness are not uncommon, especially as a part of the manifestation of otosclerosis.

As a result of emphysematous change, and the relative increase of rigidity of the thoracic cage, the vital capacity is reduced, explaining the frequent complaints of dyspnoea on mild exertion. The common occurrence of muscular rheumatism and osteo-arthritis account for pains and locomotion problems. In addition, old people have slower reaction time and decreased stability of posture, contributing further to the locomotion problem, and also increasing the incidence of falls.

Frequency of micturition especially nocturia is a common feature, and in many cases interferes with the sleep pattern of the aged. Many of these have to resort to frequent short naps, both in the day and at night, so that their comparative 'insomnia' can become a source of annoyance to other people living with them. With the male, there is also the problem of difficulty of micturition particularly hesitancy, but in the female, dribbling is the commoner complaint. The former is commonly due to prostatic enlargement, whereas infection is generally the basis of the latter.

Modern medicine has added light to mental disturbance of the aged. By 60, one in 10 is having some dementia, represented by memory deficit especially the short term recent ones, emotional lability and mental confusion, and deterioration in intellect. Modern work suggests that the common causes are senility, multiple cerebral infarcts, and Alzheimer's diseases.

Awareness of the complaints leads to more efficient and rational treatment and management, for many of the complaints of old people are not treated, not because the doctors do not know how, but because the patients do not complain of them. Old people have so many things to say that they often fail to highlight their real complaints, and doctors are often too busy to listen to a complete narration of the aged patients.

Several complaints required to be mentioned specially by ways of management. Insomnia is best left alone, unless it threatens health of the patient, or peace of the household. More old people are 'drugged' into confusion and simulated dementia by the treatment for insomnia, than those incapacitated by insomnia. Old people

*Consultant Physician, Pacific Clinic, 19 Tanglin Road, #06-40, Tanglin Shopping Centre, Singapore 1024.

sleep frequently, and hence sleep too much instead of too little. Keeping old people active and interested and occupied is very often the best way to deal with their alleged sleeplessness.

Constipation is a common complaint, and abuses of purgatives equally common. The substitution is not a good one, as purgative is likely to be more troublesome and harmful. Regulation of diet and institution of exercise and regular bowel training do more good than looking for the new wonder purge, which tends to lose its effect with use.

Old age is the time for increased morbidity, and certain illnesses are more common in incidence. Active attempt should be made on the lookout for diabetes, hypertension, cancer, hearing defect and prostatic problems. Similar attempt should be made to see about balanced diet with vitamin and protein enrichment, as old people often do not eat ideally.

Finally, there is the question of sexual activity, which at times comes up. The 'dirty old man' is often an expression of mild dementia. The more common complaint is the failure of potency and libido. A proportion is due to depression, and organic complaints; but the larger proportion is due to the natural decline of age. In spite of the many assertions of modern sexologists that old people can lead adequate sex life, the decline of sex capacity with age seems to resemble the decline in the activity of other bodily organs, in my experience. The aged patients need to be prepared and informed, so that they can accept the change without being deceived into trying out many unproved and much-acclaimed remedies. Many of these regimes benefit only the people who offer them, and a doctor caring for the aged patients may have to protect them from exploitation of this nature.

RESEARCH SECTION

Research: The role of the general practitioner

The European General Practice Research Workshop (EGPRW)¹ has been meeting for 12 years. In it, ideas are pooled and research projects are both stimulated and if appropriate, smothered. Encouraged by the publication of statements about the role and education of the general practitioner by the Leeuwenhorst group²⁻⁴ the EGPRW established a working group to consider the possibility of making a parallel statement concerning research in general practice. The working group had wide representation from all countries involved in the EGPRW and its deliberations were refined continuously by reporting back to the entire Workshop.

Our concern was to establish a framework in which research in primary care might be seen in relation to research in patient health and health care systems. In some countries care has made considerable advance and achieved academic status over recent years, but in others, the academic contribution from general practice is minimal. This document crystallizes the place of research in primary care and provides the 'raison d'être' and an organizational framework for it.

The statement is published in full. An appendix containing the full classification of research areas and a single sheet summary of the statement is available on request from the Birmingham Research Unit of the Royal College of General Practitioners, Lordswood House, 54 Lordswood Road, Harborne, Birmingham B17 9DB.

Statement on general practice research: European General Practice Research Workshop, October 1982

1. Introduction

General practice is a scientific discipline within medicine and has a specific place in a comprehensive health care system. It is concerned with the provision of medical care for individuals and in a wider sense in communities. It includes clinical, administrative and educational elements. Research is determined by the problems presented which may arise from any of these elements. The fundamental object of research is to increase knowledge and to apply that knowledge to promote the health and welfare of patients by providing improvements in the quality of care.

2. What is research?

Research is systematic critical enquiry conducted in accordance with rules which facilitate reproducibility. Results are expressed objectively in terms understood by professional colleagues and members of related disciplines. The results and their interpretation are submitted to critical review and testing by others prior to their inclusion as part of the scientific basis of and teaching for general practice. In this way the scientific principles of general practice comply with the rules and canons of any specific discipline.

Detailed research techniques and methods will vary with the problems. The conventional end point of research in all the natural sciences is the elaboration of a 'cause and effect' model of reality, which symbolizes and mirrors the factors or elements interacting in the problem situation and which predicts the subsequent outcome of events involving those elements.

General practice shares with all clinical medicine a 'problem and action' orientation. The emphasis here is on clear definition of the problem and then the initiation of appropriate therapeutic action. Where the clinical problem can be accurately defined, the choice of effective action may be as surely indicated even in the absence of scientific 'cause and effect' models for the event. Scurvy was first treated and then prevented by limes, quinine 'cured' malaria, and cow-pox prevented or mitigated subsequent small-pox infection long before any scientific knowledge about 'cause and effect' was available. In situations such as these, where effective action is available before scientific explanation, conventional scientific model making is stimulated. In these examples conventional 'cause and effect' models were subsequently established.

The 'cause and effect' model is not always appropriate to the understanding of behavioural responses and in particular to the responses of patients to environmental situations which may constitute their clinical problems. This applies especially to those problems involving the interaction of psychosocial and organic elements or factors and to the influence which interpersonal relationships within the family or other important social groups may have on the ability of the individual to cope. Additionally, it is inadequate

* Reprinted from the Journal of the Royal College of General Practitioners, August 1983

for an understanding of the physician's own clinical decision-making processes, many of which are derived from experience learned in the problem/action mode. The probability that a course of action, whether it be the behavioural response of a patient or a clinician's response to a clinical problem, will be effective, can be just as high as the probability that a scientific model matches reality.

In many countries the science of general practice has been accorded the academic status of an independent medical specialty. Continuing research is essential in amassing the necessary knowledge which constitutes the science of practice.

3. Reasons for and benefits from research

a) The individual general practitioner

Participation in 'systematic critical enquiry' can only improve the professional qualities of the individual doctor. It will give support to his actions and a systematization of his everyday work. It will stimulate him to approach his problems in a critical way, reassure or correct him in his own ways of work by critical thought and remove feelings of guilt arising from the use of methods which have been criticized by many as being unscientific. Even if participation in research brings him no new knowledge, the rigour that scientific method imposes on clinical performance provides the practitioner with continuous criticism which should in any case be part of good general practice.

b) Medicine

General practice has a contribution to make to medical science and is an essential part of medical education because:

- i) the emphasis in general is on the primary assessment of all previously undifferentiated clinical problems;
- ii) the general practitioner is in the unique position to see the initial phase of all clinical problems;
- iii) many illnesses are seen and treated exclusively within general practice;
- iv) the long-term contact resulting from continuity of care over time with all the clinical problems of each individual patient offers the possibility for perceiving and co-ordinating information about lifestyles and about the natural history of disease;
- v) general practice includes not only integration of the content of all the other specialties but also the co-ordination of the resultant activities

of other medical and non-medical colleagues;

- vi) in advising patients the general practitioner sometimes must use information of a non-medical nature when determining an appropriate management programme;
- vii) of the crucial importance of clinical decision-making in the problem/action mode with its inevitable probabilistic character, and the contribution which the general practitioner can make towards the understanding of this process in other specialties.

c) The community

General practice research is essential to the community and appropriate in particular to its leaders and governing bodies for the provision of information appropriate to the rational allocation of resources within a health care system. It is also the appropriate arena for the study of health care problems relating to the community and its environment.

4. Research areas and priorities

The Leeuwenhorst Group have described the functions and contributions of the general practitioner. Areas for research may be classified in five main groups:

Clinical
Epidemiological
Operational
Behavioural
Educational

(A classification is available as an appendix.)

Such a classification does not imply priorities. These may be determined nationally by Health Departments, locally within communities by professional or public request or individually by doctors. Political motives, educational objectives, information needs all may be relevant to determining priority. In the execution of research, a most important factor is the personal attachment of an individual to a problem that motivates. Research must be satisfactory to him by giving insight into problem relationships not previously understood.

5. Methods of research

There is no specific methodology for general practice research. The specificity comes from the problems not from the methods. When the problem is clearly defined, appropriate scientific methods are available for research. These methods may come from the biological, epidemio-

logical or social science tradition. Appropriate methods can be considered in relation to four stages of research:

a) Descriptive research

All scientific work has to start with a systematic description of relevant facts and situations. This includes numerical and non-numerical information coming from case study, morbidity surveys and activity analyses. Such data are prerequisites to the identification of problems, though are not necessarily sufficient for resolution of the problems.

In the collection of primary data the true situation of general practice must be recognized. Diagnoses are commonly made on clinical grounds alone, either because there is no appropriate scientific test or the severity of the illness does not merit the cost of further investigation or, in some cases, the risks entailed in investigation procedures. Diagnosis on clinical grounds, much of which are subjective, makes for difficulties in the standardization of clinical criteria. In many instances, diagnostic terms may equate with problem definition and are used as the basis for action. Descriptive research by identifying problems provides a self-perpetuating need for continuing research as a monitor of change.

b) Hypothesis generation

This is derived from the identification and quantification of problems. It evolves from the intuition and creativity of the researcher and is formulated by systematic consideration of alternative ideas gradually refuting improbable ones. Though hypotheses may be generated individually, the critical contribution of like-minded colleagues and the consensus of opinion among peers can have a value outweighing numerical analysis. The small discussion group provides the forum for identifying errors, discrepancies and anomalies permitting only the small minority of initial hypotheses to survive and go forward for more conventional and scientific testing.

c) Hypothesis testing

The full testing of a hypothesis follows traditionally accepted scientific rules and is exemplified by the rigorous controlled trial. This approach is appropriate whether a 'cause and effect' relationship is established or not. Though statistical probability will in general provide the

basis by which an hypothesis is accepted, there are areas of activity of the general practitioner which will not necessarily lend themselves to this type of mathematical analysis.

d) Assimilation of data

The final stage is concerned with the assimilation of proven hypotheses into the body of knowledge which we recognize as the scientific basis of general practice and which provides the core of teaching.

6. Standardization in research

Researchers in general practice should work towards a common vocabulary. We accept the need for standardized classification systems, definitions and criteria for all aspects of primary care. There is a universal need for transcultural and translational expressions applicable in the dialogue between individual researchers. Spurious over-precision in classification and measurement systems for clinical problems needs to be avoided, and the desirability for standardization must not stand in the way of innovation.

7 Interdisciplinary research

In this research the general practitioner may need to use an integrated interdisciplinary approach and call on the aid of specialists in other fields. Likewise it is logical that when others need health information from the community as part of their own research project they should look to general practitioners for co-operation.

8 Ethics

We acknowledge the Declaration of Helsinki II, and as individual researchers respect our nationally accepted medical ethics and laws relating to data protection.

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PRACTICE MANAGEMENT SECTION

Practice Management

DR L G GOH MMed (Int Med),

INTRODUCTION

"Management" in the practice setting is quite new; the value of it only becomes obvious when practices expand in size and organisation and co-ordination of work become necessary for the clinic to function as a whole.

As group practice becomes a more established feature, so will the need for systemic management of the medical practice to become established.

"Muddling through" has been a feature of many practices but many doctors are beginning to realise that this cannot be a satisfactory approach and that there must be a framework for considering objectives, policy and everyday processes of the medical practice.

DEFINITION

One may regard practice management as the creation of an environment where the delivery of **health services** is satisfying to the **patient**, where the staff is motivated to put in their best, where the **doctor(s)** in charge finds the managing experience to satisfying and challenging one and where the **practice** is able to cope with changing needs and technological advances.

In his approach to management it is essential that the doctor(s) should keep an open and enquiring mind, remain sensitive to what is happening round him(them) and preserve empathy with colleagues and patients. He (They) must also develop the ability to measure practice processes, make correct deductions from such observations, and apply appropriate corrections.

SCOPE OF PRACTICE MANAGEMENT

The scope of practice management includes the following components (see Fig 1):

Patient services

Reception, Registration & Appointments; Medical Consultation; Practical procedures and surgery; Dispensing,

General Administration

Operating Policies; Evaluation of Operating Policies; Day-to-day administration; Communications; Problem solving; Management of change; Forward planning

- Operating policies should be defined and made clear that everybody is expected to be conversant with them and be expected to adhere to them. Such policies may have to be reviewed and evaluated from time to time as changes in operations take place. Any changes should be formally announced to all staff.
- Communications in a practice are central to good management; they are of different kinds and between different people. They can transmit knowledge, skills or policy decisions, and can be between peers or between those in authoritative and subordinate positions. Many practice management problems stem from the breakdown of communications. Proper channels of communications must be established; steps to ensure information is transmitted accurately must also be present.
- Problem solving is an integral part of management. It may be the breakdown of the appointment system or the failure of staff to comply to a system of operations. A systematic approach is central to successful problem solving: the problem must first be stated; then it should be defined before solutions are proposed and examined; and out of these one solution is decided; and finally, once decision has been made steps at implementation must be started.
- Change will invariably take place and change must be properly managed. Staff must be informed of why there is a need to change, what the change entails and how it is to be implemented; anxiety, insecurity and misunderstanding must be handled well if change is not to be disruptive.

Medical Records & Information System

Medical Records — objects or record keeping, methods of storage, access and confidentiality, problem orientated recording, computerisation and record linkage;

Information System — Maintenance Services Information, Suppliers Information, Services Information, Professional Information;

New Country Clinic, Blk. 201 Hougang St 21 #01-15, Singapore 1953.

R & D and Maintenance System

- Efforts must be made to keep up with changing trends in public ideas towards health services and medical technology. Only then can one competently advise our patients. Indeed, some more educated patients may ask you to comment on what has been written in the papers about topics on health matters. A dossier of such articles and relevant comments must be kept.
- Apart from this is research into one's work in the clinic. Were the referrals necessary? What were the outcome? What were the results of a formal induction programme of new nurses? Such questions provide the enquiring mind a stimulation that will change general practice from a mundane drudgery into something more challenging and more meaningful.
- A maintenance system is necessary if the clinic is to continue to be presentable and pleasing to the eye. Many have failed to see the need to do so. The result is that after some years of practice the clinic premises become an eyesore: seats are no more comfortable, chairs are falling apart, paints flake off the walls and the atmosphere is one of dilapidation. Indeed one wonders if the doctors practising in such practises are also mentally dilapidated as well. A good maintenance system will ensure your clinic look as good as the day you set it up.

Premises, Drugs & Equipment Management

Usage of premises — accommodation & design;

Drugs — types and quantity to stock;

equipment — medical, communications and other office equipment, fixtures and furnishings.

Staff Management

Terms of Service; Salary & Rewards; Training, Motivation;

- It is now being realised that staff is an important resource that must be nurtured and developed. Expectations of each staff must be made explicit. Attention and effort must be given to the training and development of each staff. Perhaps the most important part of training is the induction training. In this context, the practice of training by "sitting with Nellie" or "throwing one in at the deep end" cannot be

expected to produce consistently well-trained staff.

Financial Management

Accounting Policies Billing; Financial Control; Inventory Control

- A knowledge of the rudiments of financial control will stand one in good stead. Where the bulk of the practice is contract practice with medical bills paid by the company, an efficient billing system is mandatory. This is one area where computerisation can make a big difference in efficiency.

In the single practice the doctor may well have to handle all these aspects of practice management. In a larger practice, some division of labour usually take place.

MEETING PATIENT NEEDS

The patient population is not homogeneous and some segmentation of the practice population provides a means for identifying and meeting their special needs. The chief segments in a general practice include some of all of the following, with varying emphasis from one practice to another.

- * Child Care
- * Antenatal Care
- * Adult Care
- * Care of chronic conditions
- * Industrial Medicine
- * Traumatic Injuries
- * Geriatric Care
- * Screening & Check-ups

There must be adequate organisation of services, equipment books & support material for each segment.

THE DOCTOR AS GENERAL MANAGER

Whether the practice is well run or not depends on the doctor in charge. It is therefore important that one think of himself as a general manager of his practice. Only then can he have the right approach and attitude in carrying out the tasks of managing.

A manager has the following roles to play: (1) Leadership (2) Organisation (3) Direction (4) Delegation (5) Motivation and (6) Control. There are two fundamental aphorisms that he must subscribe to: (1) The manager is one who gets work done through others, and (2) For the manager, the buck stops in his hands.

In the clinic context the following are aspects that I view to be of special relevance towards effective management:

- * Self Management & Personal Decorum
- * Interpersonal Policies
- * Decision Making
- * Meetings & Information sharing
- * Delegation

Self Management & Personal Decorum

If a doctor is disorganised in his personal life then it is likely that his practice will also be disorganised unless he is fortunate enough to have a partner willing to organize it for him.

Simple matters, such as being punctual for appointments, courteous and considerate to the staff and honest in one's affairs, are all very obvious ways in which a practice can be encouraged to run smoothly.

Interpersonal Policies

- * Vital Rules
 - * Management of Change
 - * Communications
 - * Involvement
- Within an organisation involving a number of people, there must be rules to govern the actions of those concerned. However, the first rule is that rules should be clear, concise and as few as possible. In addition, all staff should have the rules of the practice explained to them when they are employed and then any fresh rules discussed with those who will have to operate within them.
- Any changes which are to take place in the practice should be introduced gradually with the full knowledge and understanding of those involved. For example, if it is decided to go over to a new system of records then the staff must understand the system and why the change is being implemented. Suddenly to impose something fresh upon the practice without explanation is to invite disaster!
- The more approachable a doctor is the better he will relate to his patients and staff. Misunderstanding and resentment build up in a situation where staff feel unable to discuss a problem freely.
- All the partners of the practice should be

seen by the staff to be involved and interested in what happens within the practice setting.

- It is the responsibility of the doctors to know all their staff well, including their strengths, weaknesses and any personal details in their life which might affect their work within the practice.

Decision making

Everyone must be clear who is responsible for taking the decision and seeing that it is carried out so as to avoid non action because each assumes that someone else is doing it.

Important decisions affecting the practice should be made at the partnership meetings where the issues can be discussed in full. Minutes should always be kept and an agenda produced for each meeting. After a decision has been made the action to be taken should be indicated in the minutes together with the name of the person responsible for carrying out the decision.

When decisions affect the staff they should also be involved in contributing to that decision.

Once an issue has been raised by the staff or a problem has been developed for whatever reason, a decision on that issue should be made as soon as possible. An urgent situation will require a special meeting to be convened to solve the difficulty rather than letting it wait until the next routine meeting of those concerned. The delay in making a decision and relaying its consequences should be kept to an absolute minimum.

Meetings and information-sharing

All partnerships, irrespective of size must have regular meetings for which an agenda is composed and minutes kept. The larger the practice the less likely all the partners are to meet frequently to keep up informal contact, and the more important it is to have a regular organised meeting.

Delegation

If one analyses the work that is being done it is common to find many jobs which could easily be undertaken by a less qualified person than the doctor. Administrative examples of this include completing forms or working out the staff pay. Clinical examples include dressing of varicose ulcers.

Never do anything yourself which could just as easily be done by someone else, is a good principle and the mainstay of delegation in practice. The only proviso, of course, is that the person to whom the task is delegated must be competent to perform

that task, trained to do it, and understand what is expected to him or her.

If the principle of delegation is applied, then individual members of staff will obtain greater job satisfaction from the extensions of responsibility, and the doctor will free time for seeing more patients or for spending more time with the patients he sees.

A COMPUTER IN THE PRACTICE

It is likely that the computer will soon be an established piece of equipment in the clinic.

Clinic applications

In terms of applications, the following forms the approximate order of priority or usefulness:

- * Patient master index file
- * Billing and accounting especially in a group contract practice
- * Drug inventory record keeping
- * Wordprocessing
- * Storage of useful medical information
- * Small Research Projects

Medical record keeping and prescription writing on line are not impossible, although three bugbears remain: (1) getting the doctor to use the keyboard (2) getting a standardised format for the records that doctors will use and (3) the large electronic storage space that can be cheaply provided (A small practice may need 30 mega upwards of storage space if it were to store medical records.)

Computer systems

Computers can range from microcomputers to mainframes (see fig 2). It is likely that clinics can only support microcomputers. These are easy to operate and require minimum electronic house-keeping.

Microcomputers can be single user or multi-user. Single user computers have the limitation that only one person can use the system at a time. Also the information cannot be shared.

Multi-user computers allow more than one user to use the system at the same time. Also there can be sharing of data and programmes. Because many users may be using the system, the secondary storage space must be extensive. It is likely that single user computers will give way to multi-user systems in the clinic context.

Fig 3 shows one possible configuration of a multi-user system based on a super-micro system called the "Molecular" computer system used in a clinic context; the system analysis working on

this system are actively developing software applications to suit medical practice locally. From what they have done so far it does look a promising system.

Further Reading

- * The Practice in The Future General Practitioner (1972) by A working party of the Royal College of General practitioners pg 199-216.
- * Bolden KJ. The general practitioner as manager. Update (1984) 28:4 pg 473-484

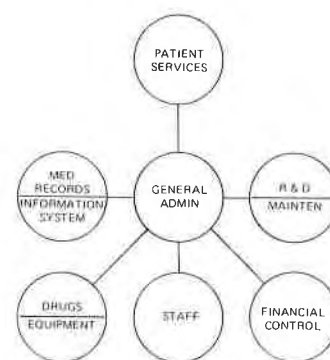


FIG 1 SCOPE OF PRACTICE MANAGEMENT

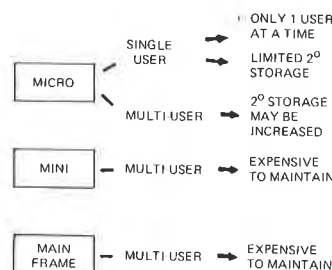


FIG 2 COMPUTER SYSTEMS

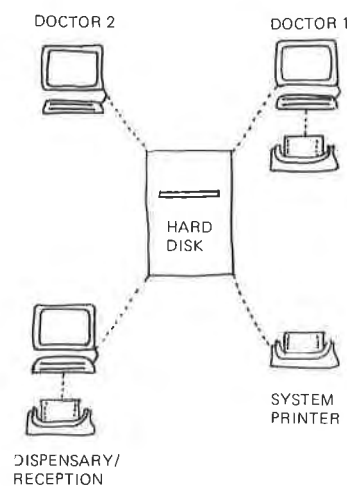


FIG 3 A MULTI-USER COMPUTER SYSTEM FOR A CLINIC

Book Reviews

DOCTORS TALKING TO PATIENTS

by Drs Patrick S. Byrne and Barrie E.L. Long.

Published by The Royal College of General Practitioners.

Talking and listening to patients in general practice is a totally different proposition from interviewing and taking a clinical history from a patient in the hospital setting. The consulting style in general practice requires certain skills and attitudes which are unfortunately not taught in medical school.

More often than not, the consulting behaviour of a doctor is the product of his training in the hospital — doctors, as Drs Patrick Byrne and Barrie Long aptly commented, are both the product and the prisoner of their medical education. Unfortunately, such consulting styles are inappropriate in general practice where the problems are often open ended and where the doctors have to manage psychosocial problems or to deal with the emotional undercurrents of an organic disorder.

This is a book which I highly recommend to any general practitioner who wants to learn the art of consulting in general practice. It is the end-product of two and a half years of research into the verbal behaviour of general practitioners in their surgeries, on their rounds and at the bedside of their patients. The work involved 2,500 patients together with 60 doctors from U.K., 5 Dutch doctors, and 6 Irish doctors. Some 17 New Zealand doctors and 15 Australian doctors were subjected to a variety of tests to develop new learning objectives which formed the second part of the research.

The work of Byrne and Long is indeed a benchmark in research in general practice. They have dissected and analysed the consultation conducted in the general practitioner's clinic. Their anatomy of the G.P. consultation is truly invaluable to all teachers in general practice.

Besides the most enlightening analysis of the minutiae of the consultation, the researchers have also identified different types of consulting styles as well as the various forms of negative behaviours by the doctor which adversely affect the outcome of the consultation.

They have also utilised the research to develop a training tool which can be used by any doctor to provide himself with feedback to facilitate self learning of new consulting styles.

Dr. Pereira Gray, in the Preface of the book,

predicted that *Doctors Talking to Patients* will be an important stimulus to general practitioners to use tape recorders to look at their own consultations. He felt that many have learnt quite dramatic new facts about their consultation techniques and that few who had done have failed to benefit.

Michael Balint found that it was not only the bottle of medicine or the box of pills that matter, but the way the doctor gave them to his patient. Indeed, it is the consulting style of the general practitioner that determines the effectiveness of his treatment. In this respect, the book fills a vacuum in our present knowledge about general practice.

Patrick Kee

THE INFLUENCE OF TRAINERS ON TRAINEES IN GENERAL PRACTICE OCCASIONAL PAPER 21

Royal College of General Practitioners

Doctors interested in vocational training should not miss this important paper published by the RCGP. Of the 4 authors, 3 are from the University of Manchester (James Freeman, David Metcalfe & Valerie Hillier). The 4th author is James Roberts, the Regional Adviser in General Practice, North Western Region, UK.

A number of important questions are answered from the findings of these authors. These questions are vital to vocational training.

In this study MCQ scores are taken to assess core knowledge. MEQ scores on the other hand, are tests of skill.

Does vocational training influence the MCQ scores of trainees after their training?

Are teachers' MCQ scores higher than their trainees' at the outset of the training course?

After their vocational training course do the trainees' MCQ scores match those of their trainers?

Is there a significant difference between trainees' pre-vocational MEQ scores and their post-vocational MEQ scores?

Do the trainees' post-course MEQ scores match those of their teachers?

Are the trainees' MEQ increase greater than their MCQ increase?

Apart from answering the above questions, the findings indicate that the MCQ scores of teachers have a positive relationship with the changes in MCQ scores of trainees before the course and after the course. They imply that there is an important "teacher-influence" on the trainees' performance irrespective of their levels on admission to the course.

Again the MEQ scores of teachers have a positive relationship with the changes in MEQ scores of trainees before and after the course.

These positive effects mean that teachers' MCQ and MEQ scores provide good bases for their selection as teachers in the vocational training of future GPs. Apart from MCQ and MEQ scores other positive factors are:— experience of teaching general educational activities, membership of professional and educational organizations, enthusiasm for teaching and the organization of teaching.

The assessment procedures employed by this study include the following:—

- * Tests of knowledge (MCQ)
- * Tests of skill (MEQ)
- * Tests of intelligence, ability, aptitude and personality
- * Self-rating by trainees of their attitudes
- * Course work assessment (ratings for each student by the consultants & GP teachers during the 3 year period of training)
- * Pre-course questionnaire reports by the trainees
- * Post-course questionnaire reports by the trainees
- * Interviews and group discussions with the trainees
- * Questionnaire reports by the teachers
- * Interviews and group discussions with the teachers.

Are all these tests necessary in the evaluation of the benefits of vocational training? The short and sweet answer is an unequivocal YES. Anything less would certainly not do justice to the course, the trainers and the trainees. Evaluation based on the results of a single set of "forced-choice" questions obtained from only the trainees cannot claim much validity and credibility.

Under "Results & Discussion" the authors touched upon the psychology of learning and teaching which no GP teachers should miss. The advantages and disadvantages of the one trainee to one trainer attachment method are discussed. Students' preferences for certain types of teaching methods and approach are related to their personal qualities. Some prefer tutorial teaching and seminars rather than lectures.

Another valuable area of discussion covered by the authors are the variables (teaching practices and teacher qualities) influencing trainee learning and performance. These include the standards of record keeping, practice facilities in terms of rooms and equipment, levels of morbidity and the ready availability of books and journals for reference. The variables among teachers include their experience in teaching, their continued participation in CME, membership of professional and educational organizations, postgraduate qualifications and enthusiasm for teaching and the way they plan their teaching sessions.

The authors must be congratulated on the production of an important document which no academic administrator or GP teacher can ignore or do without.

VC

News from the Council

1. COLLEGE EXAMINATION

The Eleventh College Examination leading to the Diplomate Membership will be held on:

Sunday, 28 October 1984	— Theory
Sunday, 4 November 1984	— Clinicals.

Ten candidates have registered to take the examination.

2. SREENIVASAN ORATION

The Seventh Sreenivasan Oration will be held at the Hilton International Singapore, on Sunday, 11 November 1984.

3. MINOR SPECIALTIES UPDATE

The Continuing Medical Education Committee of the College is organising the above course which is scheduled to commence on Friday, 29 June 1984. The programme is as follows:

Theory Sessions on Friday evenings from 9.00 – 10.30 p.m.

Date	Topic	Lecturer
29.6.84	Eczema	Dr Giam Yoke Chin M Med (Paed)
6.7.84	Papillo-Squamous Dermatitis	Dr Goh Chee Leok M Med (Int Med), MRCP(UK)
13.7.84	Sexually transmitted diseases	Dr T Thirumoorthy MRCP(UK), Dip. Venereo (London)
20.7.84	Ophthalmology I 9.00 – 9.30 p.m. Introductory remarks	Dr Arthur S M Lim FRCS(Eng), FRACS, FRACO, DO(Lond)
	Common Eye Conditions	Dr Khoo Chong Yew FRCS(Edin), DO(Dublin)
	9.30 – 9.45 p.m. — Discussion	
	9.45 – 10.15 p.m. Ocular Emergency	Dr Victor Yong FRCS(Edin)
	10.15 – 10.30 p.m. — Discussion	
27.7.84	Ophthalmology II 9.00 – 9.30 p.m. Ocular signs and symptoms in systemic diseases	Dr Ang Beng Chong FRACS
	9.30 – 9.45 p.m. — Discussion	
	9.45 – 10.15 p.m. Major Blinding Conditions and Recent Advances in Ophthalmology	Dr Arthur S M Lim FRCS(Eng), FRACS FRACO, DO(Lond)
	10.15 – 10.30 p.m. — Discussion	
3.8.84	Discharging Ears and Epistaxis	Dr K A Abraham FRCS, FICS
10.8.84	Scope & limitation of C.A.T. Scan	Dr Kho Kwang Mui MBBS, DMRD(Lond)
	Medical Application & Limitation of Ultra Sound	Dr Pauline Lui MBBS, DMRD(Lond), FRCR(UK)
17.8.84	Selection & interpretation of diagnostic biochemical tests	Dr Seet Ai Mee B Sc(Hons), Ph D

Clinical Sessions on Sunday afternoons from 2.30 – 4.30 p.m.

CLINICAL SESSIONS

Date	Topic	Lecturer	Venue
8.7.84	Dermatology – Case Demonstrations	Dr Giam Yoke Chin	Middle Road Hospital
15.7.84	Sexually transmitted diseases – Case demonstrations	Dr T Thirumorthy	– do –
5.8.84	ENT Diseases – Case Demonstrations	Dr K A Abraham	ENT Department Tan Tock Seng Hosp.

4. NEW MEMBERS

The following have been accepted by Council into membership of the College during April/June 1984:

Dr Chan Cheow Ju	— Associate Membership
Dr Hoo Kai Meng	— do —
Dr Lim Sheuh Li, Selina	— do —
Dr Sim Li Yin, Deborah	— do —
Dr Viegas, Claire Maria	— do —

We welcome them to the College and hope they will participate fully in all activities of the College.

Galloway Memorial Lectureship 1984

Applications are invited for the Galloway Memorial Lecture to be delivered in Singapore. The lecture must be of original work. Work done for a higher degree or work previously published is not acceptable unless expanded upon.

The lecture must be of a single authorship with appropriate acknowledgement. Clinical and/or scientific papers are preferred, especially those which contribute to new knowledge.

Applicants must submit their personal curriculum vitae, the summary of the lecture (*from 1000 to 1500 words*), the objectives, method of study and the results or conclusion. Phrases like "*results will be discussed*" are to be avoided.

Applicants need not be members of the Academy of Medicine and include all practitioners of medicine and its allied sciences.

Selection of the lecturer will be done by the Council of the Academy of Medicine on the recommendation of the Board of Censors.

The honorarium of the lecture shall be S\$300.00

The Academy reserves the right to publish the lecture in full in the Annals of the Academy of Medicine, Singapore.

Applications should be sent to :

The Scribe
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4-A College Road
Singapore 0316

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Important notice

The World Health Organization (WHO)* has recommended that pregnant women and new mothers be informed of the benefits and superiority of breastfeeding. Mothers should be given guidance on the preparation for, and maintenance of, lactation, the importance of good maternal nutrition and the difficulty of reversing a decision not to initiate, or to discontinue, breastfeeding. Before using an infant formula, mothers should be advised of the social and financial

implications of that decision and the importance for the health of the infant of using the formula correctly. Unnecessary introduction of supplements including partial bottle feeding, should be avoided because of the potentially negative effect on breastfeeding.*

* WHO - International Code of Marketing of Breast Milk Substitutes, WHA 34.22, May 1981.

An update



VOLTAREN INJECTION

is more than just a good
antirheumatic

IN RENAL COLIC

Voltaren injection

A comparison with morphine/spasmolytic combination

- significantly more effective and has fewer side effects¹
- no risk of addiction

Efficacy

Partial or complete relief of pain within 30 minutes of injection¹

Voltaren Injection	% of patient	91%
Morphine/Spasmolytic	% of patient	62%

IN TRAUMATIC PAIN

Voltaren injection

A comparison with dipyrone

- as effective as dipyrone but significantly better tolerated²
- has no effect on the organs of haemopoiesis³

Efficacy

Severity of pain before and after treatment²

Percentage of patient in V (Voltaren Group) and D (Dipyrone Group)	Before treatment		After 30 min.		After 4 hrs.	
	V	D	V	D	V	D
No pain			3	8	46	50
Slight			26	27	37	36
Moderate	17	21	40	38	14	12
Severe	52	48	25	21	2	2
Very Severe	31	31	6	6	1	—

¹ Sven O.A. Lundslam; Lars A. Wahlander; Karl-Henrik Leissner; John G. Kral: Prostaglandin synthetase inhibition with diclofenac sodium in treatment of renal colic: comparison with use of a narcotic analgesic: The Lancet, May 15, 1982; 1096-97

² A Folha Med 79 (5) 371-76, Nov. 1979: A comparison of the analgesic activity of diclofenac sodium with that of dipyrone in pain following trauma.

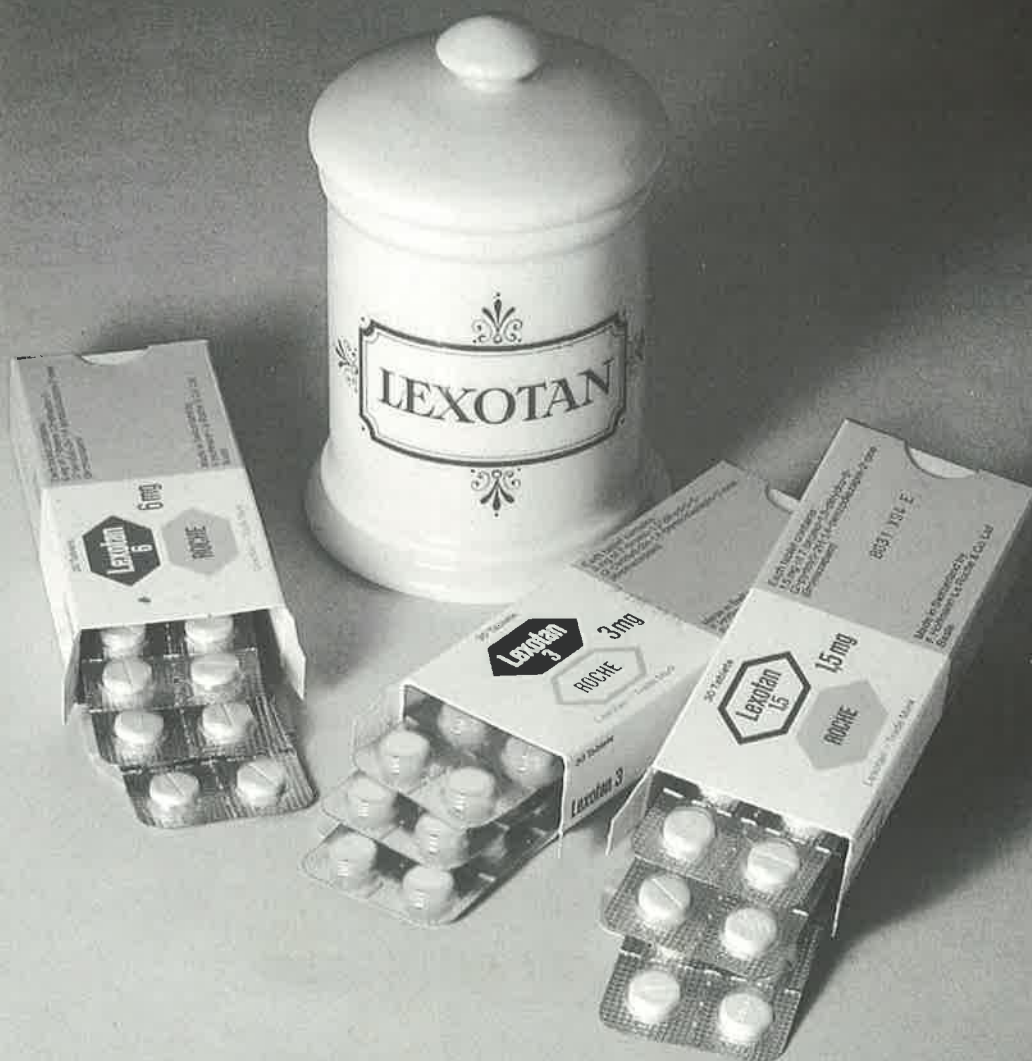
³ Miura, T. Long term tolerability study of diclofenac sodium. J. Int. Med. Res. 3, 145 (1975)

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Dosage

Average dose for outpatient therapy: 1.5-3 mg three times daily.

Severe cases, especially in hospital: 6-12 mg two or three times daily.

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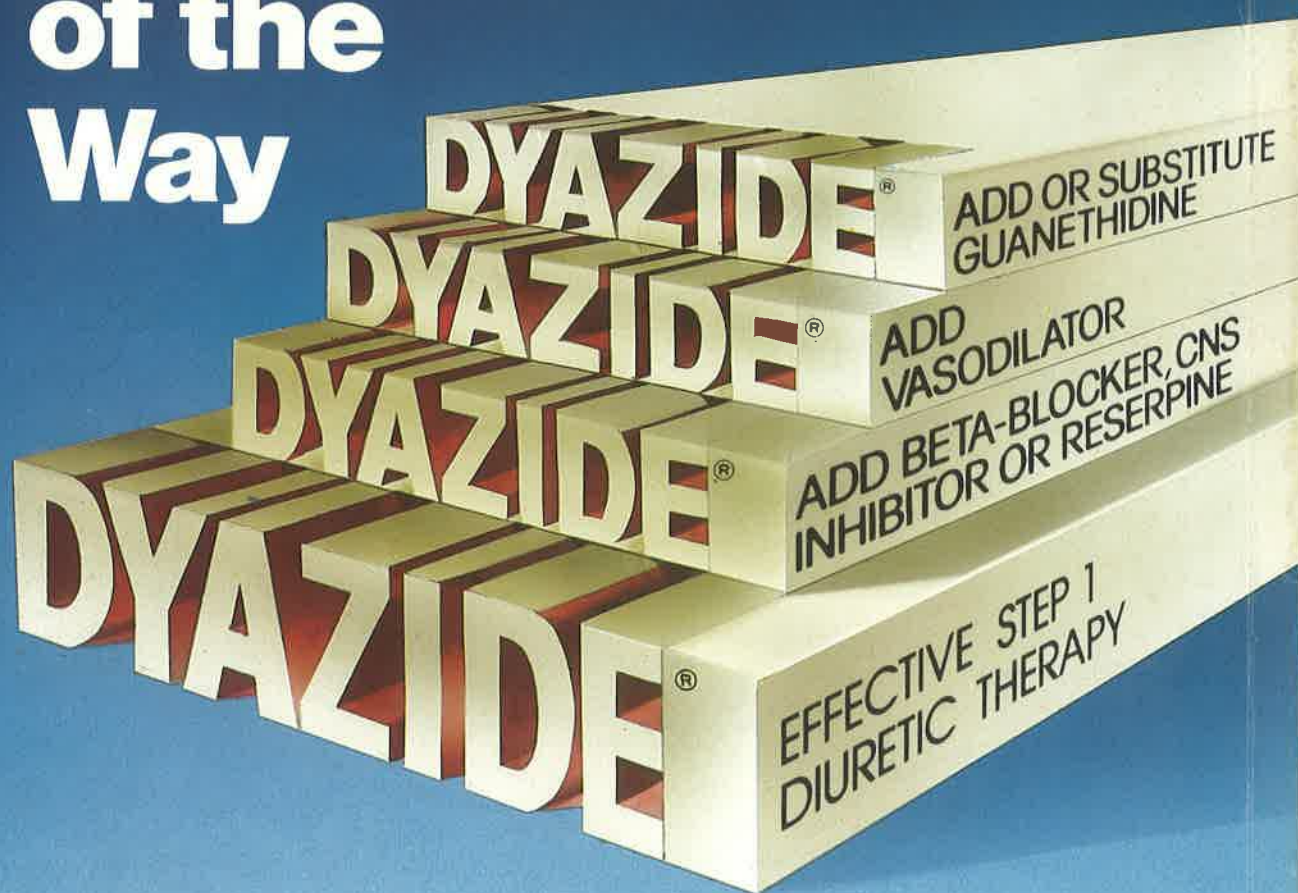
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