

# The Singapore Family Physician



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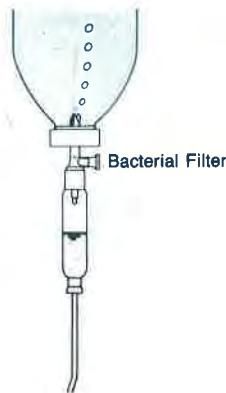
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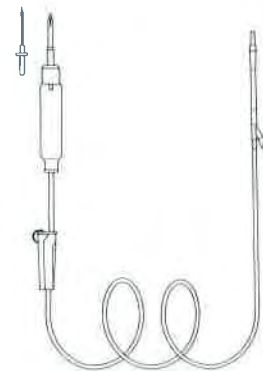
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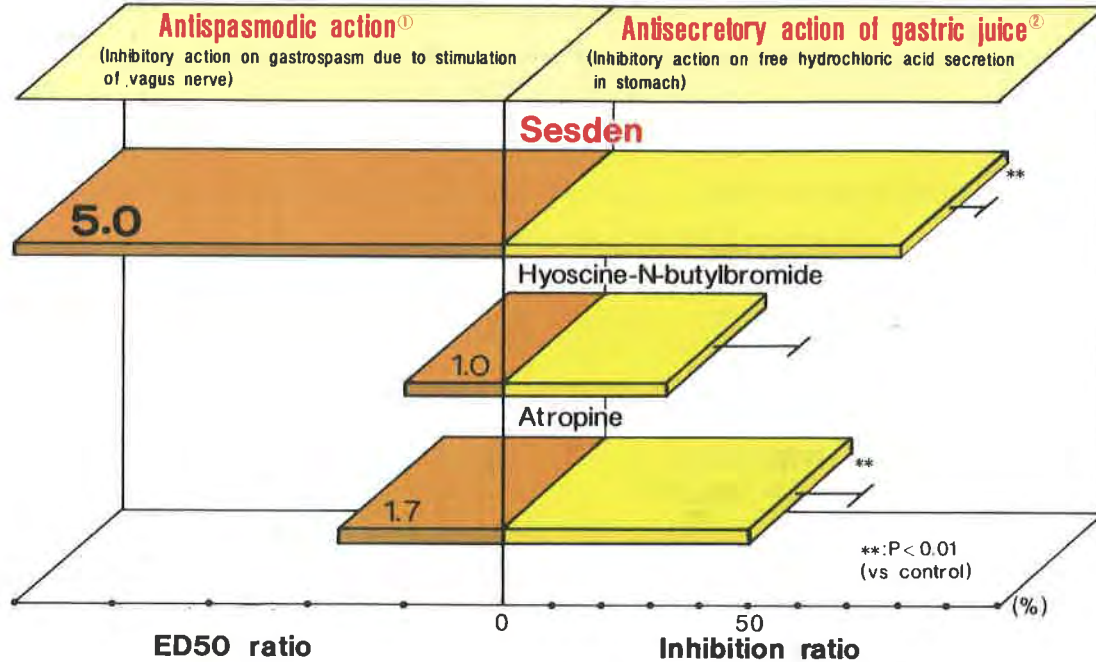
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## **CME LOCAL NETWORKS FOR THE 1990's**

### **CURRENT SITUATION**

Continuing medical education (CME) to enhance the competence and performance of doctors and thereby improve patient care has traditionally been part of the medical profession's conscience. Our College has organised CME programmes since its founding in 1971. Voluntary CME with accreditation by the Singapore Medical Council started in 1988. Currently there is a plethora of accredited CME activities in Singapore. The Singapore Medical Association CME news bulletin currently lists over 100 accredited activities in any one month; many more CME activities are unlisted. However not all is well with CME for general practitioners (GPs) in Singapore. In 1989 GP attendances at centrally organised College CME programmes have been declining. Is the declining trend due to the surfeit from the plethora of unco-ordinated non-GP initiated CME activities organised by specialist hospital departments, specialists societies and pharmaceutical firms competing for the busy practitioners' time? In any case, are the CME needs of our GPs being met, and how can CME be made more valid and relevant for the 1990s? There is a need for formulation of strategies for the 1990s, and effective deployment of our educational resources.

### **SWOT APPRAISAL**

A SWOT appraisal helps to clarify our current situation in Singapore:

**STRENGTHS:** We already have a heightened CME consciousness in recent years. There is also no lack of enthusiasm among local teachers, judging by the numbers of activities organised.

**WEAKNESSES:** Current CME programmes may not be addressing the needs of practitioners, as there is little input from grassroots practitioners in the design of CME programmes, and a lack of co-ordination of CME activities organised by various bodies.

**OPPORTUNITIES:** There are opportunities to harness our strengths to meet the CME needs of the practitioners, and thereby improve patient care, job satisfaction, and the image of our vocation.

**THREATS:** Given the status quo, GPs would increasingly be overwhelmed in this age of high technology medicine. Indeed about 40% of the respondents in a 1988 survey of Singapore GPs admitted not being able to keep up to date with relevant literature;<sup>1</sup> this is a reflection of their problems and a need for better strategies to cope with CME.

### **TOWARDS EFFECTIVE CME**

The recent WONCA regional conference (Bali, 1990) in a workshop on "Strategies in CME" recommended that "CME should be made relevant, accessible and feasible for all GPs, who should be involved in the planning and review of the programme. There is a need to develop valid contents and methods in CME. Quality assurance in CME is important so that it can actually improve patient care."

A recent CME workshop for educators (Kuala Lumpur, 1990) emphasised systematic planning involving the stages of problem identification, needs assessment, programme development, implementation and evaluation. The characteristics of the busy practitioner as an 'adult learner' were high-lighted: he enjoys discovery and problem based learning, values relevance to his daily work, asks questions and seeks answers, bring in much experience from his daily work, appreciates opportunities to interact with peers, learns better with reinforcement by peers and enhanced with feedback, and seeks opportunities to apply new learning.

A system of CME for the busy practitioner therefore should be convenient, focus on his daily problems, and be integrated into his working lifestyle so to maximise the limited amount of free time.

The 1988 survey of Singapore GPs showed that 49% of our GPs found self study through journal reading to be useful.<sup>1</sup> A 1988 survey of Malaysian practitioners showed that over 80% of doctors preferred a mixture of self and group type activities, with the emphasis on more self learning and some form of group learning which could fit into their schedules; group type activities, such as clinical rounds, case presentations and informal small group discussions were specifically noted to be useful by about 45% of respondents and were recommended by the researcher as having the potential to become powerful networks of CME activities at the local level.<sup>2</sup>

### **CME NETWORKING**

CME networking involving small groups of GPs in a local vicinity can match the needs of the busy practitioner as this can provide CME efforts with convenience, peer group interaction, active participation, problem focused learning, relevance to daily practice and better control over the content, methods and pace of learning.

Many recent publications by concerned GPs and educators in Malaysia,<sup>2</sup> Australia,<sup>3</sup> and the United Kingdom<sup>4,5</sup> recommend emphasis on locally organised activities. In the United States, CME services have even been started to help individual or small group practitioners develop their own accredited CME programmes.<sup>6</sup>

In Singapore, a local network involving a drainage hospital, a polyclinic and the area GPs as a unit for planning and implementing CME programmes has been raised by Goh in 1987.<sup>7</sup> GPs in small groups have actually been holding practice discussions and small group journal clubs, some even with specialists resource persons. The time has come for a concerted effort to promote many more such groups on an area basis and ensure effective planning, implementation and evaluation of such small group CME activities to meet the individual needs of the busy practitioner. Given the right impetus and environment GPs can get together in groups of 8-10 to actively identify their deficiencies and perceived needs, formulate their own CME programmes and participate actively in their own small group discussions.

### **IMPLEMENTING CME LOCAL NETWORKS**

#### **Manpower**

There will be a need for leaders in

decentralised programmes. Established GPs, College council and committee office bearers, university academics, enthusiastic young GPs, and GPs most critical of current CME programmes can well take up the challenge to make CME more relevant to our needs by leading small group discussions. There will be a need for guidance from experienced CME organisers like the College; better still College could provide group forming initiators, CME facilitators and administrative support. Specialists may be enlisted as resource persons for individual sessions.

### **Methods and Materials/Resources**

The GP groups will first need to get together to identify their needs, set short and long term objectives, mark out a feasible pattern of work for the short and long term, identify specific content areas, identify a combination of learning methods to supplement some degree of self directed learning, carry out their initial plans, review and evaluate achievements and improve on the original plans. This should all be quite feasible with the combined experience and efforts of CME facilitators and all participants. Useful initial pointers can be found in papers by Goh<sup>1,7</sup> and Shahabudin.<sup>2</sup> Subsequently, exchange of experiences amongst our local groups and possibly even with Malaysian GPs who are actively looking at this strategy would be useful. The traditional methods of literature reading, lectures, group discussions, practice rounds and case conferences, clinical attachments or hospital round attendances, conventions and symposiums, contacts with referral consultants and contacts with sales representatives are all relevant in group as well as individual learning. Individual GPs can share their experiences from practice cases, consultant and pharmaceutical representatives contacts, and hospital observations. Group sessions can include a combination of journal reading, lectures from invited specialists, practice case presentations, and hospital clinical rounds. The groups can then further give their inputs for the organisation of regional CME programmes and national-wide CME programmes. There will thus be a nation-wide network of local and regional CME units.

As the local groups link into regional units, more costly learning resources may be feasible, like regional journal, audiotape and video libraries, and even computerised medical databases, which can be based in large clinics

like the primary health care polyclinics.

### **Money**

Local units of CME can run on very low costs as members put in their own administrative services. Costs for educational materials like journals and tapes can be shared; group initiated hospital rounds can be an effective strategy against the rising fees charged for some hospital initiated courses.

### **Meeting the CME challenges of the 1990s**

In reviewing the CME situation in the UK in the '80s, Forrest stated that "the overwhelming priority in CME for the GP is to create a structure at regional and district levels which encourages and supports diversity of provision and maximises the involvement of practitioners".<sup>4</sup> The Singapore equivalent is to encourage the growth of local units and linking their activities into regional networks and the existing national infrastructure for CME. The success of such a strategy would depend largely on active participation by individual practitioners, and support from the College and all

bodies interested in upgrading the quality of general practice. The dividends are in better patient care, professional satisfaction, improved professional camaraderie and an improved image of the general practitioner.

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## CONTINUING CARE: AN IMPORTANT TENET IN GENERAL PRACTICE

### INTRODUCTION

The general practitioner has been described as a doctor who provides personal, primary and continuing medical care to individuals and families.<sup>1</sup>

The term "CONTINUING CARE" applies to the care of patient with chronic problems which require regular monitoring and/or treatment in addition to those acute problems which need review on one or more Occasions.<sup>2</sup> Continuing care is therefore the antitheses of episodic acute medicine. The need for this type of care will increase with an increase in the ageing population like Singapore.

The term must not be confused with "CONTINUITY OF CARE" which implies personal medical care in the sense that a patient normally sees the same doctor who may or may not be skilled at continuing care. The patient may see the same doctor episodically for acute problems and sporadically for his chronic problems: there can be continuity of care without continuing care.

### IS IT IMPORTANT?

Yes. Think of diabetes mellitus or hypertension. The case for continuing care includes for prevention of acute and long term complications, early treatment of complications, opportunities for patient education and cost savings. Of the top ten causes of death in Singapore, in at least 3 (cardiovascular disease, stroke and diabetes mellitus) continuing care is a necessary strategy to reduce their impact on mortality and morbidity.

### WHAT ARE THE DIFFICULTIES?

Hasler and Schofield<sup>3</sup> in their book on continuing care describe the difficulties that general practitioners may encounter. The realisation of these is the first step towards better

continuing care. The difficulties are multi-factorial:

- (1) The **education** that we receive as medical students and young doctors does not equip us to deal with continuing care.

McCormick points out in his book, *The doctor - father figure or plumber*, that the strength of academic departments in clinical subjects has been the rigorous application of scientific method to the diagnosis and management of disease. This has encouraged a mechanistic approach and has tended to undervalue other areas that are less easily measured. Yet some of the most fundamental aspects of caring for patients with long-term problems are to do with the relationship between the doctor and patient, particularly in the field of therapy. The scientific physician if concerned mainly with diagnosis and investigation tends to see his role within relatively narrow confines. Those fields where no cure is possible, but only support, tend to become comparatively neglected. The mode of training and emphasis may then explain why we seem to be better at coping with acute problems, whether major or self-limiting, rather than the longer term ones where much of the care is not to do primarily with science but more with support.

- (2) The **patient** may also be a problem.

- (a) Much of the care of the long-term problems involves prescribing drugs or a different way of life. It is known that many patients fail to take their pills either according to instructions or at all, and there is evidence which shows that certain factors positively influence compliance.<sup>4,5</sup>

- (b) The patient may also not be aware of

the need for follow up.

- (3) **Organisational factors** in health care delivery are further problems that have to be overcome.
- (a) Continuing care requires a system where there is co-ordination and sharing of work between a primary (general practice) and a secondary (specialist) service. What would seem most appropriate for the specialist service is for the consultant to be consulted for the more difficult problems of diagnosis or management leaving the routine management to the family doctor who should relieve some of the pressure on hospital outpatient clinics leaving the consultant more time for a smaller number of patients, who need expertise that the general practitioner does not possess. Problems of referral will be addressed in the workshop exercises in this session.
- (b) The GP's practice may not be geared. He needs tools, methods and skills to conduct effective continuing care. These will be discussed later.
- (c) The current trend of group practice replacing single-handed practices introduce problems of continuity of care. This has to be overcome with attention to informational sharing and the individual doctor's commitment to make it predictable where he will be so that his patients can find him as far as possible.

#### **HOW CAN CONTINUING CARE BE ENCOURAGED?**

The traditional method to achieve continuing care of chronic conditions or the follow up of acute conditions is to bring the patient back to a special clinic for this purpose. Antenatal care is a well-organised example of structured continuing care involving several professional workers and active patient participation. Hypertension or diabetic control can be organised on an equally structured basis where there is enthusiasm for such methods. There are pros and cons for such an approach. From the patient's side, the timing of the clinic may not suit him. If he has more than one

problem, the number of clinics he has to attend may be a problem.

In the general practice context, it is possible to provide continuing care without running a special clinic if attention is paid to the following three aspects which are based on that described by Nigel Stott.

#### **(1) Think of continuing care**

All consultations involve the patient presenting a problem or a request. Whether the doctor deals with the presenting problem alone or takes the opportunity to review any continuing problems is the basic difference between the episodic doctor and the one who is prepared to consider the need for continuing care in every consultation.

The discipline of applying a conceptual framework to every consultation introduces numerous opportunities for continuing care which are most important for patients who are infrequent attenders at the doctor's surgery and yet have chronic or recurrent conditions. For example, the request for a repeat prescription, the consultation for a sore throat, or the attendance for a minor injury, are all situations which may provide opportunities for continuing care if the patients also have other problems such as squint, developmental delay, hypertension, diabetes, recurrent otitis media, eczema, epilepsy, etc. Even the most informed patients often underestimate the need for periodic review of chronic or relapsing problems and it is incumbent on the clinician to use each contact with the patient for continuing care when this is appropriate.

The practitioner must ask himself at every consultation, "Are there any continuing problems which I should review while the patient is with me?" The answer to this question may be 'yes' or 'no' but if it is ever 'don't know', this indicates a need for examination of those skills and methods which promote continuing care in the practice.

#### **(2) Use of methods which facilitate continuing care**

(a) **Medical records** are the most important tools to ensure satisfactory continuing care because few doctors can remember enough about each of their patients and all doctors sometimes delegate their duties to locums, partners or trainees.

The well-structured, legible and orderly record is an invaluable tool to ensure that important continuing problems are not overlooked. For example, the management of acute tonsillitis will often be modified if the patient is known to be a diabetic, and many patients on hypotensive therapy are seen by doctors for new problems but fail to take the opportunity for a blood pressure review. A summary problem list will ensure that any doctor seeing the patient is in full possession of the basic facts.

The use of simple flow-charts can help to ensure the best possible continuity of care under shared care circumstances. Flow-charts have been used for many years at the Cardiff General Practice Unit to encourage doctors to set therapeutic goals at the time of initial consultation so that nurses, health visitors or other doctors can be quite clear about the primary targets of the responsible physician. Another outstanding example of a flow-chart in general use is the shared care card used in antenatal care and carried by the patient to enhance the co-ordination of care between the various hospital and community based providers of care. Patient held records have also been used in hypertension control.

- (b) Computer recall systems have been used in UK to ensure appropriate follow-up of thyroid patients and to a lesser extent patients with malignancies. These elegant recall systems can be extremely helpful to the clinician who wishes to review his patients at infrequent intervals, but they suffer two disadvantages. First, the patients are required to pay a special visit for review rather than it being part of a routine surgery consultation for some other purpose. Secondly, computer systems are not yet cheap enough. For these reasons the computer systems are likely to remain useful for a limited range of disorders but unlikely to replace the need for constant professional vigilance to work beyond the confines of episodic medicine in a high proportion of patients attending the doctor or nurse in primary care.

### (3) Personal care and interpersonal skills

- (a) Skilled and genuine communication between doctor and patient is an essential feature

of every successful clinical consultation and primary medical care has become a laboratory of research into these processes in recent years. Undergraduate and post-graduate departments of primary medical care now provide opportunities for the teaching and learning of interpersonal interview skills for those who are willing to accept that interviewing is one of the most important of clinical skills.

- (b) The fragmentation of continuing care by increasing specialization and team care does upset many patients and this may be minimized if doctors and nurses are made more aware of the problems felt by patients and are then willing to modify their attitude appropriately. Active listening is essential for effective patient care, including continuing care.
- (c) Dealing with specialist colleagues require the ability to communicate effectively not only about the patient's biomedical problem but also one's insight of the patient's social and psychological background.
- (d) The sharing of continuing care with the specialist requires skills of co-ordination and efforts in keeping communication channels open.
- (e) Health education and counselling skills are often required in helping the patient deal with their chronic problems. They need persuasion, encouragement and motivation at various times to help them along.

## CONCLUSION

The following can be said of continuing care:

- (1) It is an important aspect of the general practitioner's work.
- (2) It is an area where the general practitioner has to teach himself because it tends to be neglected in undergraduate education and hospital medicine.
- (3) It requires tools, methods and skills which help the doctor to conduct effective continuing care.
- (4) It has its returns on investment of time and effort.



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GLG

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## ERRATUM

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The Singapore Family Physician  
Volume XVI No. 3 July/September 1990

### EDITORIAL

Change - Bane or Boon?

Dr Leong Vie-Chung

Page 103 para 8 under the subheading "Lesson", the words "physical changes" in the sentence "The astute physician will always be on the look out for changes in the life of his patients - the physical changes are no less important than the physiological." should read as "psychical changes".

Page 104

"The Book prepares those who accept its truth with these timeless verses-", in the sentence the word "Good" has been left out. The sentence should read as "The Good Book prepares those who accept its truth with these timeless verses:-".

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## THE THIRD ANNUAL SCIENTIFIC CONFERENCE

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### OPENING ADDRESS: REAL EDUCATION

Koh E K\*, MBBS (Sing), FRCGP, FCGPS

Dr Gunnar Teilman once told me, "real education is what is left long after all the facts have been forgotten." I believe this statement deserves close scrutiny and some serious thinking.

What have we retained after all the facts which we have so painfully learnt during our schooldays, have left us? How many of us can still solve Pythagoras's problem or remember some obscure date in Clive's annexation of India?

If we can't, this does not mean our education is a failure if it has inculcated in us certain paramount values - values like an ability to think and do things for ourselves, an enquiring and innovative mind and a sense of duty to both the family and the community.

What about medical education? In five years' time the average medical graduate would have forgotten half the amount of facts he had so laboriously swotted up during his final exams. Of the half that remains in his cranium, another 50% would be out of date and of no relevance to contemporary medical thinking. If he is lucky he is still left with 25% of medical knowledge he can still use.

Has the medical school however imparted to the student values of worth which would not fade nor tarnish with time? These are matters of relevance we have to concern ourselves with.

The College of General Practitioners tries to fill in the gaps in one's medical knowledge by its CME (continuing medical education) programmes. An ignorant doctor is a dangerous doctor.

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\* *President, College of General Practitioners,  
Singapore*

*Opening Address delivered at  
the Third Annual Scientific Conference  
10 November 1990*

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But more important than plugging up holes in one's medical knowledge we try to encourage fundamental values which we believe go up to make the well-educated and rounded doctor. Values which will withstand the rest of time. These values include the ability to see problems in their perspective, an enquiring mind, and perhaps most important of all a dedication to the service and welfare of the patients under our care.

Book knowledge does not constitute everything there is in medical education. Reading recent advances in journals alone does not give that parry and thrust of critical thinking. This can only be gleaned from discussions with fellow colleagues, in medical seminars and in the workshops.

Some medical cynics may say what is there to debate about the common cough and cold? Primary care and family medicine encompass much more than the learning of disease pathology. With every illness there is usually a very worried person. Behind him is a family whose life patterns may have been strewn askew and at the back of it all is the community that either has the will and resources to back them up, or choose to ignore all the problems that have followed the family in its wake.

We need committed doctors in primary care and family medicine. We need doctors with initiative and cognitive skills to recognise not only disease patterns but social and community problems as well. In short we need doctors who are able and willing to care for our people.

To do this we must attract bright young graduates into the field of primary care and family medicine. What have we to offer them? Churchill once offered the English people nothing but "blood, sweat, toil and tears." As the profession stands I am afraid we can offer but little more.

There is no glamour in family medicine and there is even less glitter in primary care. If the family doctor is not to go the way of the extinct species, something must be done now to ensure his continued presence with us in the 21st century. He is an endangered species.

Long hours and low financial recompense saps the spirit of even the most committed practitioner. Primary care doctors in government service must have a career structure to work in. Family doctors must have better and

saner working conditions and here too bodies like the Housing Development Board and the Ministry of Health can give assistance.

If we are to have excellence in the field of primary care and medicine, and there is every reason we should, we must have also doctors of the highest calibre.

This then is the avowed intent of the College of General Practitioners of Singapore.



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## THE THIRD ANNUAL SCIENTIFIC CONFERENCE

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# OPENING ADDRESS: THE FAMILY DOCTOR

Dr Tay Eng Soon\*

### INTRODUCTION

Thank you for inviting me to the opening of your 3rd Annual Scientific Conference. The theme of your conference for this year is "Family Medicine towards the year 2000". The professional and scientific aspects of this important theme will be well covered by expert speakers and panels during the rest of your conference. My task this afternoon is to represent the laymen and to speak to you from their point of view.

### The Family Doctor

Let me say from the outset that my family and I are staunch believers in the idea of a family doctor. Our relationship with our family doctor goes back almost 20 years. Our doctor and her husband who is also our family doctor, have become our close family friends.

The tremendous advantage that we enjoy with such a close relationship is that our doctors know our family medical histories, in the case of our children practically from the time they were born. More than that they know us as whole persons, a knowledge which is indispensable for accurate professional medical judgement.

All I can say about the many people who do not yet have family doctors or who have not established a long term relationship with a general practitioner is that they have lost something. By seeing a different doctor each time or by doctor-hopping during a period of illness, they do not allow a GP to build up a consistent and clear picture of their medical history. Without such a

history, the proper diagnosis of their problem becomes much more difficult. As a result, they will be less than optimally served or worse, pertinent aspects of their family history may be missed or overlooked.

The need for a family doctor becomes especially important when deep seated systemic problems are involved. Hypertension, heart conditions and various forms of cancer if diagnosed early can be successfully treated. A GP who knows his patient over a long period of time has a much better chance of detecting change in the patient and hence can give a more accurate and early diagnosis.

I therefore cannot over-emphasise the importance for every family to establish a long term relationship with a GP or his practice. A good family doctor provides the best first line defence in the health care of the family.

### Doctor hopping instead of Family Doctor

In spite of the advantages, why are people still reluctant to take the concept of the family doctor seriously?

Why do they hop from one doctor to another? Why do they bypass GPs and run straight to a specialist? There are several reasons for this.

Many people who hop from one doctor to another probably have a folk mentality about medicine. If one brew doesn't work, they will try another. If their friends say so-and-so is good because his pills can cure you in 3 days, they will go off to see him.

Since illness is the issue, we can understand their anxiety and urgency. But his kind of behaviour belies a lack of understanding of illness and cure. Perhaps the GP should also carry some of the blame. If a GP does not take time to find

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*\*Senior Minister of State for Education  
Opening Address delivered  
at the 3rd Annual Scientific conference  
of the College of General Practitioners  
at the College of Medicine Building Auditorium  
on Saturday, 20 October 1990 at 2.30 pm*

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out what the patient's anxiety is or does not take the trouble to explain what his illness is and what the prescription is for, we cannot blame the patient if he continues to feel anxious and runs off to another doctor.

Today, as the population becomes better educated, the GP will have to spend more time to explain things to them. This will be more costly on time but the long term benefit is a stable patient-GP relationship - the development of the family doctor.

What about patients who bypass GPs and run straight to a specialist without a GP's referral? Some think that they will save on the GP's consultation. This is false economy.

They are likely to select a wrong specialist and end up being referred from one specialist to another costing them much more in the end, not to mention the serious and dangerous medical penalty of delay.

#### **What can be done?**

In terms of the number of GPs, our population is well-served. We have 1 GP to about 2,400 people, a figure which compares well with developed countries such as the UK. It should therefore be possible for family medicine and practice to develop.

More patient education and rapport building between GP and patient will be needed if the concept of the family doctor is to become a reality.

#### **Public Education**

Patient education will become an important factor in the next decade. Too many of our people still have hazy ideas or worse, outright superstitions about illness and disease. For example, some people will still avoid going for a checkup in case the symptom they have is due to

a cancer. They don't want to know. Then when they are finally forced to seek medical attention, it is often too late. Cancer still strikes such fear in ignorant hearts that they become irrational. On the other hand, early detection offers the best chance to a cure.

This is exactly the message that the MOH's latest campaign against cancer is about. The MOH can and will mount more public education campaigns.

#### **General Practitioner's role in public education**

GPs also have a role to play in preventive medicine. Patients when they seek the help of a GP are at their most vulnerable. For that reason, they are also the most ready to receive advice. The GP's clinic can therefore be an effective channel for preventive medicine.

However, in case anyone feels that this might go against the interest of GPs, let me say that prevention will lead to better medicine. It will release more time ultimately for quality treatment for those who are really ill.

Finally, the changing pattern of disease in our increasingly affluent society, their rising expectations in health care and a slowly ageing population, mean that GPs will have to keep abreast of medical developments. The MOH and your College are playing a valuable role in running updating courses for your members. We enjoy an excellent level of health and health care as a nation.

May I say that as troops on the front line, GPs play the crucial role of primary health care, both in the curative and preventive aspects.

My best wishes to you and your College for the vital role that you are playing.



## GENERAL PRACTICE TOWARDS THE YEAR 2000

Prof JDE Knox

My first duty is to convey to you and the College greetings and good wishes from the President and the RCGP. My second duty is to thank you most sincerely for the honour you have accorded me and, through me, British General Practice by your invitation to give the 1990 Sreenivasan Oration perpetuating the memory of the great man who was the first President of your College.

While I was flattered by your kind gesture, I have to confess that my initial reaction was to pause and reflect. This response was not prompted by modesty or innate Scottish reserve but by a very real awareness that General Practice, unlike most other disciplines in the vast and expanding field of medicine, must reflect something of the character, culture, and above all the health care needs of the people it seeks to serve. Its philosophy is only partly shaped by professional dictate. So, I ask you, what might a practitioner from the insularity of the UK, with its long tradition of family doctoring, the constraints and opportunities of the National Health Service (NHS), with a nominal Christian background and with, what, in political circles, is known as the "Scottish Dimension" (which is another way of expressing a rugged independence) - what could such a doctor possibly contribute that would have any meaning to you here at the cross-roads of the world, to you with a pleuralistic multi-racial society, systems of health care delivery in which market forces operate, to you in a setting with varying traditions of care where the range and nature of health problems are probably significantly different from these in the West?

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Delivered on 10 November 1990 at  
the Third Annual Scientific Conference  
of the College of General Practitioners  
Singapore

*\*Professor of General Practice  
Department of General Practice  
University of Dundee*

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I then recalled a decade of experience of debate with a group of colleagues from 12 different countries in Europe - the so-called "Leeuwenhorst group" (to which I shall refer again) during the 1970s when these and other issues were carefully considered. Rather to our surprise, when this Leeuwenhorst group of GPs had finished re-fighting the Franco-Prussian war, and the East and West Europe conflicts, we found we *could* agree on many fundamental issues. Furthermore, your invitation arrived not long after I had read "Skills and management in Family Medicine" (1988) by a trio of distinguished colleagues here. It was the philosophy underlying the writing of that book which convinced me, rightly or wrongly, that you and I are bound more closely by similarities than we are separated by differences.

I make no apology, therefore, that my contribution should be based on experiences of general practice in the UK during a particularly salient phase of development. I hope that this will be at least intelligible and will stimulate debate on future development of health policy here. Before looking to the future, we need to understand the present - and to understand the present we need to take stock of the past.

### Some Past Events

My starting point is not the foundation of the Royal College of General Practitioners, but events preceding it, which culminated in 1948 in the institution of the NHS, and 2 issues to which it gave rise: namely clarification of roles of the general practitioner and the contribution such a doctor may make in an organised system of medical care delivery.

### General Practice and Hospital Roles

The NHS, by administrative dictate at one stroke, settled a confused scene in which hospital and general practice had already been striving towards a clearer identity.

Hospital-based care claimed for itself an identity (Fig. 1). In contrast, and mainly by default, at that stage, what was left became the stock in trade of the GP (Fig. 2).

Incidentally, during my early days as a teacher in general practice, I made the mistake of presenting to medical students this sphere of activity in such a way as to force, unintentionally, a false antithesis in their minds, because, educated entirely within a hospital context and by hospital doctors they knew nothing of what went on outside the hospital. I had to learn to share with them a common starting point. This was easily done by focussing on the needs of the patient and by inverting the diagram (Fig. 3) so that the complementarity of the roles of each could be seen and appreciated (Fig. 4).

### **The Gatekeeper Role**

The second important issue arising from inception of the NHS was to make access to the specialist available mainly, if not solely, through general practice. This Venn diagram (Fig. 5) which owes its origin to John and Elizabeth Horder may be used as a basis for a number of gradients in conceptualising the provision of health care. In moving from top right to bottom left of the diagram one may postulate, for example, a progression in life-threat posed by the health problem from predominantly minor through mixed to major. Again, in terms of autonomy (the "control" the individual has of decisions about his care) there is a gradient from full control to complete surrender. The issue I wish to emphasise, however, is the gradient of cost - self-care is cheap and super-specialist care is expensive.

So, emerging from the instituting of the NHS is the concept of at least 2 broad GP functions. First, the doctor of first contact deals with 90% of encounters without recourse to expensive hospital resource. Second, the gatekeeper ensures that only the right patient with the right problem obtains promptly the services of the appropriate expensive wizard. It is this function which has contributed to the fact that in the league of expenditure on health care delivery expressed as a percentage of the gross national product, Great Britain is among the lowest in the Western World.

### **Founding of the Royal College of General Practitioners**

So, it was that, with a clearer image of its own identity, general practice had reached the point where the stage was set for the founding of the Royal College of General Practitioners. The story is recounted by Fry, Hunt and Pinsent (1983). The RCGP has proved to be a power house of ideas, many of which were to transform the service and academic scene. Government thinking was greatly influenced by the Gillie Report (1964) and, together with the medico-political skills of our colleagues in the British Medical Association, the foundations were laid, in the New Charter of 1965, for the renaissance of general practice.

Ideas were discussed more widely in Europe, stimulated by the deliberations of the so-called "Leeuwenhorst Group" to which I referred earlier, with its clear statements on such topics as the job description of the general practitioner. The EEC directives on training owed something to this group.

### **Academic Change**

Meantime, medical education continued to struggle to break out of the 19th century mould in which it had been cast - such out-dated hospital-based disease-centred models continue to operate in most countries even today. The significant development in the UK was the publication of the Report of the Royal Commission on Medical Education in 1968, with its formal recognition that the main aim of undergraduate education had to move from being the production at graduation of a utility GP type doctor who might metamorphose into a specialist (given time and training) to an undifferentiated doctor who had to be trained further to take clinical responsibility in any specialty including general practice.

From there it was a relatively short step to setting up a system of Vocational Training and, in each UK medical school, a department of general practice or its equivalent. The stage has now been reached where the University system is being challenged to match, from its resources, the increasing financial commitment by the NHS to support academic general practice in ways set out in the Mackenzie Report (1986).

### **The Present Scene**

The main features of the current scene are summarised in Figure 6. Time does not permit me to elaborate on each, so I shall pick out only the last item - the 1990 New Contract - which is again altering the face, if not the heart, of UK general practice. An important element in this Government-initiated series of changes is the requirement that all general practitioners participate in medical audit activities.

### **Medical Audit**

This activity, to which general practice is a relative newcomer, has the twin main aims of improving quality of care and furthering professional development of the general practitioner. The RCGP has long believed that this activity is central to the further development of our discipline. So I wish to say a little more about it. Steps in audit are outlined in Figure 7 and by way of illustration I present the following which relates to alcohol abuse - a very common problem in Scotland.

In 1984, 62 problem drinkers were identified in the small practice which constitutes the clinical base of the Dundee Department of General Practice. Their outcomes were assessed in terms of compliance with medical advice to cut down their drinking. Lessons learned were then applied to a second cohort of problem drinkers whose diagnoses were made after 1984. Their outcomes were similarly assessed in 1989. Only about 1/6 of the original group met our criteria. Had we improved our performance with the second cohort? Alas! (Fig. 7A) our figures showed we had not - which is one reason why we are now negotiating with the local statutory alcohol services for the provision of a counselling service in our health centre in an effort to improve the care we provide.

### **A Changing Scene**

The UK population is ageing. These population pyramids (Fig. 8), drawn from the same Edinburgh NHS general practice of 19,000 people illustrate in a microcosm some of the changes that have occurred between 1969 and 1984. Some other related changes are summarised in Fig. 9, but behind them all is the fundamental issue affecting Singapore as well as Scotland, namely the insoluble equation of health care delivery: demands always exceed needs and both can never be met by available resources. The added twist of differential in-

flation whereby health costs are escalating faster than national inflation rates now puts a premium on cost containment - which is why the UK Government is promoting medical audit together with the Gatekeeper role in general practice.

### **Some Questions for the Future**

Against a background of increasing technological development is there a need for General Practice? On the grounds of value for money alone it seems to me that the UK is committed to promoting cheap efficient primary care almost at the expense of hospital care. But there are other considerations. Britain, along with some 40 other countries is a signatory to the Alma Ata Declaration, which seeks to promote health through a strong primary care system in each country regardless of its state of development.

Can general practice re-orientate its pre-occupation with the diseased individual towards a greater provision for health of individuals, families and practice populations? This is at the heart of changes currently taking place in the UK and likely to go on to the year 2000 and beyond.

But for these challenges to be met, there must be preparation of the young doctor by an undergraduate education much more closely related to the health needs of the patients in the communities served by the medical schools.

The tasks can no longer be tackled by the doctor in isolation from other health professionals. Increasingly teams of caring professionals and teamwork are required. These do not come about by chance - they need to be made to happen.

### **More Imponderables**

The scene is complicated enough, but in the UK there are additional considerations. We are committed to the Unimarket in 1992. Will that bring about major shifts of the working population, with the challenges these pose to the provision of health care? Will unemployment, now beginning to be evident among doctors in the UK, become more marked? Will the UK continue to attract doctors from overseas, who in the past contributed significantly to solving staffing problems in the NHS hospital services?



And above all will general practice be suitably resourced, educated and trained to be able to cope with the provision of health and health care for all by the year 2000?

For each of us Singapore and UK, the answers in an era of change and change at an unprecedented rate will to some extent depend on the working together with our hospital colleagues, our patients and our Governments who, increasingly will need the information and the ideas from our respective Colleges.

This brief attempt at fortune-telling has highlighted the increased rate of change so characteristic of our times. But, in conclusion, I should like to leave you with the thought that while some things change, others do not.

Geoffrey Rose (1990) puts it thus:

"If Dr Present (1990) were to meet Dr Past (1840) what would they make of one another? Clearly Dr Past was ignorant, his treatments useless and often hurtful: with hindsight leeches do not command respect. And in 150 years from now how will doctors regard us? Surely in much the same way, as ignorant purveyors of poisonous drugs: and the fiberoptic endoscope

will look as horrible to them as does the rigid gastroscope to us. Yet if these 3 doctors - Past, Present, and Future - were each to record a conversation with a dying patient the play backs might not sound so very different. The science of medicine advances, its humanity does not; and nor does the nature of our patients' problems (pain, disability, fear and death)."

Cum scientia, caritas.

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FIGURE 1. HOSPITAL ROLES

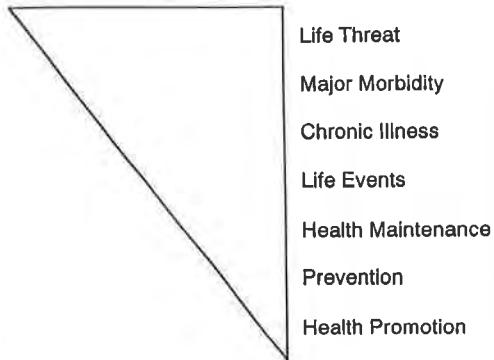


FIGURE 2. GENERAL PRACTITIONER ROLES

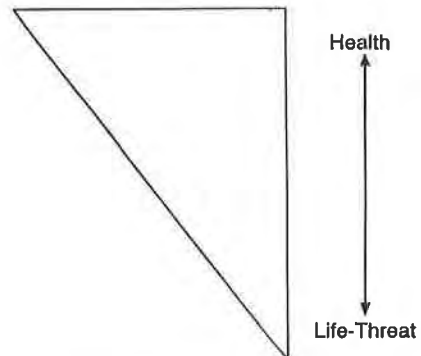


FIGURE 3. POTENTIAL GENERAL PRACTITIONER ROLES (Inverting Figure 2)

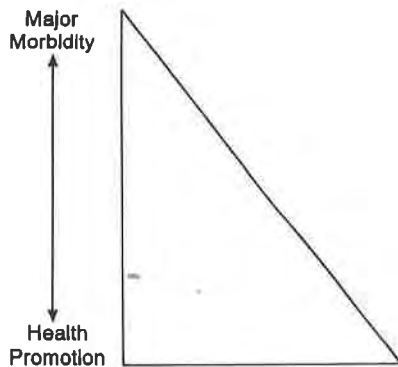


FIGURE 4. PROFESSIONAL TERRITORY OF THE GENERAL PRACTITIONER

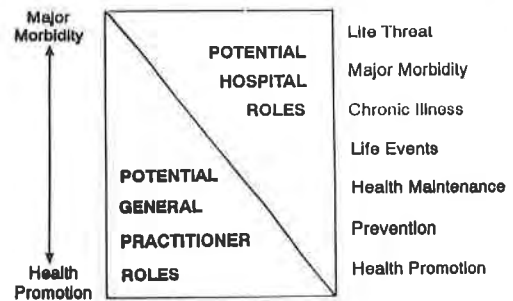
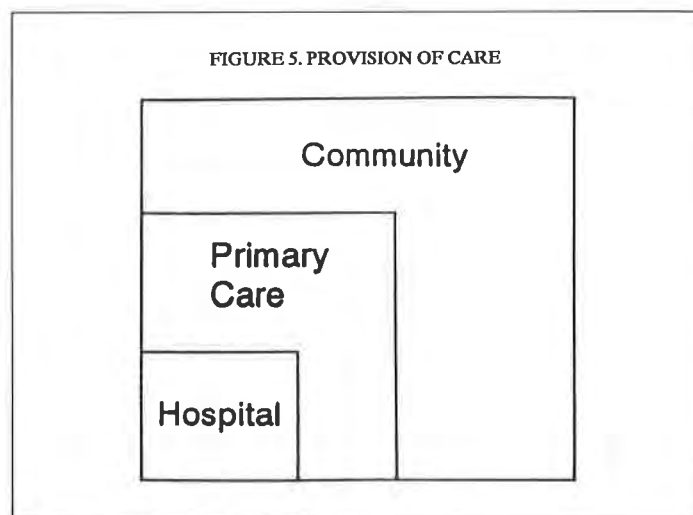


FIGURE 5. PROVISION OF CARE



**FIGURE 6. WHITHER GENERAL PRACTICE?  
SOME ASPECTS OF THE CURRENT SCENE**

- \* Universal Vocational Training
- \* Upgraded Premises
- \* Primary Care Team  
- and beginnings of teamwork
- \* Undergraduate Education
- \* Research  
- with 'R' and 'r'
- \* The New contract (1990)

**FIGURE 7. PROFESSIONALLY LED QUALITY ASSURANCE**

**STEPS IN CLINICAL AUDIT**

- Select Topic  
Define Characteristics  
Identify Population (and ? comparisons)  
Agree Outcome Criteria  
First Assessment  
Second Assessment
- Identify Shortfall and Relevant Factors  
Implement Change (intervention)  
Thrid Assessment
- Identify Shortfall (and possible gains)  
etc.

**FIGURE 7A. ALCOHOL AUDIT**

**ALCOHOL AUDIT - 1985 - 1990**  
Outcome at 1 year Original group of 62

Drinking status			O/L	Died
Unsafe	Safe	Unknown		
44	11	4	2	1

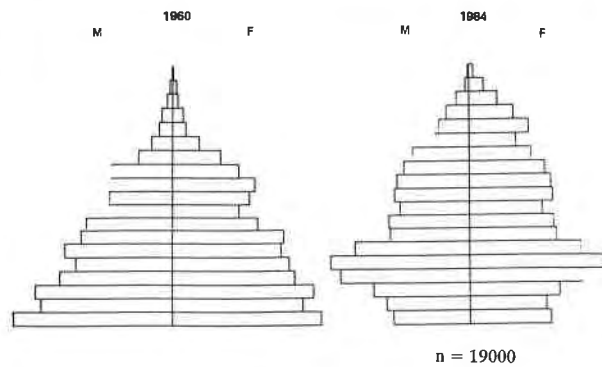
**ALCOHOL AUDIT - 1985 - 1990**  
Predicted outcomes for a group of 37

Drinking status			O/L	Died
Unsafe	Safe	Unknown		
26	6	3	2	

**Actual outcomes for 37**

26	6	4	2
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O/L = off-list



**FIGURE 8. POPULATION PYRAMIDS SAME  
EDINBURGH NHS GENERAL PRACTICE**

**FIGURE 9. WHITHER GENERAL PRACTICE?  
SOME CHANGING NEEDS AND DEMANDS**

- Ageing Population
- Emergence of Life-style Morbidity
- Emergence of Chronic Incurable Diseases
- Increasing Expectations and Sophistication

**The Universal Insoluble Equation of Health Care Provlson**

$$\text{Demands} > \text{Needs} \neq \text{Resources}$$



# THE COLLEGE: A REFLECTION

E Hanam, MBBS, DCH (Lond), FRCP (Edin), AM, FCGP (S'pore)

The College of General Practitioners Singapore has progressed steadily over 19 years since its inception in June 1971. The credit goes to all those general practitioners who started the College and those who have served and are still serving on the College Council, the Censors Board and the various committees.

I recall its early beginnings when it started off with 2 activities i.e. the refresher courses (now called "update courses") and preparation for the first college examination. Attendances were very disappointing. On one or two occasions only the speaker and the organiser were present. On another occasion even the speaker did not turn up. However, perseverance paid off. Today, of all the many continuing medical education programmes there are, the best attended by general practitioners/family physicians (GP/FP) are those on family medicine organised by the College, despite the fact that they are mostly held on Friday evenings at the unearthly hour of 9 pm and at weekends.

Once, when we were housed at the Medical Alumni Association Building, a Senior Member of the Academy of Medicine said to me "How on earth do you manage to get so many GPs to attend your talks when we have tried all these years and get only a handful?"

Well the secret was arranging talks, seminars etc pertinent to General/Family practice at a time and on a day suited to the interested GPs.

It is good to periodically reflect on the milestones of the College since its inception in 1971.

- \* 1974 - the Royal Australian College of GPs, a much older and well established College, recognised the Singapore College Diplomate Examination as being of equivalent standard.

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Speech given at the  
Annual Dinner of the College of  
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- \* 1977 - the Singapore Medical Council recognised the College Diploma, the MCGPS, as an additional registrable qualification.
- \* 1987 - Family Medicine was, at last, recognised as an academic discipline and is included in the Department of Community, Occupational and Family Medicine of the National University of Singapore. (That's a mouthful - some of us lazy ones refer to this as the Department of "cough" (COF) Medicine).
- \* 1988 - 2 years ago - a Family Medicine Traineeship was started by the Ministry of Health for doctors intending to embark on a career in Family Medicine. The programme has been successfully implemented. Three batches of doctors have so far been admitted. The first batch has completed the two year formal training earlier this year.

The Family Medicine Training Programme of the Ministry of Health together with the Family Medicine Teaching Programme run by the College is only a start of the Vocational Training Programme, the long term goal of the College.

The examination leading to the MCGPS (Member of the College of General Practitioners, Singapore) was started when the College was barely 1½ years old. This is a feat in itself - the very hard work of the first Board of Censors. It is now an examination unique to General Practice/Family Practice and has been developed by GPs for GPs. It is the toughest post-graduate medical examination. To-date there are 66 diplomate members out of a membership of over 600. This speaks well for every GP who has attempted the examination. Thanks are due to the spouses and families of these GPs who have allowed them time to attend courses and to study for the examination. You may not have realised this but you have, by your sacrifice, contributed to the upgrading of primary and continuing health care in Singapore.

At the opening of the College's new

premises in the prestigious College of Medicine Building in 1987, the Permanent Secretary (Health)/Director of Medical Services, Dr Kwa Soon Bee, said "The College of General Practitioners has made a commendable effort towards the upgrading of general practice in Singapore. It is in recognition of this important role of the College that the Ministry of Health has offered the College accommodation within the College of Medicine Building". I think this is a deserving reward to all the doctors who worked so very hard to attain this recognition of General/Family Medicine and the work of the College.

The College has still to develop training in other areas of this discipline. One area which is of growing importance is that of domiciliary practice, the increasing number of bed-bound elderly, chronically and terminally ill requiring comprehensive care in their own homes where they are best cared for. This requires team work and the leader should be the General Practitioner/Family Physician. Your listening ears, seeing eyes, feeling hands and sympathetic heart cannot be replaced by machines in this area of medicine.

In my childhood days, we were afraid of the GPs (as we then called them) because we would be scolded first before being treated. We were told we were sick because we had disobeyed our mother. But our parents in those days held the GP with very high regard. He was respected and loved because he not only relieved physical ailments but he became a confidante, a counsellor and a friend of all the family. Can we not command this same regard today despite the advance in medical knowledge and technology?

I close with an extract from "A Physician's Prayer". May it be yours too. It reads thus:-

*"Give skill to my hand, clear vision to my mind, kindness and sympathy to my heart. Give me singleness of purpose, strength to lift at least a part of the burden of my suffering fellowmen, and a true realization of the rare privilege that is mine".*

It is indeed a rare privilege to be a Doctor and in particular a wise and caring Family Physician/General Practitioner.

# THE SURGICAL MANAGEMENT OF ANAL INCONTINENCE

C Seow, MBBS, FRCSE

## INTRODUCTION

Normal anal continence depends largely on 3 major factors. Firstly, it requires a competent anal sphincter mechanism. This relies on the internal anal sphincter (IAS), the external anal sphincter (EAS), the puborectalis/levator ani complex and the normal ano-rectal angle. The IAS is a smooth muscle which is normally capable of continuous maximal activity throughout life. It is very important for continence to flatus and liquid stool. The EAS is a skeletal muscle and is able to sustain maximal contraction for about 60 seconds only. It is however important in preventing stress and urge incontinence. The levator ani and puborectalis are major muscle groups and are also important, especially in creating the normal acute anorectal angle. This is thought to be important in maintaining continence via the anorectal flap-valve mechanism. Secondly, anal continence requires a normal ano-rectal sensation. The sensation of rectal fullness as well as the ability to distinguish flatus from faeces is important in maintaining normal continence.

Thirdly, stool consistency may affect continence in spite of normal anal musculature and sensation. This happens for example in severe diarrhoeic states.

## A CLINICAL APPROACH

There are therefore a multitude of causes of anal incontinence. The common causes are severe diarrhoea, which may or may not be associated with inflammatory bowel diseases, previous anal surgery or dilatation, prolonged labour or obstetric trauma and partial or com-

plete rectal prolapse. In considering the clinical approach to a patient with anal incontinence, a good history and clinical evaluation are without doubt, the most important aspects to arriving at the correct diagnosis.

## HISTORY

We must firstly establish the degree of incontinence. Prolapsed piles and anal mucosal ectropion often results in copious mucous discharge. This strictly is not incontinence. Patients may be incontinent of flatus only, liquid stool or well formed intestinal contents. Flatal incontinence may be caused by IAS defects. Incontinence of liquid stool may be the result of a defect in anorectal discrimination between flatus and faeces, or EAS problems. Major incontinence to well formed stools usually means there is severe deficiency in the anal sphincteric mechanism. In the history, we must enquire about the consistency of stool and urgency to stool. A short history may relate to acute infective or toxic diarrhoea. A longer history may indicate inflammatory bowel diseases or irritable bowel disease. One must not forget that chronic constipation may also result in paradoxical incontinence due to the distended rectum inhibiting the anal sphincters through the recto-sphincteric inhibitory reflex mechanism. (Before we go on, it must be stated that neoplasia of the anorectum can often cause any of these symptoms.) Long standing constipation with excessive straining at stool has also been shown to result in pudendal neuropathy. This mechanism will be discussed later. Anal or perianal surgery may also damage the IAS or EAS or rectal sensation. Inappropriate procedures for anal fistulae and sepsis and maximal anal dilatation for piles are particularly notorious. Maximal anal dilatation is a procedure mentioned only to be condemned!

A careful obstetric history is mandatory. 95% of episiotomies heal well, but in 5%, anal sphincter damage or division may be poorly repaired, not repaired or made worse by secondary sepsis. Poorly placed episiotomies,

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e.g. posterior midline episiotomies are particularly bad in this respect as they tend to cause direct sphincter division. Inexpert forceps delivery may also result in sphincter injury and perineal lacerations. The pudendal nerves which run in Alcock's canal in the pelvis can be damaged by direct compression in the pelvis or by traction forces. This happens especially during a prolonged second stage of labour. Pudendal neuropathy can be demonstrated in about 50% of women after normal vaginal delivery and in about 70% of women after forceps delivery. This is usually a neuropraxia which subsequently returns to normal in around 2 months in about 70% of women. Many multiples who undergo forceps delivery however suffer permanent pudendal nerve damage.

Many cases of pudendal nerve damage are asymptomatic until further anal sphincteric insult causes anal incontinence. Age itself causes muscle denervation. Evidence of muscle denervation increases dramatically in those over the age of 60 years. AIDS, diabetes mellitus and alcohol may also add to the pudendal neuropathy. Minor anal surgery, including surgery for fistulae/anal dilatation must not be performed carelessly in the female. This is because a majority of them would already have some evidence of pudendal neuropathy due to previous deliveries. Curiously, chronic constipation with straining also causes a traction injury to the pudendal nerves. This may perhaps explain the 15-20% of the male population with evidence of pudendal neuropathy on anorectal physiology studies. Abnormal perineal descent (as occurs in chronic straining or constipation and also in the solitary ulcer syndrome, stretches the pudendal nerves and damages them.

Another important aspect of history taking is to ask specifically for evidence of rectal prolapse. Patients are often ignorant about this. We have encountered patients who thought that the prolapse was physiological! Others may be too embarrassed to talk about it. When they do doctors often mistake their symptoms for haemorrhoids! The prolapsed rectum stretches the anal sphincters result in incontinence.

#### CLINICAL EVALUATION

A systematic and detailed clinical evaluation will confirm the more obvious causes of incontinence e.g. neurological and central nervous system disorders, diarrhoea, anal fistulae/sepsis, anal cancer and faecal impaction.

These will not be discussed further in this paper. The anal sphincters and pelvic floor should be carefully examined. Careful inspection may reveal previous surgical scars, episiotomy incisions, a patulous, asymmetrical or funnel shaped anus. Scars point to the possibility of sphincteric damage or division being the cause of the patient's incontinence. A funnel shaped anus may be due to IAS division. A patulous anus may be the result of sphincter damage or rectal prolapse. Rectal prolapse is not often evident on simple inspection. It will sometimes demonstrate itself on straining in the left lateral position. More often, many patients are inhibited from straining in the left lateral position. A better manoeuvre is to get the patient to strain sitting on the toilet bowl or while squatting on the floor over several layers of papers! I have seen several prolapses thus demonstrated having previously been treated elsewhere for piles!

Straining will also reveal gross perineal descent, or the descending perineal syndrome. This is related to pelvic floor damage and pudendal neuropathy.

Palpation of the anal sphincters should then be carried out to assess the tone and integrity of the IAS, EAS and puborectalis respectively. Resting anal pressure is assessed with the index finger in the anal canal with the patient at rest. 60% of this pressure is contributed by the IAS. Squeeze pressure is assessed by asking the patient to contract his sphincters as hard as he can while the doctor's finger assesses the strength of the squeeze. This contraction is due largely to the EAS. Bidigital palpation of the anal sphincter may also reveal defects in the integrity of the sphincter mechanism. This may point to sphincter division or damage.

Sigmoidoscopy and proctoscopy should then be carried out as part of the routine examination of the incontinent patient. Tissue paper seen high in the rectum may be indicative of rectal prolapse. The paper sticking on to the rectal mucosa after manual reduction by the patient.

#### INVESTIGATION

Specific investigation of anal incontinence may include colonoscopy, barium enema, defaecatory proctography, endoanal ultrasonography and anorectal physiology studies. Colonoscopy and barium enema are probably only important to exclude concomitant lesions in the rest of the large bowel. Defaecating

proctogram is probably more useful in cases of constipation. Endoanal ultrasound and endoanal physiology are however very important to properly assess the anal sphincters and pudendal nerves to arrive at the correct diagnosis. These investigations are now available in the Singapore General Hospital. These investigations will often confirm the clinical suspicion and help the surgeon to decide on the correct surgical approach and procedure.

#### TREATMENT

Treatment of anal incontinence depends very much on the cause. Often simple advice concerning diet or the prescription of constipating medications are of great relief to the patient. Various constipating drugs e.g., loperamide, lomotil, codeine phosphate, Kaolin etc., will solidify stool or slow intestinal transit sufficiently to allow for marked improvement in the symptoms. Some patients may have to live with flatal incontinence or minor faecal leakage. Usage of a pad may then be very wise.

Rectal prolapse should be treated early i.e. whilst anal sphincteric damage may still be reversible. The treatment of choice usually lies between abdominal rectopexy and Delormes perineal approach. Abdominal rectopexy e.g., the Well's ivalon operation has a very low relapse rate of about 3%. The Delormes has a much higher rate, but the procedure is relatively

painless and can be repeated with little morbidity. It is therefore useful in the older patients.

Anal sphincter division can be readily repaired once the defect has been accurately mapped out by anorectal ultrasound and physiology. Patients will usually be in hospital for about a week. No covering colostomy is required. Patients are usually put on a fluid diet with laxatives in the immediate post operative period. A carefully constructed repair gives very good results in terms of anal function and continence.

Incontinence due to pudendal neuropathy is a more difficult problem. The postanal repair was designed to lengthen the anal canal and recreate the anorectal angle. Post surgical results have not been as good as for patients with incontinence due to sphincter division, but it may be the only option in these patients. These patients will also need to be in hospital for about a week. No covering colostomies are needed and patients can have a normal diet post operatively. Laxatives are usually required in the immediate post operative period.

#### ACKNOWLEDGEMENT

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# AN APPROACH TO THE SOLITARY THYROID NODULE

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## SUMMARY

*The solitary thyroid nodule is a common clinical problem. The majority of these lesions are benign and need no specific treatment. The overriding concern is to avoid missing a malignant lesion and at the same time avoid unnecessary investigations and surgery. Fine needle aspiration biopsy of thyroid nodules has emerged as the single best method to approach the problem of solitary thyroid nodules.*

## INTRODUCTION

The solitary thyroid nodule is a common clinical problem. Nodular thyroid disease (both single and multiple) is estimated to occur in about 5% of surveyed populations overseas.<sup>1,2</sup> In Singapore, a population-based survey on thyroid diseases showed a prevalence of goitres of 2.8%.<sup>3</sup> Of the subjects with nodular thyroid disease, about a quarter can be expected to be multinodular, with the rest being solitary nodules. It is therefore common to encounter the solitary thyroid nodule and a rational clinical approach is necessary.

## CONSIDERATIONS IN THE APPROACH TO THYROID NODULES

The overriding question in the minds of both the doctor and the patient with a solitary thyroid nodule is whether the lesion is malignant. The vast majority of solitary nodules do not result in alterations of thyroid hormone levels - the patient being almost always clinically and biochemically euthyroid. Management of hyper- or hypo- function of the thyroid gland is usually not a consideration. These nodules are often discovered incidentally by either the patient or doctor. If the lesion is benign, no specific treatment is needed unless cosmesis is a concern.

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The prevalence of clinically significant carcinoma in patients with solitary thyroid nodules has been quoted as ranging from 2% to 38%.<sup>4</sup> The large variation is probably a result of patient selection. In Singapore, Tan et al in 1980 reported 9.9% of 213 solitary nodules to be malignant<sup>5</sup> while Ng et al reported 18.4% out of 65 solitary nodules removed to be malignant.<sup>6</sup> It is difficult to estimate the actual percentage of malignant lesions. The actual figure is probably around 10% and we can logically expect that perhaps 80 to 90% of patients would not require surgical removal of their thyroid nodules.

There are various investigations that have been used for differentiating between the benign from malignant thyroid nodules. Clinical symptoms and signs are not sufficiently sensitive. Although symptoms of compression, hoarseness of voice, presence of lymph nodes and rapid expansion of mass suggest malignancy, many malignant nodules do not demonstrate any of these features. Blood tests - thyroid function test, thyroid antibodies and thyroglobulin levels add little except thyroglobulin level which can be elevated in malignant lesions but is not sufficiently sensitive as a marker. Tests that may help to differentiate malignant from benign include thyroid uptake scan, thyroid ultrasound and fine-needle aspiration biopsy (FNAB). We will review the relative strength and weakness of each test and suggest a diagnostic approach which would be most cost-efficient.

## THYROID UPTAKE SCAN

Thyroid uptake scan has traditionally been a widely accepted means of investigating the thyroid nodule. The value of the thyroid scan (either iodine or more commonly technetium) is based on the assumption that cold nodules are more likely than warm or hot nodules to harbour malignancy. The other advantage is the ability to detect multinodular goitres that masquerade as a solitary nodule. Multinodular goitres have a much lower association with



malignancy than the solitary nodule.

The major drawback of thyroid uptake scan is that the majority of solitary nodules are cold - up to 90%.<sup>5,6,7</sup> Therefore, if the decision of whether surgery is needed is based on the scan, up to 90% of patients would be subjected to surgery, the majority of which would be unnecessary. Furthermore malignancy can still occur in the warm and hot nodules with frequency quoted as 9% and 4% respectively.<sup>8</sup> If only cold nodules are further investigated, these malignant lesions would be missed. Thyroid uptake scan therefore has limited value in the selection of patients that require surgical excision or further investigations.

#### ULTRASOUND THYROID SCAN

The ultrasound scan serves to differentiate the thyroid nodule into those of solid, cystic or mixed echogenicity. The basic assumption is that the solid lesion is associated with the highest risk of malignancy. Malignancy is estimated to occur in 20% of solid, 7% of cystic and 12% of mixed lesions.<sup>8</sup> The usual breakdown of solitary thyroid nodules into these three categories are 70% solid, 20% cystic and the rest mixed.<sup>8</sup> It is now noted that with better resolution ultrasound machines, more lesions are found to have mixed echogenicity. If ultrasound is used as a guide for surgery or further investigation, 70% may be subjected to surgery (or further tests) and yet a significant number of malignancies may be missed.

#### THYROID FINE-NEEDLE ASPIRATION BIOPSY (FNAB)

Thyroid fine-needle aspiration biopsy has emerged as the single test that is the most useful test in differentiating malignant from benign thyroid nodules. FNAB is as informative as large bore needle biopsy and yet is practically free from any risk.<sup>8</sup> The previous concern that needle biopsy of a malignant lesion may lead to spread of the malignancy along the needle track has now been assessed to be grossly overstated and has been laid to rest.<sup>8</sup>

The main strength of FNAB is its ability to accurately diagnose malignancy without subjecting the patient to excision biopsy. Specificity is excellent with false positive rates of less than 2% in most studies.<sup>8,9,10</sup> Locally, Ng et al reported 0% false positive rate.<sup>6</sup>

The main drawbacks of FNAB are the

occasional inability to obtain an adequate sample and false negative biopsies. Rates for these two problems vary depending largely on the experience of the operator and the cytologist. Inadequate sampling rates can be quite easily reduced with experience to less than 5%. Inadequate sampling can be followed-up with a repeat biopsy and there is therefore little risk of overlooking a malignant lesion. The problem of a false negative biopsy varies from about 5% to 20% with very good results (less than 3%) obtained in experienced hands.<sup>8</sup> Ng et al in reporting their initial experience with FNAB had a false negative rate of 5%.<sup>6</sup> The small but finite false negative rate is unavoidable but with follow-up and repeat biopsy or excision when suspicion arises, the actual number of missed malignancies would be very small.

FNAB remains the only investigation in which improved experience and technique can give rise to a better outcome in approaching the solitary thyroid nodule. Using FNAB alone, about 20% of patients with solitary nodules would be subjected to excision biopsy, which represents a major reduction in cost and morbidity.

#### RECOMMENDED DIAGNOSTIC APPROACH

Based on present knowledge, the fine-needle aspiration biopsy is the most effective way of investigating the solitary thyroid nodule. Where the result is confirmatory or suspicious of malignancy, the patient is subjected to excision biopsy. Occasionally, thyroid biopsy confirms a diagnosis of lymphoma or secondary carcinoma whereupon excision biopsy may not be necessary. Where FNAB is negative for malignancy, the patient can be followed-up without any specific treatment. If the nodule should enlarge or show other suspicious clinical signs later, a repeat FNAB or excision biopsy can be performed. In cases where an unsatisfactory or inadequate sample is obtained, a repeat biopsy should be attempted. If repeated biopsies prove unsuccessful again, nuclear scan or ultrasound may be performed. If the overall risk is considered low, the patient can be observed. If there is any doubt, surgical excision can be performed. With experience in FNAB, the number of patients falling into this category will be very small.

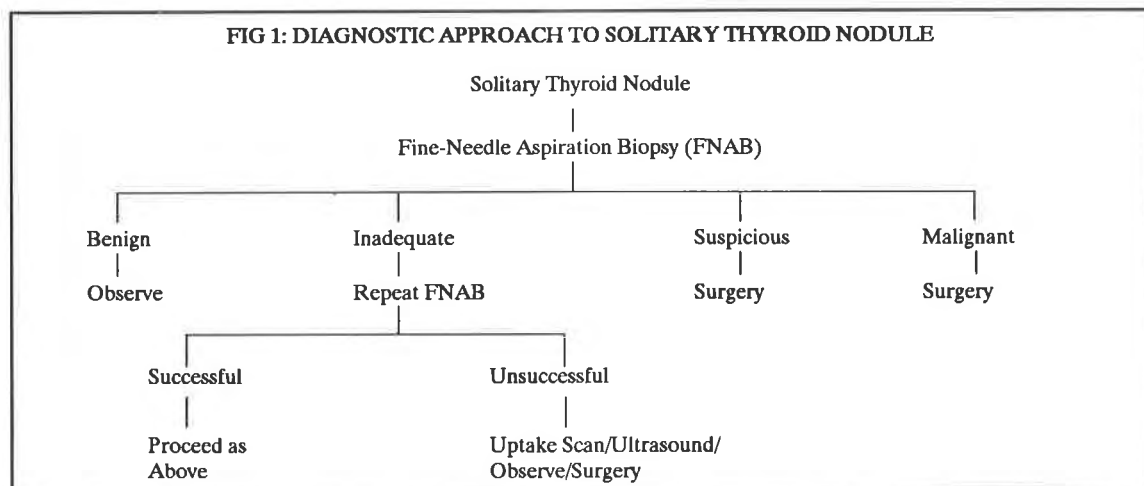
Various diagnostic approaches, some simple and others complicated, incorporating several

of the tests discussed above has been suggested. Those using ultrasound or nuclear scan as the first branch point are immediately disadvantaged by the cases of malignancies missed in warm or hot nodules, or malignancies in cystic and mixed solid and cystic lesions (vide supra). The first branch point must therefore be FNAB. With good experience in FNAB, there is usually little need to further subject patients to nuclear scan or ultrasound which add to the cost without increasing diagnostic accuracy. Ng et al<sup>6</sup> advocated the use of age together with FNAB as a guide for surgical excision. He reported that surgery on all patients aged 40 and above and those with abnormal biopsy results would have resulted in detection of all malignancies in his series. This would entail surgery in 69% (or 40% if age 50 years is adopted).<sup>6</sup> However, in the series reported by Tan et al,<sup>5</sup> also in Singapore patients, all the patients with malignancies were of ages between 20 and 40 years. The use of age as a guide is clearly not useful and only leads to more patients being subjected to surgery.

We conclude, together with many others<sup>8,11,12,13</sup> that the fine-needle aspiration biopsy should be the first and pivotal investigation upon which the initial decision of surgery is based and other investigations be used only in situations where FNAB is repeatedly unsuccessful.

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# HEPATITIS C

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## THE VIRUS

The hepatitis C virus (HCV) was discovered after a tedious search by an American group in 1988.<sup>1</sup> This virus accounts for about 85% of the previously known "non-A, non-B virus hepatitis". The virus is now a major cause of post-transfusion hepatitis now that hepatitis B has been eliminated by routine screening. In structure, HCV is a single stranded RNA virus closely related to the flavivirus. It is not to be confused with the Hepatitis B core antibody often abbreviated as anti-HBc.

## HOW INFECTED?

Mainly blood borne. Studies have shown that 87% of infection donors of blood causing post transfusion hepatitis, is HCV Ab positive. The prevalence in the US and UK is 0.5% of all blood donors.<sup>2</sup> In Japan, the percentage positive for HCV Ab is higher at 1.5%. Perhaps the routine of screening use in the blood bank will reduce the incidence of post transfusion hepatitis.

Modern heat preparation of blood products destroys the Hepatitis C virus.

The risk of sexual and intrafamilial spread seem to be very low and patients can be reassured.<sup>3,4</sup> Infection from occupational exposure to blood is also unusual.

In the US, about 50% are sporadic cases while 5-10% had a past history of transfusion. 75% of IV drug abusers are tested positive.

## THE DISEASE

### 1. Acute Hepatitis C

- The incubation period is 5-12 weeks.
- Majority are completely asymptomatic.
- About 25% are symptomatic with jaundice.

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- Occasionally the disease is fulminative.
- The liver enzymes (AST & ALT) are only moderately elevated and seldom more than 400 u.
- HCV testing is usually negative in the acute phase.

### 2. Chronic Hepatitis C

- After 1 year, 50% of patient with post transfusion hepatitis will have raised ALT.<sup>5</sup> About 20% eventually develop cirrhosis. The amount of blood transfusion may be as little as 1 unit. The condition can drag on for many years. Patient is usually normal clinically.

## THE TEST

From 1989, hepatitis C Antibody (anti-HCV) could be tested by an ELISA test. This is a first generation test and is relatively sensitive. There are both false positives and false negatives reported. It is currently being used in some parts of the world as a screening procedure especially in blood banks. The test becomes positive about 6 months after an infection and about 4 months after acute hepatitis.<sup>6</sup> It is therefore not useful as a test for an acute attack of hepatitis. Patients tested positive for anti-HCV are deemed viraemic and hence infectious. Anti HCV antibody does not protect the patient from hepatitis C.

## COMPLICATIONS

- portal hypertension is rare
- splenomegaly occurs in 50%
- oesophageal variceal bleeding occurs late
- Anti-HCV Ab remains positive throughout
- Hepatocellular carcinoma (HCC)

## TREATMENT

- Reassurance only is required in the elderly, they seldom live long enough to die from liver failure.
- In young patients with active liver biopsy and high ALT to avoid the development



of cirrhosis, antiviral treatment has shown some promise.

Interferon alpha has been shown to be of benefit in 50% of patients treated for 6 months.<sup>7,8</sup> However, of the 50% who respond, about 50% will relapse after stopping treatment.<sup>8</sup> Interferon should not be given except in the context of controlled clinical trials at present. The female patient, without cirrhosis and presenting with high ALT seems to respond best. Interferon treatment is costly and not without side effects.

### IMMUNISATION

Still unavailable to date.

### HEPATOCELLULAR CARCINOMA (HCC)

In patients with HCC, up to 50% of Japanese cases tested positive for anti HCV. In Italy the association is 65%, while in the USA it is 17%.<sup>9,10</sup> Both Anti-HCV and Hepatitis B markers often coexist in the same patient. The association is especially close between HCV and HCC in the cirrhotic liver than in the non-cirrhotic. Perhaps HCV turns on carcinogenesis in patients with cirrhosis.

### CONCLUSION

We have now hepatitis A, B, C, D (Delta) and E (Enteric). Hepatitis C represents the majority of "non-A, non-B hepatitis". There is however about 15% of non-A, non-B hepatitis who are anti-HCV negative, perhaps these represent a group of as yet undiscovered and unnamed viruses.

### NOTE:

The Anti-HCV test is now available in Singapore.

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## STRATEGIES FOR QUALITY ASSURANCE

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When we talk about Quality Assurance, there are, I think 3 major questions to be answered:

- I. What is quality in family medicine?
- II. How can it be achieved?
- III. How can its maintenance be assured?

### I. WHAT IS QUALITY IN FAMILY MEDICINE?

There have been many definitions of quality as applied to medical practice, none of which is universally acceptable, especially to the purists, but we would suggest that quality or excellence in this context involves the practical application of the concepts and principles of family medicine in order to achieve the highest possible standards of patient care.

As family doctors it is our professional duty to the community to provide the highest quality of health care for our patients. Academies and Colleges of General Practice/Family Medicine are now involved in the setting and maintenance of acceptable standards of practice, and in assisting their members to attain and maintain these standards.

Vocational training and continuing medical education contribute towards, but do not necessarily guarantee, quality of care. Strategies must be developed which will ensure that motivated doctors can enhance their standards of practice - and be seen to have done so in practical terms, both by patients and by colleagues.

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Quality of health care can be assessed from 3 different aspects:-

- (i) *Structure* - services provided by a practice, its equipment and organisation.
- (ii) *Process* - the means and methods by which this care is delivered.
- (iii) *Outcome* - the effect if any on the health of patients.

This evaluation should be carried out in a logical series of steps:-

1. Acceptable standards must be set. Criteria must be established.
2. Information necessary to determine clinical performance must be gathered.
3. Performance of the individual doctor is then compared to the set criteria.
4. Recommendations are made for improvement in performance.
5. Effective implementation of these recommendations must be ascertained.

Any programme of quality assurance demands the appreciation and understanding of these principles, and the realisation that the process of evaluation is not adversarial - rather does it depend on the mutual willingness of a group of doctors to act as reviewers, but who also must be equally prepared to be reviewed themselves.

### II. HOW CAN QUALITY OR EXCELLENCE BE ACHIEVED?

In the first place, we must define our expected standards of patient care; we must reach agreement on these standards among ourselves as family doctors, in consultation with other interested parties including government (who are the providers) and patients (who are the consumers).

Initial discussions could take place within a group of experienced doctors who would

function as a Working Party of their College or Academy, a recognised and reputable organisation with considerable standing in the medical profession, and regarded with esteem by politicians and patients alike.

In the setting of standards of practice, the health care requirements of the community must be considered at all times, and, as these may vary from country to country, it is likely that some international differences will arise; however, we are sure that these will be minor, the great advantage being that criteria will be developed *which are specific for the country or community concerned.*

We must guard against the establishing of criteria which are too idealistic. By all means let us set out the standards we would like to see in place, but our quest for idealism must be tempered by the practicalities of the situation. On the other hand, too much emphasis on pragmatism will lead to less stringent criteria, thereby relegating the quality of health care to mediocrity. Somewhere between idealism and mediocrity there must exist a level of quality which is acceptable to the providers, dispensers, and recipients of health care. It is therefore incumbent upon us to find the level which is appropriate for each community.

The criteria which we set must also be monitored carefully in the light of modifications that may be made in the organisation of health care services, of advances in diagnostic and management techniques, and of changing expectations or demands from consumers. Regular review of criteria must be carried out in order to ensure that their appropriateness is maintained.

Quality or excellence in general practice may be achieved in many ways; some of these are discussed below.

### **1. Textbooks and Journals**

Perhaps the most common educational activity is the reading of textbooks and journals. One of the unfortunate characteristics of many textbooks is that they are out of date very soon after publication; on the other hand they are most useful for reference purposes, and act as a convenient and readily accessible source of information.

Journals are more a means of keeping up

to date with, and for reviewing recent developments in the discipline of family medicine. There is nowadays a wide selection of excellent journals available, some of which are found on the desks of most family doctors.

### **2. Educational Programmes**

Academies and Colleges of General Practice design and implement a variety of educational activities - update courses, refresher courses, programmes designed for rural or isolated practitioners, courses in the use of computers, seminars on practice management, etc. - for the benefit of their members so that they may avail themselves of this method of maintaining their standards of practice at the levels expected of them.

### **3. Examinations**

Many Colleges have instituted an examination or assessment of the knowledge, attitudes and skills demanded from a good general family practitioner. The major objective of such examinations is to set an agreed or acceptable standard of clinical competence against which members of the discipline can test themselves, and, hopefully, receive adequate constructive feedback on their performance. Such examinations are in reality learning experiences, and do much to improve the study habits and clinical skills of both candidates and examiners alike. This is a well-established method of peer review, and the potential for identifying the common content of individual College examinations must be investigated with a view to some degree of standardisation of content, methods, and the desired level of competence, being laid down within the international community. The field of examination and assessment lends itself to international cooperation for further development, and, while not attractive to every doctor, can be used as one means of measuring quality, and of comparing standards of excellence in practitioners working in different countries.

### **4. Training Programmes**

In many countries there are now well-established programmes of training for general family practice. Although there is no substitute for experience in increasing competence and efficiency in the day-to-day work of general practice, there is equally little doubt that a well-designed and appropriate period of training will produce competent and efficient doctors at an



earlier stage of professional development than their colleagues who have had no vocational training. They reach high standards earlier in their career with obvious resulting benefit to their patients.

## 5. Practice Audit

Practice audit consists in essence of the monitoring of the health care activities of a practice or practitioner. These are relatively easy to measure, and the assessment can be done in a number of ways.

### (i) Patient Records

One of the most important pre-requisites for excellence in patient care is the keeping of accurate and comprehensive records. Adequate continuing care of chronic conditions is impossible without a record system which is kept up to date, and in a format in which the information is readily accessible. Inspection of a random selection of patient records is a well-tried method of assessing the quality of care provided by a practice, but should be used only in conjunction with other methods which contribute to the assessment of the overall performance of a family doctor.

### (ii) Staff

The attitudes and behaviour of receptionist, secretarial and nursing staff in the practice also make a contribution to the quality of service provided, and their performance should be critically evaluated, either internally by the doctor himself, or externally by one or more of his colleagues, during a formal visit for practice assessment.

### (iii) Patients

The opinions of patients on the quality of care provided by their family doctor can also be canvassed. However, we feel that results of such questionnaires should be interpreted with caution, as patients attending any doctor are a self-selected group who must be reasonably satisfied with the quality of care provided, otherwise they would seek another doctor. Furthermore, patients' perceptions of excellence of clinical performance are influenced less by the doctor's clinical knowledge and skills than by his ability to communicate and relate to them.

### (iv) Accessibility and Availability

An important aspect of Practice Audit is the availability of the doctor. Is an appointment system used? Do the patients know how to use it? What provision is made for acute and emergency cases? Are any special times laid aside for antenatal patients, or those with chronic conditions such as asthma, diabetes and hypertension?

Patients should have the right of access to a primary care doctor 24 hours per day, 7 days per week. It is perhaps somewhat unrealistic in 1990 to expect general practitioners to be available on this full-time basis, but it is regarded as their responsibility to provide alternative care in their absence, and to inform their patients accordingly.

Practice Audit thus establishes not only *what* the practitioner actually does in his everyday work, but also *how* he does it. This demands the honest disclosure of the doctor's own activities and practices, and in this regard alone comprises an educational exercise. After all, don't we all *think* we know what we do, but just how many of us have actually made the observations necessary to establish what we *actually* do in our everyday work?

In particular we must examine how we use our time in general practice. Time is one of the few commodities which is available to everyone, and yet it is the one which may be most frequently squandered. The most effective use of time is a challenge to all of us, irrespective of our country, community or type of health service.

## 6. Performance Review

We have seen that Practice Audit describes *what* the doctor does, and *how* he does it. Performance Review tell us *how well* he discharges his everyday clinical duties - in other words, the quality of clinical care he provides. This can be evaluated in a number of ways:

### (i) Audio-visual Recording

This *can* be used on a self-assessment basis, e.g. by means of audio- or video-recording a series of consultations, the doctor himself later conducting a critical playback analysis. Much more constructive results can be

obtained from appraisal of the recording by a group of colleagues, who in turn are prepared to submit themselves to a similar evaluation process.

(ii) *Observation of Consultations*

Another type of performance review - the term "peer review" has undesirable connotations for some people - is gaining popularity in some countries (particularly UK) in which two or more colleagues are actually present in the doctor's consulting room to listen to and observe his clinical behaviour. They examine closely his ability to communicate with patients, his diagnostic and management skills, his willingness to undertake responsibility for the care of his patients, and his moral attitudes and ethical values.

Other parameters which can be used in the evaluation of quality of care include the management of acute illness, especially in the prodromal phase before a firm diagnosis can be made (patient management under variable degrees of uncertainty), the continuing care of chronic conditions including those of psychosocial aetiology, preventive care (immunisation), anticipatory care (case-finding), education for the promotion of healthy lifestyles, and care of the terminally ill.

(iii) *Accountability to Patients*

As family doctors we have a moral and ethical duty not only to explain to patients the diagnostic solution to their problems, but also to ensure they understand what we have told them. Our patients must be encouraged to participate in making informed decisions on their management, irrespective of whether their problem is trivial or life-threatening. Our duty is to present the management options and assist the patient to make an appropriate choice. The extent to which a doctor demonstrates this accountability and professional responsibility can be gauged during observation of a series of his consultations.

(iv) *Tracer Conditions*

Specific health problems can be used to establish how a doctor (or group of doctors) provides care for certain common conditions, thereby indicating the quality of

care and the efficiency of the health care delivery system. These indicators or tracers must fulfil certain conditions e.g. they should be well-defined and easy to diagnose, they should be commonly encountered, and they should be influenced by medical care (i.e. not self-limiting).

Examples of such conditions are middle-ear infection, iron-deficiency anaemia, hypertension, hearing loss, visual disorders, urinary tract infections, and cervical dysplasia or neoplasm. Criteria for treatment or on-going management must be agreed upon, thereby determining the minimal levels of care acceptable for each condition; these criteria should be reviewed regularly, and updated as necessary.

Performance Review and Practice Audit are often perceived initially as rather threatening procedures which intrude into the privacy of the consulting room, and constitute a potential invasion of confidentiality; there can also be some resistance to the assessment of practice management. However, it would seem that, on the whole, good doctors respond favourably to a fair and equitable review of their daily work, and regard it as a constructive initiative which provides them with positive motivation to improve their standards - and, incidentally, their job satisfaction.

### III. HOW CAN QUALITY BE MAINTAINED?

Methods of controlling or maintaining quality of practice are perhaps more difficult to devise, and as a consequence, have not received the attention required for their full development.

It is relatively easy to assess the impact of an educational programme on an individual doctor by "before and after" tests of knowledge and attitudes. Should performance review demonstrate any deficiencies, these should be re-assessed by further performance review after a period during which remedial improvement has hopefully taken place. Practice audit can also be repeated to ensure that quality of service is being maintained. Even though a clear educational benefit can be demonstrated, the crucial measure of success is whether the doctor is actually putting into practice what he has

learned - in other words, has any measurable change in his clinical behaviour taken place? This is the crux of outcome evaluation in the context of quality assurance, and must be borne in mind when assessing the effectiveness of strategies for quality control.

We have discussed only some aspects of Quality Assurance in Primary Care. Much work remains to be done on the best methods to be used, and the appropriate mechanisms for implementation. It is a topic which will embrace

all of us sooner or later, as both patients and governments - and our colleagues - are demanding accountability on our part. We must therefore ensure that we make ourselves accountable. Academies and Colleges of Family Medicine must assume responsibility not only for the setting and achieving of standards, but also for the outcome evaluation of these standards. The unacceptable alternative is that others with little or no clinical experience or expertise may well impose arbitrary, unrealistic and totally invalid standards upon us.



# OBJECTIVE OUTCOMES AS INDICATORS OF QUALITY ASSURANCE IN GENERAL/ FAMILY PRACTICE

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## INTRODUCTION

There are many different definitions for the term *Quality Assurance* and there are continuing attempts from the medical profession to define it. This shows the importance and the multitude of possible dimensions of this subject. Like 'morale', quality is an abstract thing that everyone seems to understand it but nobody seems to be able to describe it fully in absolute terms, and there are some standards that are shared by everybody, but some that are not agreed upon by all. With the understanding that any definition can only describe one or more aspects of quality assurance, the discussion in this paper will be based on the more ponderous but widely accepted one as 'the measurement of the actual quality of care against pre established standards followed by the implementation of the appropriate corrective actions to achieve these standards. (*WHO - Vuori*)'. In the discussion of objective outcomes as indicators for quality assurance in general/family practice, there are three questions that need to be answered: Why is it necessary? What are objective outcomes? How can it be done? This paper will try to provide some answers to these questions. The term family practice will be used interchangeably with general practice.

## WHY IS IT NECESSARY?

Firstly, why is quality assurance in Family practice necessary? It is stated in the *Hippocratic Oath* that 'I swear by Apollo the Physician. . . I will follow that method of treatment, which according to my ability and judgment, I consider for the benefit of my patients. . . ' which is a form of what we now regard as Quality Assurance. Quality Assurance seems an inseparable part of medical practice at all times and has probably existed for as long as medicine has. Medicine is a combination of science and

art that is almost impossible for persons outside the profession to understand fully, so patients often have to rely and depend on their doctors for the diagnosis and management of their problems. Without quality assurance, it is hard for patients not to question whether their trust in the profession is being abused or not.

It is quality assurance that distinguishes medicine from quackery. It is beyond argument that quality assurance in medicine is necessary because patients entrust their lives and health to the profession. Quality assurance is especially important in family medicine because the trust from patients is the prerequisite of success for family physicians in their roles as teachers, advisers, counselors, healers, carers, supporters, coordinators and gatekeepers.

Secondly, why is it necessary to have objective outcomes as indicators for quality assurance in family medicine? Quality is, by definition, not quantifiable; in order to make it measurable, it has to be transformed into certain indicators that can be compared objectively to set standards. Objective outcomes, in contrast to subjective assessment, are the most suitable indicators for comparison because they can be measured objectively.

## WHAT ARE OBJECTIVE OUTCOMES?

We would like to emphasize that there are more than one objective outcome that can and should be used as indicators of quality in family practice. In order to serve the purpose, the outcome must not only be objective (measurable without inter or intra observer bias), but also be valid (accurately reflecting quality in family practice), and feasible (applicable to most family practices). Professor Avedis Donabedian<sup>1</sup> classified the indicators of quality assurance into the classical taxonomy of 'Structure', 'Process', and 'Outcome' in 1966. This has stood the test of time as the best conceptual framework of quality assurance.

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There has been much discussion and even debate on which of these three major aspects of general/family practice should be used as indicators of quality assurance. As a matter of fact, all three aspects are important and inter-related in that the structure is the foundation of the process of care which is in turn the foundation of the final outcome of care. Looking at one but not the others is like each of three blind men trying to describe the whole animal by feeling only the trunk, the tail or the ear of an elephant. Furthermore, the overall outcome is the product of the interaction between outcomes in all three aspects rather than the mere sum total of them.

Indicators for quality assurance in general/family practice should include those of structure, process and outcome as well as their mutual interaction. Therefore, this paper will not limit discussion only to the type of 'outcome' that was describe by Donabedian, but will include objective outcomes of structure and process. For simplicity, the objective outcomes will be classified into those of structure, process or outcome for further discussion, but it must be borne in mind that there is a lot of interaction and mutual influence between them.

#### **Practice Structure**

There are two major structures in family practice: the macrostructure and the micro-structure. The macrostructure relates to the role and organisation of family medicine in the whole health care delivery system which determines the equity of distribution of care, its funding and, to a certain extent, its quality. This is often the major consideration of government policy makers. The microstructure of familypractice is that of each individual practice. Only the microstructure will be discussed here, as macro-structure is probably beyond the scope of this paper.

The strucutre of a practice is the tool for the delivery of care and it is closely related to the process of care and, to a certain extent, to the outcome of care. It may be argued that the establishment of a good structure does not equate with good quality of care, but it is fair to say that there are certain minimal standards in the structure of the practice below which good quality of care cannot be guaranteed.

Structure can be broadly divided into four areas:

#### **1. Staff**

The Staff of most family practices include not only doctors, but also nurses and receptionists; some may have health visitors, community nurses and other professionals. The most important is not the number but the effectiveness; efficiency of the team is more important than its size. Commitment of the staff to vocational training, and to continual professional development in the form of continuing medical education, teaching, training and/or research is a good indicator of quality. The cooperation and coordination of all the staff to work as a team needs to be emphasized. A positive attitude from the staff to provide good quality of care and to improve their services as indicated by their readiness to participate in quality assurance is also important.

#### **2. Services**

The range of services that are provided by the practice indicates its attempt to provide comprehensive care which is a very important aspect of family medicine. Services should include not only curative medicine (e.g. treatment of a bacterial tonsillitis), but preventive (e.g. immunization or health education), anticipatory (e.g. disease or health risk screening), rehabilitative (e.g. post-CVA or post myocardial infarction), and supportive (e.g. helping patients with chronic diseases or disabilities, or counseling) care. They should cater precisely for the needs of the practice population.

#### **3. Practice Organization**

Practice organization determines how the staff provide their services; good organisation allows the services to be available, accessible, effective and efficient. Outcomes that should be examined include the functioning and suitability of the appointment system which exist for the convenience of both patients and staff, not for creating a barrier between the patient and the doctor. Most practices function best with a semi-appointment system, with appointments for non-urgent problems and a few blank appointments each day to allow for urgent cases and unpredictable long consultations. The accessibility of the services is important in that all patients should be able to receive the care that they need without undue-delay. The waiting time to obtain an appointment for a particular

service, and the number of patients who are turned away are good indicators of this aspect of the practice. There should be a system for call-back and re-call. A service that can be provided only to a small fraction of the patients who require it is nothing more than window-dressing.

Another very important aspect is the organization of the records (e.g. problem orientated), patient registers (e.g. age-sex or disease) and filing system. A good system should allow easy recording, retrieval and communication of information, provide data on patient demography, morbidity and needs, and practice workload, and form the basis for quality assurance and research. The use of computers in the practice makes record keeping and indexing easier, but its presence does not automatically mean good quality of care and vice versa. What comes out from the computer can only be as good as what is put in; if rubbish goes in, rubbish will come out.

Proper organisation of the roles, relationship and communication between staff members is becoming increasingly important as there is an increasing need for team care. It may be more convenient to have all the members of the primary health care team under the same roof, but as the range of expertise required in the team increases, this may become impractical and probably undesirable. It is more important for the team members to have a good functional relationship (e.g. the family physician as the coordinator, intra-practice or extra-practice, mutual referral and feedback), adequate communication channels (e.g. practice meetings, case conference, written or telephone communications, formal or informal gatherings and shared records), and mutual understanding of each other's roles and needs (e.g. extent and appropriateness of use of services of other team members and the professional satisfaction of each team member). The last but not the least important aspect of practice organisation is the premises and facilities. The premises should be able to house and provide all the facilities necessary for diagnosis, investigation and management, these should be readily available (all need not be within the practice premises), and should be up to adequate standards. Purpose-built large health centres have certain advantages in that the premises are designed to suit their functions and provide more in-house facilities. However they may have the

disadvantages of being too impersonal and expensive.

#### 4. Practice Management

Practice management is the machinery of the practice; it determines whether the various systems organised in the practice can function to their fullest potential and whether services can be provided in the way that they are meant. It can be broadly divided into three main areas: *patient services*, *personnel* and *finance*. *Patient services*, like appointments, screenings, home visits, out of hours services etc. should be provided to those who need them without being abused by those who don't. Information in records, indexes and files must be kept accurately and up to date. *Personnel management* means finding the right persons for the right posts, making certain that each staff member understands the goals and functions of the practice and his/her own role, and ensuring each staff member fulfils his/her role competently and without excessive stress.

The *finance of the practice* includes not only the balance between income and expenditure, but also the cost-effectiveness of the use of medical personnel and other resources. Useful indicators are staff to patient ratio, prescribing costs, investigation costs, the utilization (extent and appropriateness) of secondary or tertiary care in general, or that of each in house staff member or facility, and the running costs of the practice. Indicators of practice structure are the most objective and quantifiable, but they may be less valid than the indicators of process and outcome.

#### Process of Care

The process of care reflects the manner in which care is delivered and is more closely related to the outcome of care than to structure. The process of care may not seem to be as direct a measurement of quality as outcome, but it is actually a more valid indicator of whether the best quality of health care is actually being provided. Quality of care can be reflected both by general processes of care as well as those of specific conditions.

The general processes of care in a practice affect the overall quality of its total care. The most important and well studied is the consultation process. Pendleton<sup>2</sup> has identified



seven potential tasks in a consultation: defining the reasons for the patient's attendance; considering other problems; choosing with the patient an appropriate action for each problem; sharing the understanding of the problem with the patient; encouraging the patient to share the responsibility of management; using time and resources appropriately and economically; and establishing or maintaining a good doctor patient relationship.

It must be pointed out that these are seven 'potential' tasks and it may be unnecessary or even inappropriate to try to achieve all of them in one consultation. The emphasis should be on whether opportunities for one or more of them are optimally used. Communication skill in a consultation is important in that it is the means to achieve the above ends in the consultation. Much emphasis has been put to the approach to problem solving (e.g. deductive Vs inductive) and the appropriateness of history, physical examination and investigation. The overall diagnostic and management process is reflected by morbidity patterns, rates of consultation, prescribing, investigation, referral, etc; there should be interpreted in the light of the patient demography and the nature of the practice.

Indicators for quality assurance in the process of care of each specific condition include prevention, early detection, accurate diagnosis, and effective and appropriate management. A good example is found in the assessment of the care for hypertension: the proportion of the practice population who have been advised on a healthy life style for prevention or who have had their blood pressure checked regularly for early detection; the diagnostic criteria for hypertension; the follow up and management (non-drug and/or drug) of those diagnosed to have hypertension; the blood pressure levels, the complications rates and the quality of life of those who are treated. The process of care of a specific condition reflects mainly the quality of care for patients suffering from this condition; it should be reasonable to infer that the quality of care for other conditions is of a similar standard. The relationship between the process of care and outcome is better established for some conditions (e.g. penicillin treatment of streptococcal tonsillitis) than the others (e.g. drug treatment of premenstrual syndrome), but it does not mean the process of care of the former condition must be a more valid indicator

for quality assurance.

Evaluation of the outcome of the process of care may not be as objective or feasible as that of structure but it is probably more valid.

### Outcome of Care

The outcome of care is the end result of care and it may be reasonably be regarded as the most valid indicator of the quality of care experienced by the patient; it may be the most important from the patient's point of view. Outcomes like mortality rates, complication rates, or recovery time have been used as golden indicators for measuring the effectiveness and quality of care by governments and hospital specialist because they are easy to devine and measure. However, they are not relevant to family practice, which deals mainly with non-life-threatening, chronic or self-limiting conditions. Outcome that should be emphasized more are the social function, the quality of life, patient satisfaction, and the cost-effectiveness of care. Although these may be very difficult to measure objectively they are probably the most valid for family practice.

The outcome of care is influenced not only by the competence of the health care provider, but also by many other factors such as the power of medical science to achieve certain results in certain conditions (there are still many conditions that medicine cannot cure), and the constitution, psychology, illness behaviour, health beliefs and social environment of the patient. Therefore, the overall outcome of care may not be the most appropriate or valid indicator of quality assurance which after all is more concerned with the optimal use of medicine as a science and an art. From the practical point of view, it may take a long time before the final outcome of care can be measured, which therefore reduces its feasibility. Furthermore, studying outcome without studying the process of care cannot identify avenues for improvement.

### HOW CAN IT BE DONE?

There are three main steps in quality assurance: setting outcome standards; assessing the actual outcomes and comparing them to standards; ensuring that the quality of care measures up to these set standards. Standards can be normative or empirical. Normative standards are those set by textbooks, publications, expert panels, or other authorities, and

represent the highest possible idealistic care that could be achieved by the application of medical science. They may lack feasibility in that they may be set under conditions that cannot be applied to the actual practice under study. They may be too high in that it is improbable, if not impossible, that the practice can actually achieve them; this may be very discouraging.

Empirical standards are derived from actual practices, using averages and ranges; the practice itself may be involved in the setting of these standards, thereby offering better motivation for improvement. These empirical standards are more realistic and practical but, if derived from substandard practices, they may fall short of good quality care. The most suitable standards for quality assurance are those synthesized from a combination of normative and empirical standards.

It is relatively easy to assess the structure of a practice and compare them to standards, but it is less straight forward for the process and outcome of care. It is impossible for any practice to assess all health conditions for quality assurance; it is therefore necessary to choose only a few conditions, the quality of the process and outcome of care of which can reflect that for other conditions and for the practice as a whole. Such conditions are often called tracer conditions and Kessner et al<sup>3</sup> have established six criteria in the selection of a tracer condition. They are, in order of importance:

1. It should have a functional impact.
2. It should be relatively well defined and easy to diagnose.
3. It should be relatively prevalent in family practice.
4. Its natural history should vary with utilization and effectiveness of medical care.
5. Its management is well defined for at least one of the following processes: prevention, diagnosis, treatment or rehabilitation.
6. Its influence by nonmedical factors should be understood.

Examples widely used tracer conditions are: otitis media associated with hearing loss, visual disorders, essential hypertension, iron deficiency anaemia, urinary tract infection, and cancer of

the cervix. It must be pointed out that tracers are suitable indicators of quality assurance, but they are not the only conditions in which quality assurance is necessary or possible. Over indulgence in quality assurance for a few conditions may result in a lowering of the quality of care for the others. Conditions that do not satisfy the criteria for tracers may be more valid indicators of quality assurance although they may not be easy to assess. Much research is still required to find a method that is valid, reliable and objective in the assessment of the quality of care in all aspects of family practice.

Improvement of the quality of care up to that of the set standards requires motivation from all practice staff, identification of the deficiencies, their causes and solutions, adequate resources, implementation of the necessary changes and constant review to determine whether standards have been achieved.

It must be stressed that quality assurance is an on going process and the three steps form a closed circle. No practice can be the best, it can only be better. If a practice has been shown to have achieved certain set standards, then these standards need to be re-set at a higher level, and the subsequent steps repeated.

## CONCLUSION

This paper has attempted to answer three questions related to objective outcomes as indicators of quality assurance:

1. Why is it necessary? It is necessary to have quality assurance in family practice because patients need to be assured that their trust in their family physicians is not and will not be abused. In order to measure quality which is not quantitative, it is necessary to use objective outcomes as indicators.
2. What are objective outcomes? There are more than one objective outcomes that can and should be used as indicators of quality assurance. They include outcomes in the structure, and process as well as outcome of care.
3. How can it be done? There are three on-going circular steps: setting the outcome standards, assessing the actual outcomes and comparing them to standards; and improving the quality of care to reach these standards.

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# STRATEGY FOR QUALITY ASSURANCE

At the WONCA Regional Conference in Bali, the following recommendations were adopted:-

1. Make doctors realise that they are accountable
  - to patients
  - to funders
  - to the profession
2. Encourage interest and secure participation of doctors in quality assurance.
3. Develop incentives for participation in quality assurance.
4. Acceptable standards must be set for the consumer, the provider, and funding agency.
5. Means of measuring quality of care must be developed.
6. Continuing cycle of re-evaluation of standards should be ensured.
7. Working parties to set standards should be set up.
8. Quality assurance embraces education and training at all levels including the undergraduate level.

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Workshop Recommendations  
WONCA Regional Conference, Bali  
26 June 1990

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# NEW BOOK ANNOUNCEMENT

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## THE ABC'S OF COMMUNITY PARTICIPATION IN PRIMARY HEALTH CARE

by Khairuddin Yusof, Saroja Batumalai, Wong Yut Lin, Jonathan Okamura

**Publisher** Social Obstetrics and Gynaecology, Faculty of Medicine, University of Malaya, Kuala Lumpur, 1989

**First edition** 1989

**Reviewer** Associate Professor Dr. Abdul Rahman Isa, Head Department of Community Medicine School of Medical Sciences, University Science Malaysia

### The Review

Community development projects which attempt to involve community participation is actually easier said than done. The reasons for failure are many. The most common perhaps, is that the community concerned is not genuinely involved and remains as passive partners in the process. The project is literally pushed down the community's throat. As a result, the activities of development are not sustained or followed-up. The community returns to its old ways as soon as the project is considered delivered.

This manual, "THE ABC'S OF COMMUNITY PARTICIPATION IN PRIMARY HEALTH CARE", attempts to guide the reader on how to bring in the community as equal partners in development projects such as the primary health care movements. The orientation of the manual is towards developing urban poor communities. However the principles discussed are relevant and applicable also to the rural communities.

Although the manual is aimed mainly to primary health care workers, it is also useful as a guide for extension workers in other fields such as agriculture, veterinary and social development. Managers on higher levels could find hints on recruitment of community workers, project planning, implementation and its subsequent evaluation.

The chapters are organized step-by-step beginning with the cardinal rules for primary health care, through details of information gathering exercises, community organization and process, project planning and implementation. The manual ends by discussing issues and current trends in primary health care. A glossary of terminologies used is provided to avoid any misinterpretation and the references are extensive for further readings by those who are interested to know more.

Key points in the text are highlighted by drawing illustrations which depicts real life situations in a lighter vein. Reading the manual is enjoyable for the language used is smooth flowing, simple with clarity of expressions.

To any community worker, the guidance put forth in the manual is both practical and realistic, because it is based on the authors' experience in dealing with community developments. The manual should be a starting point for new workers in the field of primary health care, especially those who are lost — not knowing where or how to begin.

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This book provides a point-by-point guide to measures within the food service industry that can be used to prevent food contamination and protect consumers from foodborne disease. Addressed to managers and supervisors in hotels, restaurants and other catering establishments, the book responds to scientific knowledge indicating that most outbreaks of foodborne disease can be traced to well-defined errors in food preparation and storage. With this view in mind, the book concentrates on facts and advice that can be used to teach food handlers both the principles and the specifics of good hygienic practice. Readers are also reminded of the high costs, including lost clientele and damage to tourism, of foodborne illness and of the protection achieved when food handlers are taught to avoid common errors.

The book features 15 chapters presented in four main parts. Chapters in the first part explain foodborne disease and describe the different ways in which food can become contaminated. Each of the main bacterial foodborne diseases is introduced in terms of its causative agent, susceptible foods, conditions favouring contamination, and clinical features of illness, including the average incubation time. Though emphasis is placed on bacterial contamination, the role of viruses, chemicals, parasites, and natural food contaminants is also explained. Of particular didactic value is a

series of 20 case studies tracing recent outbreaks of foodborne disease to specific faults in food handling. Readers are also given a list of the eight main sources and routes of food contamination, with details ranging from examples of cross-contamination to the simple fact that organisms can be carried into food premises on the outside of eggshells.

The second part describes preventive measures relevant to the environment of food preparation. Chapters offer advice on the best layout of food premises, the location and cleaning of equipment, recommended detergents and disinfectants, cleaning schedules, and measures for pest control. A chapter on the personal hygiene of food handlers is also included.

Chapters in the third part spell out the do's and don'ts of safe food handling, moving from proper refrigeration, freezing, and thawing to hazards associated with different methods of cooking and reheating. Also included are a discussion of the extent to which different food processing and preservation techniques are able to eradicate pathogenic and spoilage bacteria and an analysis of the value of self-regulation and quality control, including use of the Hazard Analysis Critical Control Point (HACCP) system and of a check-list of food hygiene hazards. The book concludes with tips and advice on how to use the guide when planning and conducting training sessions for staff.

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## NEW BOOK ANNOUNCEMENT

### Nutrition Learning Packages

Joint WHO/UNICEF Nutrition Support Programme

1989, vii + 170 pages (available in English; French and Spanish in preparation)

ISBN 92 4 154251 9

Sw.fr. 30.-/US \$24.00

Order no. 1150328

This book presents nine packages of learning materials intended to help health workers acquire skill in presenting the principles and practice of good nutrition to communities. Responding to the most common causes of poor nutrition in developing countries, each learning package follows a problem-oriented approach, featuring questions and answers, checklists, charts, games, stories, tests and exercises designed to make learning a participatory experience. Learning packages complement the training modules presented in *Guidelines for Training Community Health Workers in Nutrition*.

The book opens with a brief explanation of how people learn, followed by a series of questions and answers useful in understanding the importance of different learning methods, their comparative strengths and weaknesses, and their place in community education. Readers are also given a series of sample checklists and rating scales for use in assessing how well specific tasks and skills have been learned.

The main part of the book consists of nine learning packages. Packages, each focused on

a single topic, concentrate on helping trainees learn how to recognize and correct the causes of such common problems as nutrient deficiencies, deficiency-induced diseases, malnourishment, poor childhood growth, and diarrhoeal diseases. Individual topics include the measurement of childhood growth, the promotion of breast-feeding, diets for children and mothers, appropriate nutrition during diarrhoea and other infections, and the recognition and prevention of deficiency diseases, most notably protein-energy malnutrition.

The book gives particular attention to methods of teaching and learning that have proven their capacity to stimulate thinking, discovery, discussion, and the recognition and solving of problems. Learning aids range in nature from a nutrition "snakes and ladders" game to picture recipes for preparing weaning foods, from checklists for testing community attitudes to stories showing the dangers of bottle feeding. All are aimed at involving trainees actively in their own learning. The book also features learning objectives, suggestions for using each type of material, and a resource list.

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DSA/89.153



## NEW BOOK ANNOUNCEMENT

### FOOD, ENVIRONMENT AND HEALTH

A Guide for Primary School Teachers

This book gives educators a highly practical collection of facts, advice, projects, games, illustrations, stories, and sample questions for use in teaching children the importance of healthy habits, particularly concerning food, personal hygiene and the home environment. Details range from advice on how to start a school garden or design a class growth chart to instructions for a game of "germ warfare" that illustrates how pathogens invade the human body. Throughout, emphasis is placed on simple, imaginative tools for correcting errors of food safety, nutrition, and personal hygiene commonly found in developing countries.

The book consists of seven self-contained teaching units which can be used in any sequence. Various chapters deal with the practical aspects of storing and handling food safely, making water fit to drink, disposing of wastes, and maintaining a healthy home environment. Teachers are also given guidance on explaining to children exactly why the body needs water, the types of food needed by the body to stay healthy, and the means by which infection and disease can be spread through a community.

Liberally illustrated, the book contains numerous suggestions for involving school children

in practical activities that will reinforce what they learn and help them to appreciate the relevance of their new knowledge to their lives outside the school. Participation by parents and community leaders in many of these activities is also encouraged as yet another route for spreading the book's simple – yet vital – messages.

#### With teaching units on:

- Food and the body
- Keeping food safe
- A safe water supply
- Safe collection and disposal of waste
- Personal hygiene
- Insects, pests and domestic animals – their role in spreading disease
- A healthy home environment

#### Food, Environment and Health

A Guide for Primary School Teachers

by *T. Williams, A. Moon, and M. Williams*

1990, ix + 129 pages [E, F\*, S\*]

ISBN 92 4 154400 7

Sw.fr. 23.–/US \$18.40

Order no. 1150337

#### Note to reviewers:

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## PELVIC INFLAMMATORY DISEASE

Omar B S T, MBBS (S'pre), MCGP (S'pore), FRACGP

### INTRODUCTION

Pelvic inflammatory disease (PID) is a serious but potentially preventable gynaecological problem. The term PID was introduced at a time when it was realised that the condition was seldom confined to a single pelvic organ and that attempts at classification into oophoritis, salpingitis, endometritis, myometritis, cervicitis and parametritis had only caused confusion. While the term has been criticised for being too vague and possibly confusing, it has relevance for the general practitioner who is more likely to see women in the early stages of the condition when it can be difficult to determine clinically the location of the infection.

### EPIDEMIOLOGY

All sexually active women are at risk of developing PID. The maximum incidence occurs in the 18-24 age group. Epidemiological features associated with an increased risk of PID are listed in Figure 1.

Figure 1 Epidemiological features associated with an increased risk of pelvic inflammatory disease.

- \* Age less than 25 years
- \* Early age of first sexual intercourse
- \* Economically underprivileged
- \* Multiple sexual partners
- \* Recent change of sexual partner
- \* Previous episode of PID
- \* Previous infection with sexually transmitted disease
- \* Current or recent use of an IUCD
- \* Recent gynaecological procedure  
vaginal termination of pregnancy  
hysterosalpingography  
dilatation and curettage
- \* Recent pregnancy

General Practitioner  
Klinik Omar

56 New Upper Changi Road #01-1324  
Singapore 1646

### CAUSES OF PID

Most cases of PID are the result of ascending infection from the lower genital tract. PID is a complex condition with a number of interwoven factors responsible for this occurrence. Some of these factors and their precise pathogenic role are imperfectly understood. One convenient way to consider these factors is to divide them into the pathological organisms most commonly involved and those specific gynaecological procedures that may be implicated (Figure 2). In this way, prevention and appropriate management can be more easily understood.

Figure 2. Causes of pelvic inflammatory disease.

#### Micro-organisms involved:

##### Exogenous:

- \* Chlamydia trachomatis
- \* Neisseria gonorrhoea
- \* Mycoplasma hominis

##### Endogenous:

- \* Escherichia coli
- \* Bacteroides species
- \* Streptococci species
- \* Actinomyces

##### Mixed organism infection

#### Mechanisms involved:

##### Sexual transmission

##### Specific gynaecological procedures

- \* IUD insertion
- \* Termination of pregnancy
- \* Dilatation and curettage
- \* Endometrial sampling
- \* Hysterosalpingography

### CLINICAL PRESENTATION

PID can be extremely difficult to diagnose accurately on clinical assessment. The symptoms and signs can range from nil to mild to severe - even life threatening. The wide variety of symptoms and signs which may be associated with PID is shown in Figure 3; no symptom or sign or combination of symptoms and signs is pathognomonic of the disease. Nevertheless, it is important to maintain a high index of suspicion, as the severity of the pathological



changes is not related to the severity of the clinical features. If PID is suspected, it is vital to take an adequate history, including gentle, non-judgemental enquiry into the woman's sexual activity. Information relating to the health of each male partner is equally important in determining the presence of risk factors.

Figure 3 Clinical features of pelvic inflammatory disease.

#### Symptoms

- \* Bilateral lower abdominal pain
- \* Vaginal discharge
- \* Dysuria
- \* Rectal discomfort
- \* Deep dyspareunia
- \* Irregular menstrual bleeding (caused by endometritis)
- \* Pyrexia

#### Signs

- \* Bilateral lower abdominal tenderness
- \* Rebound, guarding
- \* Bilateral adnexal tenderness
- \* Adnexal mass(es)
- \* Cervical excitation tenderness (pain on moving cervix)
- \* Cervical (muco) purulent discharge
- \* Pyrexia

#### Investigations

- \* Raised ESR
- \* Leucocytosis
- \* Isolation of infective agent(s) from cervix (e.g. *Neisseria gonorrhoeae*, *Chlamydia trachomatis*)

### INVESTIGATIONS

While positive investigation results are useful in determining management strategies, they should not be relied on in this situation. Given the serious nature of some of the possible sequelae, it is important to treat the woman on the basis of her history and the examination, using the investigations as a possible source of useful information.

Endocervical and urethral swabs should be taken specifically for the detection of chlamydia and gonorrhoea. The former may also detect increased growth of possible endogenous pathogen. Raised ESR and leucocytosis lend weight to the diagnosis but it may be remembered that these are non specific.

Laproscopy is the best method for accurately diagnosing PID as samples may be taken directly from the affected organs. However, it is an invasive procedure with a complication rate precluding its regular use. It is perhaps indicated if symptoms do not improve within 24 to 48 hours after initiation of treatment, if there have been recurrent episodes of pain, and in 'high risk' young women in whom future fertility is important. Laproscopy has the important value

of detecting other diseases or complications, for which treatment is quite different e.g. ruptured ectopic pregnancy, endometriosis, appendicitis, or an abscess requiring surgical drainage.

### TREATMENT

The mainstay of treatment of PID is antibiotic therapy but this must be associated with general measures such as adequate rest and abstinence from sexual intercourse. Treatment should not necessarily be delayed awaiting the results of investigations. Given the possible consequences of untreated PID (Figure 4) and the difficulties specifying the micro-organism, treatment should be initiated on the basis of the clinical assessment.

The choice of drug regimen for pelvic inflammatory disease must take into account 4 groups of organisms which may be involved:

- \* *Neisseria gonorrhoea*, nowadays increasingly penicillin-resistant
- \* Oculo-genital serotypes of *Chlamydia trachomatis*, and mycoplasmas, all generally susceptible to tetracyclines
- \* Anaerobic bacteria, including penicillin-resistant *Bacteroides* species
- \* Facultative bacteria, such as *Escherichiacoli*

In the average case that is normally seen in general practice, a tetracycline (e.g. doxycycline, 100 mg b.d.) and metronidazole (400 mg b.d.) for two weeks, provides a dramatic improvement. If gonorrhoea is suspected, this regimen should be preceded by a single dose treatment of either ceftriaxone 250 mg i.m. or spectinomycin 2 gm i.m. It is important to review the diagnosis if the response to treatment with the suggested regimen is not rapid. Slow resolution of symptoms and signs suggests incorrect diagnosis or impaired compliance with treatment.

### IUCD MANAGEMENT

If an IUCD is present, it should be removed soon after starting antibiotic treatment. Alternative arrangements should be made for future contraception, since further use of an IUCD greatly increases the risk of another episode of PID and of subsequent infertility. In mild cases, particularly when other methods of contraception are inappropriate or contraindicated, IUCD may be left in situ, provided there is a rapid response to antibiotic treatment.

## INDICATIONS FOR HOSPITAL REFERRAL

Most women with PID can be treated at home with hospital admittance normally reserved for the following circumstances:

- \* to exclude conditions requiring surgical intervention as listed above
- \* severity of illness requiring parenteral therapy
- \* pregnancy
- \* inability of the patient to comply with treatment
- \* failure to respond to therapy

## FOLLOW-UP

Close follow-up is essential, but there are no good criteria which accurately indicate a cure. As the clinical diagnosis of PID is so inaccurate, this also applies to assessment of cure. Tests should be taken to demonstrate that any micro-organisms present have been eradicated and any abnormal physical signs have returned to normal. Follow-up should also include counselling to avoid re-infection.

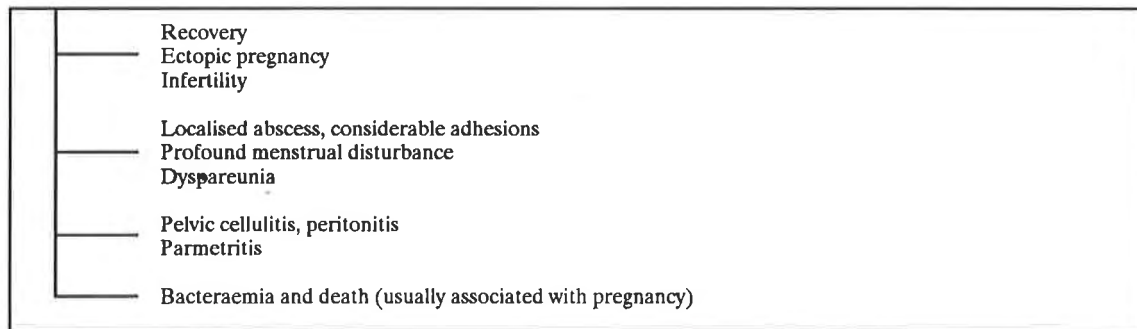
## PARTNER MANAGEMENT

Sex partners of women with PID must be examined and treated when indicated, if re-infection is to be prevented. Women are often reluctant to name their partner(s) in this situation, and considerable efforts may be necessary to trace and treat the source of infection. This is particularly difficult if no microbial cause is found, but it is nevertheless essential. Examination of the sex partner may reveal the likely pathogen.

## SEQUELAE

The mortality of acute PID is insignificant, but the morbidity adds up to a formidable toll of human suffering. The consequences of untreated or inadequately treated PID (Figure 4) include chronic pelvic pain, backache, dyspareunia, menstrual problems, ectopic pregnancy and infertility. Overall, 25% of women who suffer a single episode of PID will suffer subsequent pain, infertility or an ectopic pregnancy.

Figure 4. Possible sequelae of untreated or inadequately treated PID



In recent years, numerous reports of the increasing incidence of ectopic pregnancy and tubal infertility have paralleled the increasing incidence of STDS. PID increases the risk that a subsequent pregnancy will be ectopic rather than intrauterine by eight times. Long-term follow-up data from Sweden suggest that the risk of infertility is related to both the severity of the initial episode of PID and to the number of episodes; it varies from 6% after a single mild episode to 54% after three or more documented episodes.

## PREVENTION

As community based doctors, general practitioners are ideally placed to be involved

in this most important aspect of management. Prevention can take place at a number of levels. Adequate education of all young people is very important. The public has been alerted to the problem of infertility but we hear little of the possible preventable causes.

Women, in particular, need to be aware of the risk factors and the early symptoms of PID. This information will aid avoidance of the disease or assure early intervention if needed. This information can be easily conveyed during the annual Pap smear visit. We need to be aware of those women at risk, offering them and their partners appropriate assessment. Follow-up of all female partners of men with a diagnosed

STD is important. Women with inflammatory changes on their Pap smears should also be further investigated. Careful contraceptive counselling regarding safe sex techniques and dissuading the 'at risk' woman from using an IUCD are other measures. Finally the early treatment of asymptomatic STDS of the lower genital tract will help prevent PID and its possible sequelae.

### CONCLUSION

PID is a source of intense corporeal and psychological pain and distress. General practitioners need a commitment to all phases of prevention, a high index of clinical suspicion, and a preparedness to treat early and adequately if this disorder and its sequelae are to be minimised. The economic cost of PID is enormous, particularly with advent of expensive innovations in infertility treatment such as IVF.

### MULTIPLE CHOICE QUESTIONS

1. Pelvic inflammatory disease (PID)
  - A. is commoner among women fitted with an intrauterine contraceptive device.
  - B. can lead to permanent tubal blockage.
  - C. may be treated satisfactorily by an out-patient regime.
  - D. does not occur in nulliparous women.
  - E. in doubtful cases may need to be confirmed by laparoscopy.
2. Factors associated with an increased risk of developing pelvic inflammatory disease
  - A. age over 50 years.
  - B. monogamous sexual activity.
  - C. use of oral contraceptive pill.
  - D. recent pregnancy.
  - E. recent termination of pregnancy.
3. It is correct to say that
  - A. most cases of PID are the result of ascending infection from the lower genital tract.
  - B. pyrexia is inevitably present in PID.
  - C. PID increase the risk that a subsequent pregnancy will be ectopic.
  - D. vaginal discharge is the most common clinical presentation of PID.
  - E. Chlamydia trachomatis is the least common cause of PID.
4. In the management of pelvic inflammatory disease.
  - A. laparoscopy is essential before initiating treatment.
  - B. examination of sex partners is recommended.
  - C. gonococcal infection is best treated in the hospital.
  - D. in a pregnant woman doxycycline should be given for two weeks.
  - E. if an IUCD is present, it should be removed before starting antibiotic treatment.

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#### Answers

- |    |   |   |   |   |
|----|---|---|---|---|
| 1. | A | B | C | E |
| 2. | D | E |   |   |
| 3. | A | C |   |   |
| 4. | B |   |   |   |



## ECG QUIZ

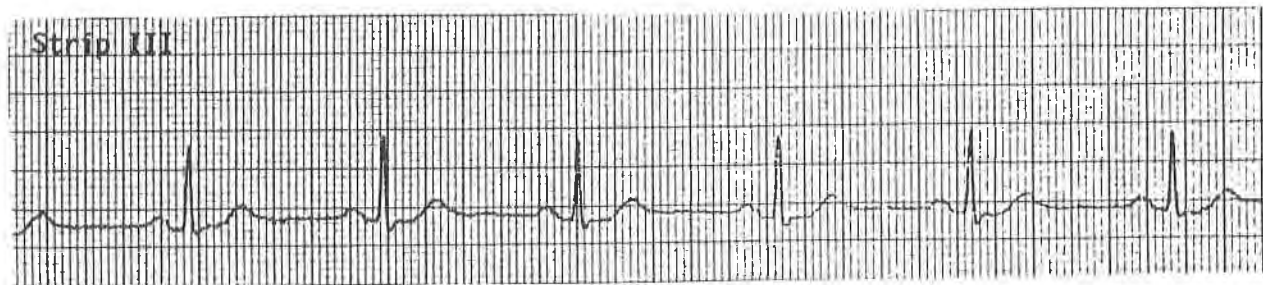
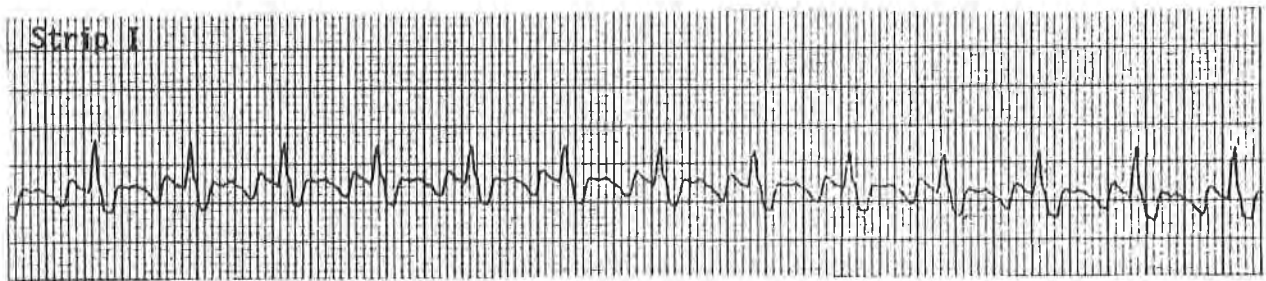
*Submitted by Dr Baldev Singh, MBBS (S'pore), MMed (Int Med), MRCP (UK)*

The rhythm strips show below belong to an 83-year-old man who suddenly complained of dizziness and inability to walk.

What is the arrhythmia shown in Strip 1?

What changes occur in Rhythm Strips 2 and 3?

How would you attempt to treat this arrhythmia?



## ANSWER TO ECG QUIZ

The rhythm shown is atrial flutter. The flutter waves have a saw tooth configuration. The flutter waves are running at approximately 300/min and the QRS complexes in the Strip 1 at a rate of 150/min. Hence every other flutter wave is conducted through the AV node. The rhythm is Atrial Flutter with 2:1 AV block.

The patient was digitalised and the ventricular rate slowed down because Digoxin increased the AV block. Hence Rhythm Strip 2 shows Atrial flutter with variable block.

As he was still very symptomatic especially on standing and walking, he was started on Amiodarone. The patient converted to sinus rhythm (Strip 3). The doses of Digoxin and Amiodarone were then reduced. He is currently on Digoxin 0.0625 mg om and Amiodarone 200 mg thrice weekly and feels very well.



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## LETTER TO THE EDITOR

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# PRIVATE MEDICINE AND GATEKEEPING

Sir,

Your article on Gatekeeping (Family Physician 1990, Vol XVI No 2) poses both sides of the question.

The General Practitioner is naturally the Gatekeeper as the "doctor of first resort". He alone should decide whether a second opinion is required, to clear any doubt in his own mind, or to confirm a diagnosis that will need secondary care, i.e. surgery or in-patient medical treatment by a Specialist Physician.

And the doctor of first resort will recommend the consultant he thinks appropriate for the case in hand.

That should be that.

But it is the case in Singapore where patients have been allowed, and encouraged by a lack of self-discipline in the profession to by-pass their General Practitioner, if they ever had one, and go direct to a Specialist. It is also very often the case that the Specialist is asked to treat minor ailments not exactly within the aura of his specialty and does so with aplomb. No doubt the patient is impressed with the scale of the fee charged.

I maintain of course that the Senior or Specialist Colleague has no business at all doing the work of his Junior or Generalist Colleague in general practice. It is because he does so that the young General Practitioner has to keep

his clinic open until quite late hours just to earn a living.

If, of course, only the Gate-keeper, i.e. the General Practitioner could refer patient for specialist consultation particularly when a claim is to be made on some form of Medical Insurance, then perhaps costs to the public and the Insurers would come down.

It would mean a new discipline and that the General Practitioner would be named both as the Family's doctor and the Physician of First Resort.

This Boy's Brigade of Specialists are very good at lecturing the General Practitioner and pointing out his lack of education and other faults, but they would resent it if we told them they would only see patients after referral from the General Practitioner. They would plead the present habit in Singaporean and current usage. Then it should stop.

In much the same way as all qualified medical students must undergo forced labour in the hospitals before venturing outside to the general public, so it ought to be mandatory for all who would be specialists to spend five years in general practice before concentrating their minds upon, say, the left side of the heart.

**Dr G Y Caldwell**  
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WORLD HEALTH ORGANIZATION PUBLICATIONS

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## NEW BOOK ANNOUNCEMENT

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European Conference on Nursing

Copenhagen, WHO Regional Office for Europe, 1989

ISBN 92 890 1057 6, 38 pages

Price: Sw.fr. 10.-

Order No. 1340040

What is the future for nursing? How can the profession help to achieve health for all? The participants at the European Conference on Nursing gathered to tackle these difficult questions. This book sets out their answers. Nurses are working towards a broader education to prepare them for their task: more autonomous practice, delivering primary health care in the community.

The Conference was a historic event, the first meeting of nurses from the length and breadth of the European Region. It was the culmination of three years of national discussions among 155 000 people, who represented the 4.5 million nurses of Europe. These people talked about current conditions in nursing practice and education, nurses' achievements and problems, and their hopes and needs for the years ahead. Building on the national forums, the Conference participants took this debate to the international level. Their task was to address the issues raised; to analyse nursing practice, to point out the changes needed to achieve health for all; and to recommend action for the period 1988-2000.

This book describes the issues with which the participants grappled, and their recommendations and declaration on nursing in Europe. It is essential reading for people interested in the Region-wide debate on nursing's present and its future, and in the profession's contribution to health for all.

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Authors are invited to submit material for publication in the Singapore Family Physician on the understanding that the work is original and that it has not been submitted or published elsewhere.

The following types of articles may be suitable for publication: case reports, original research work, audits of patient care, protocols for patient or practice management and review articles.

### PRESENTATION OF THE MANUSCRIPT

#### The whole paper

- \* Normally the text should not exceed 2000 words and the number of illustrations should not exceed eight.

Type throughout in upper and lower case, using double spacing, with three centimetre margins all round. Number every page on the upper right hand corner, beginning with the title page as 1. Make all necessary corrections before submitting the final typescript.

Headings and subheadings may be used in the text. Indicate the former by capitals, the latter in upper and lower case underlined.

Arrange the manuscript in this order: (1) title page, (2) summary, (3) text, (4) references (5) tables, and (6) illustrations.

- \* Send three copies of all elements of the article: summary, text, references, tables and illustrations. The author should retain a personal copy.

#### The title page

- \* The title should be short and clear.
- \* Include on the title page first name, qualifications, present appointments, type and place of practice of each contributor.

- \* Include name, address and telephone number of the author to whom correspondence should be sent.
- \* Insert at the bottom: name and address of institution from which the work originated.

#### The summary

- \* The summary should describe why the article was written and give the main argument or findings.
- \* Limit words as follows: 100 words for major articles; 50 words for case reports.
- \* Add at end of summary: an alphabet listing of up to 8 keywords which are useful for article indexing and retrieval.

#### The text

The text should have the following sequence:

- \* Introduction: State clearly the purpose of the article.
- \* Materials and methods: Describe the selection of the subjects clearly. Give references to established methods, including statistical methods; provide references and brief descriptions of methods that have been published but are not well known. Describe new or substantially modified methods, giving reasons for using them and evaluate their limitations. Include numbers of observations and the statistical significance of the findings were appropriate.

Drugs must be referred to generically; all the usual trade names may be included in parentheses. Dosages should be quoted in metric units.

Laboratory values should be in SI units with traditional units in parentheses.

Do not use patient's names, initials or hospital numbers.



- \* **Results:** Present results in logical sequence in the text, tables and illustrations.
- \* **Discussions:** Emphasise the new and important aspects of the research and the conclusions that follow from them. Indicate the implications of the findings and limitations. Relate the observations to other relevant studies.

#### Illustrations

- \* Diagrams, line drawings, photographs or flow charts are valuable but their use will be subject to editorial policy. Transparencies or prints are acceptable for colour reproduction at the authors' expense.
- \* Each illustration must carry its appropriate Figure number and the top should be clearly labelled.
- \* Figure legends, typed (double-spaced) and each on a separate page should be no more than 45 words.

#### Tables

- \* Any table must supplement the text without duplicating it.
- \* Each should be numbered, typed on a separate sheet with an appropriate title.

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#### Acknowledgements

Place these at the end of the text, before references.

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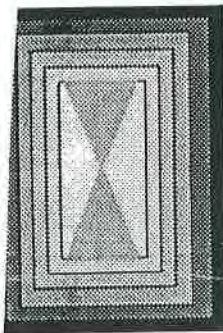
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#### Further reading

1. INTERNATIONAL COMMITTEE OF MEDICAL JOURNAL EDITORS. Uniform requirements for manuscripts submitted to biomedical journals. *Ann Intern Med* 1988; 108: 258-265.
2. Bailar III JC and Mosteller F. Guidelines for Statistical Reporting in Articles for Medical Journals. *Ann Intern Med* 1988; 108: 266-273.

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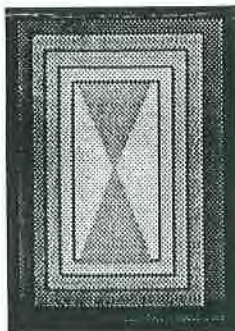


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1. Stevens, C.E., *et al.*: J. Am. Med. Assoc. 257: 2612-2616, May 15, 1987.

2. Yeoh, E.K., *et al.*: Abstract 282. A comparative study of recombinant versus plasma vaccine in high risk infants. 1987 International Symposium on Viral Hepatitis and Liver Disease, London, The London School of Hygiene and Tropical Medicine, May 25-28, 1987.

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### Indications

Hypertension and congestive heart failure (CHF). In patients with CHF 'Zestril' is used as an adjunct to digitalis and diuretics.

### Dosage

In hypertension the usual effective maintenance dose is 20 mg once daily. 10 mg once daily can be used where a starting dose is appropriate. A lower starting dose (2.5 or 5 mg) is required in patients with renal impairment, renovascular hypertension, volume or salt-depleted patients and some elderly patients. Thereafter dosage should be adjusted according to blood pressure response. The maximum dose used in long-term controlled clinical trials was 80 mg/day. CHF 5 to 20 mg once daily, starting dose CHF 2.5 mg.

### Contraindications

Hypersensitivity to any component of this product.

### Precautions

Care required in volume or salt-depleted patients, those previously treated with diuretics and those

with renovascular hypertension as symptomatic hypotension may occur. In hypertensive patients in whom the diuretic cannot be discontinued initial dose of 'Zestril' should be 5 mg. Hypotension may occur during anaesthesia. Correct by plasma volume expansion. Renal impairment may occur in some CHF patients who experience hypotension on starting 'Zestril'. This is usually reversible. Dosage in renal impairment (and elderly) should be based on creatinine clearance.

### Pregnancy

There are no studies in pregnant women. Should only be used if potential benefit outweighs the risk to the fetus. Caution if given to nursing mother. No paediatric experience. Diuretics potentiate the antihypertensive effect of 'Zestril'. Symptomatic hypotension can be minimised by discontinuing diuretic prior to 'Zestril'. Avoid use of potassium sparing diuretics and potassium supplements with 'Zestril' especially in patients with renal impairment. If used concurrently, frequent monitoring of serum potassium is required. Indomethacin may diminish the antihypertensive efficacy of concomitantly administered 'Zestril'. 'Zestril' ameliorates diuretic-induced hypokalaemia.

### Side effects

Mostly mild and transient: dizziness, headache, diarrhoea, fatigue, cough, nausea, rash, hypotension, orthostatic effects, palpitation, chest pain, asthenia. Angioneurotic oedema has been rarely reported. If it occurs, discontinue 'Zestril' promptly. Treatment with antihistamines or adrenaline may be appropriate. Increases in blood urea and serum creatinine, usually reversible, have been seen. Small decreases in haemoglobin and haematocrit have occurred. Hyperkalaemia may occur.

### Overdosage

No data. Correct hypotension with plasma volume expansion. 'Zestril' is dialysable.

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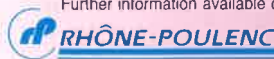
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**Dosage:** Adults: 200mg once daily, with food. Children: Not established. Elderly: Start at 100mg once daily and maintain on lowest effective dose.  
**Contraindications:** Active peptic ulceration; history of recurrent peptic ulceration or chronic dyspepsia; severe renal dysfunction; known hypersensitivity to ketoprofen or aspirin or other NSAIDs; bronchial asthma or allergic disease. **Precautions:** Use with caution in patients with renal impairment. Pregnancy and lactation; Avoid ketoprofen in pregnancy unless considered essential. Trace amounts are excreted in breast milk, therefore avoid use of ketoprofen unless considered essential. **Interactions:** If used with other protein binding drugs, a dosage reduction of these may be necessary. Aspirin or other NSAIDs should not be administered with ketoprofen. Serious interactions have been recorded after the use of high dose methotrexate with NSAIDs including ketoprofen. **Adverse effects:** Gastrointestinal intolerance, headache, mood change, insomnia, occasional peptic ulceration or haemorrhage or perforation, dizziness, mild confusion, vertigo, drowsiness, haematological reactions including thrombocytopenia, hepatic or renal damage, dermatological reactions, bronchospasm, anaphylaxis.

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