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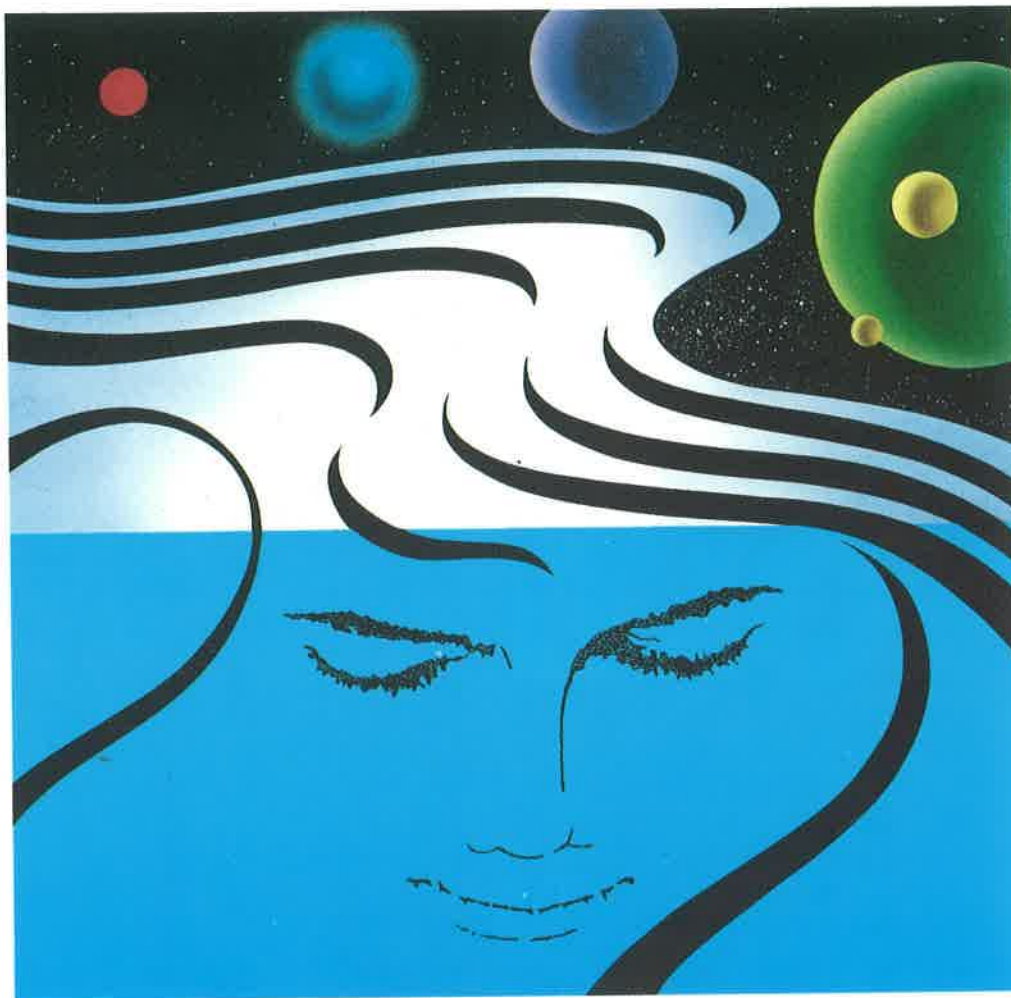
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CONTENTS

Page

The Twelfth Council 1989/91	5
------------------------------------------	---

EDITORIAL

The Family in Family Medicine <i>Goh L G</i>	7
-------------------------------------------------------	---

ORIGINAL ARTICLE

Pathophysiology and Management of Diabetic Foot Problems <i>Tan K T</i>	9
----------------------------------------------------------------------------------	---

THIRD ANNUAL SCIENTIFIC CONFERENCE:

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The Hospitalised Patient: The General Practitioner's Role and Perspective <i>Lim L H</i>	15
------------------------------------------------------------------------------------------------------	----

The Hospitalised Patient: The General Practitioner's Role the Government Hospital's Perspective <i>Chee Y C</i>	19
-----------------------------------------------------------------------------------------------------------------------------	----

The Evolution of General Practitioners Involvement in Private Hospital Care over the last 15 years <i>Toh C S Charles</i>	22
---------------------------------------------------------------------------------------------------------------------------------------	----

Your National Service Patient - Fit to Serve <i>Tay M</i>	26
--------------------------------------------------------------------	----

HOME STUDY SECTION

Management of Hyperlipidaemia <i>Omar B S T</i>	29
----------------------------------------------------------	----

ECG Quiz <i>Singh B</i>	36
----------------------------------	----

NEW BOOK ANNOUNCEMENT	38
------------------------------------	----

GUIDELINES FOR AUTHORS

The Singapore Family Physician	42
--------------------------------------	----

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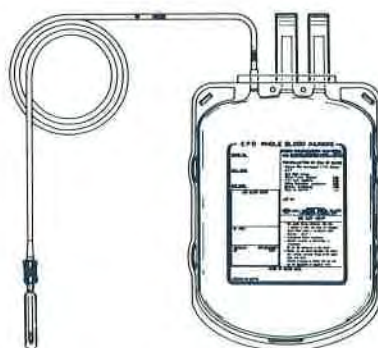
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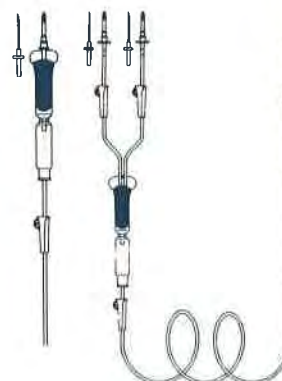
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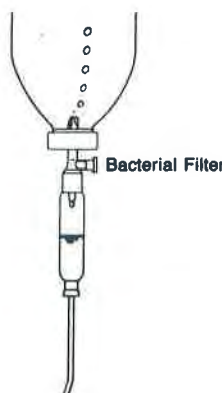
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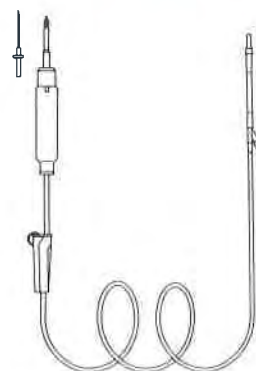
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THE FAMILY IN FAMILY MEDICINE

What is the place of the family in Family Medicine? Historically, the discipline of Family Medicine grew out of American General Practice to become the 20th American medical specialty when it was accepted in 1969. A review of the history of the decision by the American Academy of General Practice to dissect out "General" and to implant in its place "Family" suggests it was done for political advantage and emotional impact [1]. In the United Kingdom, where tradition is revered, general practice received a facelift instead of an implant. With self esteem bolstered by improved appearances through longer training and more academic and community recognition, the Royal College saw no need for a "family" implant. Thus, the label of Family Medicine and General Practice can be taken as synonymous.

The place of the family in Family Medicine has been the subject of deliberation. Thus, Riley et al [2] in 1969 examined 103 randomly selected family practices in upstate New York and found that 78% of family members in the practice were seen by the same physician and 80% of the patients were seen on a continuing basis. Conclusions drawn from this study were: 1) that "training programmes must be built on the principle of family care"; and 2) "the essence of Family Medicine is care for the family... something no other specialties provides". This optimistic view however was not always seen in practice and several papers subsequently showed there was a lack of continuity and family physicians did not tent to see all members of the family(1). This is also true of Singapore today where the working adults tend to be seen by the company doctor or doctors, and the other members by either the neighbourhood general practitioner or the government polyclinic doctor.

Nevertheless, there is still the place for keeping in mind of the family in the care of individuals. The family has five main effects on an individual's health [3]. These are genetic influences, influence on child development, influence on the spread of disease, family influence on morbidity and mortality in adults and, finally the family's influence on recovery of illness.

The general practitioner or family physician may be involved in one of three levels of family involvement in the care of the individual as has been described by Smilkstein namely, (1) at the level of caring for more than one member of the family, (2) at the level of the patient within the context of the family and, (3) at the level of the family as an unit [1]. The level of family involvement necessary varies with circumstances from being not important in acute minor illness to being very important in serious acute illnesses and in the continuing care of chronic illnesses.

Caring for more than one member of the family is not uncommon in a given practice as the family doctor very often looks after the mother, the child and also the grandparents of the child as well. This first level of family care leads on to the next level which is caring for the individual in the context of the family. Illnesses have knock-on effects on the family and the doctor has to explore the impact of the effects and also the resources available to that family. The care of the patient within the context of the family is seen by Smilkstein as the level of family care most relevant to the Family Medicine's future success. Family medicine research over the two decades has established the poor health outcome in patients suffering from a given illness in those who come from dysfunctional families compared to those from families without such difficulties. Examples of relationships that have demonstrated with such as association included family dysfunction and angina, pregnancy complications, and otitis media. These observations represent the strongest argument for family medicine's continued efforts to advance its understanding of a patient's family function in health or illness. Treating the patient within the context of the family requires that the family be recognised not only as a resource in time of stress, but also as a source of stress. In times of stress from physical or psychosocial causes, the physician's understanding of the positive or negative contributions of family can prove most valuable in understanding the dynamics of illness problems or in prescribing prevention.

The next level of family care that emerges

from the individual in the context of his family is treating the family as an unit of care. There are certain roles that have been accepted by many family physicians that relate to the care of the family as a whole. These include family planning, parenting education, health promotion and disease prevention. Less well accepted has been the family physician's role as a therapist for family dysfunction (family therapy). It is likely that with training and time, most family physicians will be able to continue to counsel and support families in times of crises where brief family therapy sessions will suffice but referring to trained therapists for the more difficult problems. In the care of the family as a unit, a thorough understanding of the family life cycle is important. The version of eight stages described by Duvall, is still the most useful framework [4].

The "family" in Family Medicine is therefore more than just a label. Attention to the family in the presenting patient gives the attending doctor a more meaningful way of dealing with the patient's complaints. Towards this we need to think family, to involve the family, and gather information about the family [5]. One framework of gathering family information is the McGill Family Assessment Form based on the acronym PRACTICE. P stands for presenting complaint; R stands for roles of the patient in the family; A stands for affect (the emotional relationships of members in the family); C stands for communication in the family or its absence; T stands for time in the family life

cycle; I stand for illness; C stands for coping and E stands for ecology of the patient which includes the social, cultural, religious, educational, economic, environmental and medical resources. Of the ecology elements, the most critical is social support. The most protective psycho-social resource we have against illness is a high quality relationship with family and friends. The data on the family captured with this assessment framework becomes a working database that helps in the understanding of individual function and in problem solving and management.

References

1. Smilkstein G. Revisiting the family in Family Medicine. *The Family Physician* (Israel) Dec 1989; 17:3; 133-36
2. Riley GJ, Willie CR & Haggerty RJ. A study of family medicine in upstate New York. *JAMA* 208:2307, 1969.
3. McWhinney IR. Family influences on health and disease. An introduction to Family Medicine. Oxford: OUP, 1981.
4. Talbot Y, Christie-Seely J, Charbonneau S. The Family Life Cycle - Its importance in working with Families. in: *Working with the family in Primary Care* ed Christie-Seely. New York: Praeger, 1988, 32-60.
5. Steinert Y & Golden M. Working with Families in Primary Care: Guidelines for the Family Physician. *Can Fam Physician* June 1986.
6. Dorothy Barrier et al. PRACTICE - A Family Assessment Tool for Family Medicine. in: *Working with the family in Primary Care* ed Christie-Seely. New York: Praeger, 1988, 214-233.

GLG

PATHOPHYSIOLOGY AND MANAGEMENT OF DIABETIC FOOT PROBLEMS

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INTRODUCTION

Diabetic foot complications result in a large number of hospital admissions as well as prolonged hospital stay. Diabetic foot ulcers are typically slow in healing and can progress to diabetic gangrene. Diabetic gangrene resulting in major limb amputation remains one of the most feared complications in diabetes. Diabetics form more than 50% of cases of major limb amputations in Singapore¹.

A rational approach to diabetic foot complications depend on an understanding of the pathogenesis of foot ulcers in these patients. These problems result from an interplay of three important factors: diabetic neuropathy, ischaemia and infection. I shall discuss each of these briefly and suggest an approach for the management of these problems.

NEUROPATHY

Diabetic neuropathy is one of the common long-term complications of diabetes. Diabetic neuropathy can affect both somatic and autonomic nerves². It results in motor as well as sensory deficit. Motor deficit results in imbalance of muscles especially of small muscles in the feet. This is commonly manifested as clawing of the toes. Sensory deficit often manifests as a 'glove-stocking' type of hypoaesthesia or anaesthesia. These patients may also have pain in the affected limbs. They typically complain of having no feeling in their feet on walking or in earlier cases the sensation of walking on cotton wool. Autonomic neuropathy affects the vascular supply to the limbs and can also result in dryness of skin or, uncommonly, edema of the limbs.

Deformities of the feet like claw toes or hammer toes result in alteration to the normal distribution of pressures in the feet. The areas of high pressure distribution will then develop thick callosities - a common feature in diabetic feet. Diabetic patients who have previous toe amputations will have further disturbance to their pressure distribution. The development of callosities often precede the development of ulceration at the center of the calluses where the pressure is highest³.

The lack or absence of sensation in the feet also predispose diabetics to accidental trauma of the feet again resulting in ulceration. Diabetic feet can often become dry and the skin may crack, admitting pathogens and leading to infections. Edema of the legs, either from cardiac failure, nephrotic syndrome or autonomic neuropathy, also aggravates the situation causing delay in healing. (see Figure 1)

ISCHAEMIA

Peripheral vascular disease affecting the large vessels in the legs is another common complication of diabetes. Unlike retinopathy, neuropathy and nephropathy, which are microvascular complications, this is one of the macrovascular complications. It was previously thought that the vascular problem in diabetes mainly affects the small vessels but this view is now believed to be incorrect⁴.

Diabetic peripheral vascular disease can affect any or all major vessels in the legs - femoral, popliteal, anterior and posterior tibial arterics. Often the involvement is generalised and extensive. There may be relatively few symptoms. Some patients may complain of intermittent claudication which is pain in the calves on walking long distances. More severe cases may cause pain even at rest. Many cases however have no symptoms at all and may present for the first time

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as a gangrenous foot. Clinical examination often reveals a pulseless foot.

Ischaemia in the feet results in poor healing of ulcers or wounds. Ischaemia itself can lead to ulceration - termed ischaemic ulcers. Ischaemia in the extremities present as dry gangrene of the toes. These can become infected and cause wet gangrene. At this stage the infection becomes a life-threatening one and often amputation is the only option.

Drug therapy of limb ischaemia is difficult. Although there are many agents reported to be efficacious in treating claudication and microvascular disease, the actual efficacy of these agents is doubtful⁵. These drugs are often expensive and non-drug therapy like regular moderate exercise (walking) and stopping the smoking habit where present may be just as helpful. Beta blockers should not be used in patients with peripheral vascular disease.

Vascular surgery of the diabetic foot is also a difficult area. It is possibly the only really effective treatment of ischaemia but many patients are not suitable for surgery. The advent of angioplasty is a welcomed one as it may be suitable for a small proportion of the patients. An angiogram is usually necessary to determine if the lesions(s) are amenable to angioplasty or vascular reconstructive surgery.

INFECTION

It is widely accepted that diabetics are prone to infections^{6,7}. Although this is true, the majority of diabetics are able to heal their wounds eg from a surgical incision. In most diabetics the impairment of healing process is very mild and subtle and some studies have shown that diabetics are no more likely to have post-operative wound infections than non-diabetics⁸.

However, with regards to the diabetic foot, ulcers are often slow to heal because of a number of other factors besides their susceptibility to infections. These factors do play a bigger role. The role of neuropathy and ischaemia have already been discussed. Infection is often difficult to eradicate in deep neuropathic ulcers. Neuropathic ulcers may extend to the bones, causing osteomyelitis which is difficult to completely eradicate. These complications may necessitate an amputation.

Diabetic foot infections tend to occur insidiously with the patient feeling little pain because of neuropathy. There may also be little redness or swelling because of poor blood supply. This leads to a delay in presentation, a delay in treatment of and often dire consequences.

Studies on the microbiology of diabetic foot ulcers have revealed that multiple organisms may be responsible⁹. Swabs for culture may yield 3 or more strains of organisms. Bearing in mind the normal flora of the skin itself may yield one or more organism, it becomes difficult to tell which organism is the pathogenetic one for that ulcer.

Cultures from diabetic ulcers often yield 3 groups of organisms - Gram positive, Gram negative and anaerobes¹⁰. It appears therefore that antibiotic therapy should cover all 3 classes of organisms. Combinations of antibiotics or one with a broad spectrum of coverage, including coverage for anaerobes, may be prescribed (see Table 1). However in spite of our knowledge of the organisms involved, it is not clear whether antibiotic therapy really alters the outcome. Studies which compare culture results with and without antibiotic therapy show only a reduction in yield of Gram positive bacteria in antibiotic-treated cases¹¹. Nevertheless, most physicians would start antibiotic when there are signs of definite infection - eg surrounding cellulitis, foul smell (suggests anaerobic infection), fever, gas forming organism or bone involvement, etc.

The role of topical antibiotics and antiseptic agents in diabetic ulcers is unclear.

INTERPLAY OF NEUROPATHY, ISCHAEMIA AND INFECTION

As discussed above, these three factors are pivotal in the development of diabetic foot ulcers. Each diabetic patient may have neuropathy or ischaemia or both. This will then predispose the patient to foot ulcers. If infection sets in and is not quickly eradicated, diabetic gangrene may be the final unfortunate outcome.

Although diabetic neuropathy is the subject of extensive research, there is as yet no single agent that has been proven to prevent or reverse the development of diabetic neuropathy. Good blood sugar control prior to the development of neuropathy may reduce the risk of this complication but once it has developed, the damage is

usually irreversible. Prevention of peripheral vascular disease is also difficult although better attention to lipid dysfunction in diabetics may have some effect on this complication.

Therefore the management of the diabetic foot, where neuropathy or ischaemia or both are already existent, must lie in the prevention of ulceration. Prevention of ulceration and early detection and treatment of ulcers and infection are the keys to management of the diabetic foot.

MANAGEMENT

The management of diabetic foot problems can be divided into the following:

1. Identification & follow-up of the high risk patients
2. Education on foot care
3. Management of foot ulcers
4. Prevention of recurrence of foot ulcers

1. Identification & follow-up of the high risk patients

As discussed earlier we know that patients who have neuropathy or peripheral vascular disease are at increased risk of developing foot ulcers. At the first visit, all diabetics must be screened for foot problems and those who have the risk factors must be ear-marked for regular follow-up, preferably at a foot clinic. Many doctors neglect or forget to look at their patients feet.

Patients who have been identified as having high risk for foot problems should be followed up at regular intervals of about once every 4 to 6 weeks. The purpose of these visits is to look for and treat any early foot problems as well as to reinforce education on foot care. (see Table 2 & Figure 2)

2. Education on foot care

This is perhaps the most basic and yet the most effective way of preventing diabetic foot complications. All diabetics must be taught to adopt simple routines like cleaning and drying their feet each day and inspecting them carefully. Those who have poor vision should have their feet inspected by a relative or friend daily. Soaking the feet especially in hot water is not recommended, as there may be accidental scalding if the water is hotter than anticipated. Many diabetics have poor temperature sensation. If the skin is dry, a lotion or moisturiser can be applied after cleaning. This

prevents cracking of the skin.

All diabetics must pay close attention to their footwear. Poor fitting shoes - too small, too narrow or too large - are a frequent cause of blisters which can become ulcers. Shoes should be inspected before wearing - there may be surprises like foreign bodies inside! Many Singaporeans wear slippers. Many diabetics with foot deformities have difficulty finding a fitting pair of shoes and resort to wearing slippers. This is not ideal! Slippers are often poor fitting, offers little grip and support for the feet and provides little protection against accidental trauma. Diabetics should be advised to have a proper pair of laced shoes, specially designed and well fitted. New shoes should be worn only for a short duration each time until they are 'seasoned'.

Attention to the trimming of nails is another important task. Those with suspect vision should not cut their own nails. Nails should be kept trim but not cut too short. Ingrown toe nails especially of the big toe is to be avoided by proper trimming of nails regularly. Diabetics should not try to trim their own corns or callosities. Many disasters have resulted from these simple attempts. Common corn or callosity remedies like corn plasters are not recommended.

Diabetics should not smoke. Those at risk of foot problems should be strongly persuaded to give up smoking. (see Table 3)

3. Management of foot ulcers

Once an ulcer has formed, every effort must be made to ensure healing as soon as possible. Ulcers can be divided into grades depending on severity (see Table 4).

The most commonly encountered is Grade 1 ulcer. These ulcers often occur at pressure points or at the centre of callosities and walking on the affected foot gives the ulcer no chance to heal. The ulcer becomes chronic giving opportunity for infection to set in. The keys to healing this ulcer are rest and removal of pressure from the ulcer site. Bed rest may need to be enforced. Sometimes patients can walk with crutches without bearing weight on the affected foot. Reduction of the callosities around the ulcer also helps. Ideally a special in-sole should be made so that the patient can walk without exerting pressure on the ulcer.

Grade 2 ulcers are deeper and often infected. The same principles of rest, removal of pressure and dressing apply. In addition, antibiotics are often needed. A broad spectrum of antibiotics is usually prescribed. Surgical debridement of necrotic tissue may be necessary.

Grade 3 ulcers need surgical debridement. A thorough debridement and wide excision of necrotic tissues or even bone is essential. Antibiotics and other measures to heal the wound also apply.

Grade 4 ulcers require amputation, at least the infected toe(s) or ray amputation of the foot. If ischaemia is present, poor wound healing is anticipated and it may be prudent to do a more radical amputation and ensure good healing.

Grade 5 ulcers almost invariably require a major amputation - below knee or above knee. Again the level of amputation may be dictated by adequacy blood supply.

4. Prevention of recurrence of foot ulcers

Prevention of recurrence of foot ulcers depends on all the principles that have been discussed so far. Regular visits to a foot clinic and reduction of callosities are important. Proper trimming of nails should be performed. At each visit, education on foot care should be reinforced.

Special footwear to redistribute the pressure of the feet can prevent ulceration at the previous sites. A custom made insole and a custom made pair of shoes by a specialist shoe maker are worthwhile investments. Patients who have ischaemic feet may be considered for vascular surgery to prevent recurrence of ischaemic ulcers.

CONCLUSION

In conclusion, a strong emphasis on preventive measures is the key to management of diabetic

foot problems. Education of diabetic patients on good foot care must be emphasised. The diabetologist, nurse educator, vascular surgeon, orthopaedic surgeon, podiatrist and orthotist must work together to help reduce the tragedy of diabetic limb amputation.

REFERENCES

1. Tan MH, Gwee HM, Yeo PPB, Lim P, Bose K. The clinical features of diabetic amputees in Singapore. In Cheah JS (ed) Proceedings of 6th Asia and Oceania Congress of Endocrinology 1978:234-9.
2. Ward JD. The diabetic leg. *Diabetologia* 1984;22:141-7.
3. Boulton AJM. The importance of abnormal foot pressures and gait in the causation of foot ulcers. In Connor H, Boulton AJM, Ward JD (eds) *The foot in diabetes*. John Wiley & Sons 1987:11-21.
4. LoGerfo FW, Coffman JD. Vascular and microvascular disease of the foot in diabetes. *N Engl J Med* 1984; 311:1615-8.
5. Anonymous. Do drugs help intermittent claudication? *Drugs and therapeutics bulletin* 1990;28(1):1-2.
6. Bagdade JD, Root RK, Bulger RJ. Impaired leukocyte function in patients with poorly controlled diabetes. *Diabetes* 1974;23:9-15.
7. Nolan CM, Beaty HN, Bagdade JD. Further characterisation of the impaired bactericidal function of granulocytes in patients with poorly controlled diabetes. *Diabetes* 1978;27:889-94.
8. Hjortrup A, Sorensen C, Dyremose E, Hjortso NC, Kehlet H. Influence of diabetes mellitus on operative risk. *Br J Surg* 1985;72:783-5.
9. Jones EW, Edwards R, Finch R, Jeffcoate WJ. A microbiological study of diabetic foot lesions. *Diabetic Medicine* 1985;2:213-5.
10. Jeffcoate WJ, Jones EW, Peacock I, Finch RG. The significance of infection in the diabetic foot lesions. In Connor H, Boulton AJM, Ward JD (eds) *The foot in diabetes*. John Wiley & Sons 1987:59-68.
11. Walsh CH, Campbell CK. The multiple flora of diabetic foot ulcers. *Irish J Med Sci* 1980; 149:366-9.

Figure 1: A schematic representation of how Diabetic neuropathy can lead to diabetic amputations.

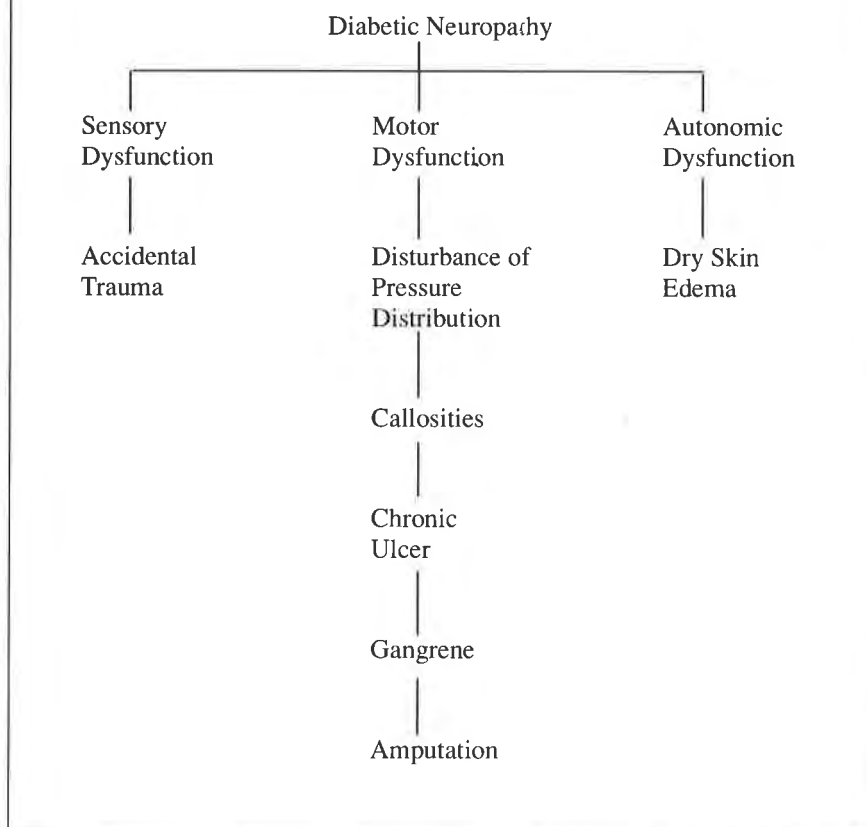


Table 1: Antibiotics for treatment of diabetic ulcers

Gram Positive bacteria	Cloxacillin Erythromycin Fusidic Acid Clindamycin
Gram Negative bacteria	Gentamycin
Anaerobes	Metronidazole Clindamycin Augmentin Unasyn

Table 2: Patients at high risk of diabetic foot ulcers

Diabetic neuropathy
Peripheral vascular disease
Foot deformity - eg claw toe, hallux vulgus
Past history of foot ulcer
Partially blind/blind
Renal failure/Cardiac failure

Figure 2: Algorithm for identification of high risk patients

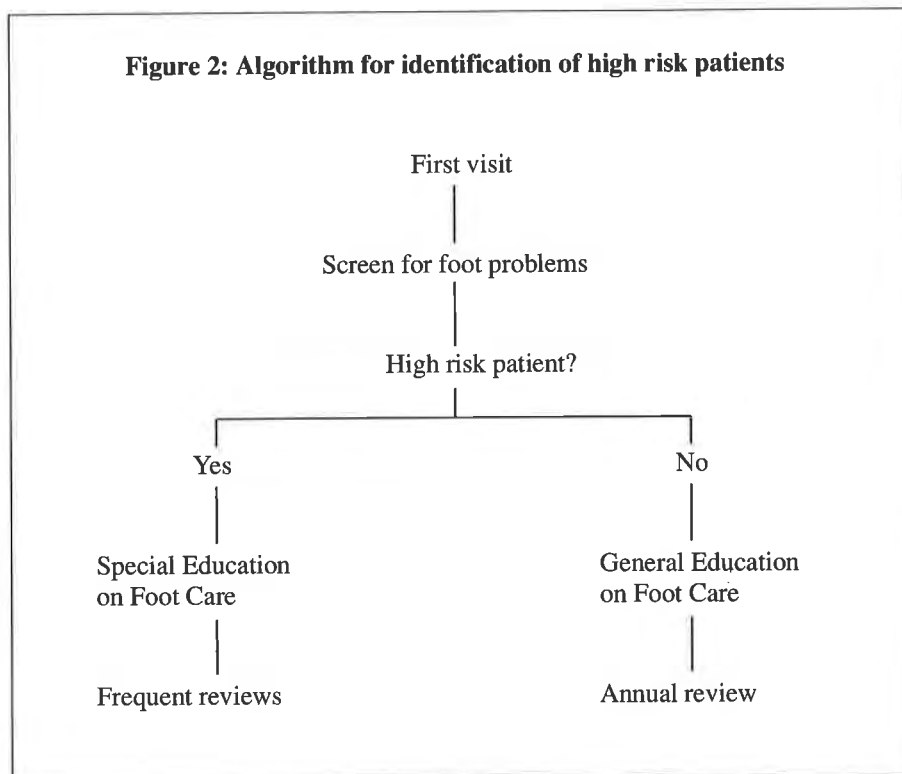


Table 3: Dos and Don'ts in diabetic foot care

<u>Do</u>	<u>Don't</u>
Inspect feet daily	Smoke
Wash and dry feet	Soak feet in hot water
Apply lotion to feet	Use chemicals to treat callosities
Choose shoes carefully	Walk barefoot
Inspect shoes daily	Cut own corns/calluses
Avoid extremes of temperature	

Table 4: Classification of diabetic foot lesions

Grade 0	At risk foot; no ulcer obvious
Grade 1	Superficial ulcer; not infected
Grade 2	Deeper ulcer; often infected but no bone involvement
Grade 3	Deep ulcer; abscess formation, bony involvement
Grade 4	Localised gangrene (eg of toe, toes or forefoot)
Grade 5	Gangrene of whole foot

THE HOSPITALISED PATIENT: THE GENERAL PRACTITIONER'S ROLE AND PERSPECTIVE

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INTRODUCTION

In preparing for this Seminar, I have drawn upon the notes from the various teaching modules, notes from policy meetings of the College of General Practitioners, Singapore, written to the 11 private hospitals in Singapore for facts, figures and policies and written to our sister colleges and family physician associations overseas for their views and policies.

To give a better dimension to this topic, allow me to define what is an ideal General Practitioner/Family Physician.

"He is the Physician of first contact, providing primary, personal, continuous, comprehensive and preventive health care to his patients from conception to death, taking into consideration the patient's family, work, social and community environment."

From this definition, it would appear that for a GP to be able to provide continuous and comprehensive health care, ideally, then, when his patient is hospitalised, he should in one way or another be involved so that continuity of care is not interrupted.

Further, the GPs of today in Singapore have to practise medicine under very different circumstances, especially as the people of Singapore become more affluent and better educated, their expectations of health care also rise. In the past, hospitalisation, for the majority always meant admissions to government hospitals. Today, since

1986 when the public were allowed to use their Medisave for private hospital admissions, we are seeing a significant increase in admissions to private hospitals. Thus the GPs of today are facing increasing requests from their patients to admit and care for them in private hospitals.

I believe that before a GP can manage his hospitalised patient with expertise and competence, certain conditions have to be met and fulfilled. He must

- 1) acquire and keep up with the new knowledge and technology of medicine,
- 2) have access to investigative procedures from laboratories and Xray clinics,
- 3) have access to hospitals where he can admit and care for his patients, and
- 4) there must be enough GPs to keep the programme ongoing.

ACQUIRING KNOWLEDGE

The GP can acquire post-graduate knowledge from the numerous Continuing Medical Education programmes which have now gone onstream for the medical profession in Singapore and are being provided by hospitals - private, government - the University, College of General Practitioners and the Academy of Medicine.

ACCESS TO FACILITIES FOR INVESTIGATIONS

Possessing adequate post-graduate knowledge is insufficient. A GP needs the backup of laboratories and Xray clinics for the pre-admission and post discharge management of his patients. In Singapore, there are 24 medical

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laboratories located in various parts of the island, which are run by pathologists, doctors and qualified laboratory technicians. In addition, there are 8 Xray clinics providing routine Xrays, scan-nings, ultrasounds and MRIs. The Xray depart-ments of the various private hospitals also offer their services to GPs.

ACCESS TO HOSPITAL BEDS

There are enough beds for medical and surgi-cal cases from the 11 private hospitals, together with the National University Hospital, Singapore General Hospital, Alexandra Hospital, Kandang Kerbau Maternity Hospital, Tan Tock Seng Hospi-tal, Toa Payoh Hospital; almost the whole island is covered.

All the private hospitals allow GPs to admit and look after their patients. They all have Medical Advisory Boards and Credentials Committees to review and approve applications by GPs to be on their admitting staff. The criteria used are very fair and are necessary to maintain the highest standard of medical practice. They are:

- 1) Be registered with Singapore Medical Council.
- 2) Post-graduate experience. Most hospitals want 5 years, some even 10 years post-graduate experience, or be a Diplomate Member of the College of General Practitioners.
- 3) Be covered by malpractice insurance.
- 4) Nominate two referees from the medical profession.

However, there are certain constraints. The privileges granted to GPs are to admit and to attend to patients at ward levels. They are not permitted to:

- 1) Perform major surgical operations, i.e. use of major operating theatres are not allowed.
- 2) Utilise the hospital's obstetric delivery suites or do any gynaecological procedures.
- 3) Utilise the hospital's nurseries for the care of infants.
- 4) Utilise the hospital's intensive care facilities,

e.g. ICU, CCU, high dependency units.

- 5) Utilise the hospital's radiology department for invasive procedures.

Whilst there are no strict guidelines as to when specialist referral is necessary, GPs are en-couraged to exercise their professional judgement. Where it is felt a GP is attempting to manage something beyond his experience, the Hospital's Medical Advisory Board in some private hospitals is empowered to intervene.

Currently there are 917 doctors in private prac-tice, spread out all over the island, giving a very satisfactory population doctor ratio, and the num-ber of GPs registered with the various hospitals are:

Mount Elizabeth Hospital:	123
East Shore Hospital:	141
Thomson Medical Centre:	83
Youngberg Adventist Hospital:	33

From the above, we can see that the GP can have a role in the hospitalised patient. The ques-tion is how does his role fit in with

- 1) government policies with regard to patients in government hospitals?
- 2) the policies adopted by the private hospitals? Here, Gleneagles Hospital over the next few years will be gearing itself towards the tertiary care specialities such as cardiovascular and neurosurgery. As such, it has expressed an opinion that the role of the GP, managing patients in a hospital projecting itself as a tertiary care centre, may then have to be re-ex-aminated. On the other hand, Youngberg Adven-tist Hospital, a not-for-profit community hospital with 42 beds sees much potential for hospitals in Singapore to support the practice of GPs in a mutually beneficial way.
- 3) his working relationships with fellow GPs and specialists in private practice? As a result of the growth of knowledge and technological change in medicine, medical care has become increasingly specialised and fragmented, and the demand for and the increasing availability of specialists in private practice is having an impact on the role of the GP, in not only limiting the range of a GP's work, but also

breaking the continuity of patient care.

- 4) the expectations of the public, i.e. his patients? All of us must be aware of the increasing number of negligence suits settled out of court, and the letters of complaints to the press, Singapore Medical Association and the Singapore Medical Council.

Bearing these in mind, the GP's role can then be:

1. Active
2. Passive - involved and/or informed
3. Passive - sharing

ACTIVE ROLE

In his active role, the GP will admit, manage and discharge his patient. Prior to admission, he would have already carried out the necessary workups using the private laboratories and Xray services that are available. Here, the GP would mostly be admitting and managing medical problems such as chest infections, gastro-intestinal problems, cardiac conditions, unstable diabetes, paediatric cases etc. He will, in the course of his management, exercise his professional judgement, call in the appropriate specialist and together manage the patient. This active role, presently does not allow GPs admitting rights to Government Hospitals; but with its restructuring and privatisation programme, some form of role may emerge for the GPs.

PASSIVE ROLES

In his passive roles, the GP can either be passively involved and informed or passively sharing. In his passive involvement and information role, I can see the GP visiting his hospitalised patient and discussing with the hospital doctors his patient's progress and problems. Again, here a dialogue with the Ministry of Health has to be set up similarly so with the private hospitals. Alexandra Hospital has taken the initiative and has written to GPs inviting them to participate in this scheme which was started in August this year. Of course the patient's wish has to be respected as he would then have to inform the hospital that he would like his GP to be in the picture, following which the hospital will then have to get in touch with his GP. For this exercise, a tremendous amount of administrative work is involved and whether manpower i.e. non-nursing clerical staff is available. However, today, most private hospi-

tals have ward clerks attached to every ward to do paper work and to relieve their nursing staff who need only to carry out nursing duties.

In his passive sharing role, the GP can share in the management of the patient, not as in the active role earlier defined. Here, if it's a surgical case, emergency or elective, after referral to the surgeon, he can assist the surgeon during surgery, also share in the post-surgery and convalescent phase management in hospital; in other words, be a team member. If accepted, GPs can then also participate in the well known and traditional ward rounds at government and teaching hospitals. Only recently, the Chairman of Kangar Kerbau Hospital's Medical Executive Committee has written to the College of General Practitioners indicating that their 3 O & G units would like to have shared antenatal care with members of the College and a modus operandi suitable to both will be worked out.

GPs IN OTHER COUNTRIES

As mentioned in my introduction, I have written and obtained the situation practised in other countries, and the following have responded - Australia, England, Hong Kong, Japan, Thailand and Philippines.

In Thailand and Hong Kong, GPs are not allowed to admit and manage patients in government hospitals. In Japan, a doctor who has registered his name with a public hospital is permitted to request admission of his patient, but admission depends on the decision of the "house-doctor". Under this system, the registered doctor may only visit his patient, the care and treatment is in the hands of the "house-doctor". In addition, there are a number of hospitals in Japan which are operated by prefectural medical associations whose members are free to admit and manage their patients themselves.

In Australia, because of the vastness of the country, the involvement of GPs in hospitals, eg in New South Wales, depends on geography. In isolated rural areas, they perform virtually total care including procedures, but in cities and large towns, they are generally excluded from hospital work. I'm told that admitting rights of GPs to public hospitals are being continuously reduced throughout New South Wales, particularly so in hospitals in the metropolitan areas and increasingly in Base hospitals and large country hospitals.

In the United Kingdom, under the National Health Service are community hospitals which may have 20 to 50 beds for GP's patients. He usually manages medical cases, post-op convalescence, investigations and minor operations under L.A. Another situation is where GPs look after their own patients in GP maternity units, usually in rural areas, or they even have GP beds within a consultant obstetric unit; these units are very popular with patients because they can be looked after by their own GPs.

As for private hospitals, Hong Kong is the most liberal, where the majority of private hospitals grant admission rights to GPs without having to go through a "Certifying" Board. In most cases, all that is required is for the applicant to be proposed and seconded by two doctors who use the hospital regularly. Peer recommendations and certification of good character are the usual criteria for selection. The GP would normally admit medical cases, and when necessary or at the request of his patient, call in the appropriate specialist to assist or take over the care of his patient.

In the Philippines, family physicians can join government and private hospitals as active staff. Procedures to be done and cases to be handled in the hospitals depend on competency of the family physician. However, these procedures can be determined also by hospital policies.

CONTINUITY

There is no doubt that the Role of the GP, as defined above, would certainly promote treatment continuity between clinics and the hospitals and also introduce a more "holistic" approach to the management of their common patients. Apart from this, involvement of GPs in hospital care should result in some savings through, for example, most selective ordering of tests, decreased length of patient stay and, after discharge, more reduced use of the already overloaded hospital's outpatient departments as the patient can then be discharged to his GP who already knows about the case, for follow-up by him at his clinic.

Also with the GP being part of the hospital's medical team and practising side by side with the hospital doctors, the interface between the GP and the hospital would improve on both sides, and the lack of appreciation of the skills and experience of GPs would also be removed.

Notwithstanding all that is said and done, ultimately the GP would have to take into consideration that whilst attending to his hospitalised patient, he would be foregoing income from consultations in his clinic and also whether he can spare the time to do ward rounds or even deliver his obstetric patient.

CONCLUSION

In conclusion, I strongly recommend that the GP's role in the Hospitalised Patient be carefully defined and organised to suit both the hospitals and the profession, and policies on the delineation of clinical privileges be worked out with due reference to and acceptance by the Ministry of Health and the various academic and professional bodies concerned.

During the formulation of such policies, the medical profession together with the Ministry of Health should address the following issues (adapted from policies of the Royal Australian College of General Practitioners):-

- 1) All suitably qualified medical practitioners should have access to the active care of their patients in hospitals.
- 2) The clinical responsibility that a medical practitioner may exercise in a hospital must be clearly defined.
- 3) Such delineation of clinical privileges will ensure access of GPs to hospital facilities and encourage the development of their special skills and interests.
- 4) Clinical access of suitably qualified GPs to hospital is regarded as essential in the interests of the patient, the GP, the hospital and its staff.
- 5) A representative of the College of General Practitioners should be a member of the delineating clinical privileges committee.
- 6) General practitioner's privileges must not be assessed in isolation. All professionals so involved should also have their privilege delineated.
- 7) Clinical privileges should be determined upon skills and quality of care, and not upon the volume of work or numbers of procedures.

THE HOSPITALISED PATIENT: THE GENERAL PRACTITIONER'S ROLE THE GOVERNMENT HOSPITAL'S PERSPECTIVE

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INTRODUCTION

Before I discuss the topic, I would like to give a picture of the government's policies relevant to this seminar. There are five. The first is that no one in Singapore will be denied the necessary medical care if he is in need, at government hospitals. The second is that there are enough Class C wards in government hospitals to cater for those who cannot afford higher class wards. Only yesterday, on the front page of the Straits Times, there appeared the article on SGH having Class C beds again¹. The third policy of government is to allow Singaporeans a choice in the type of hospital and the class ward among government and restructured hospitals. You could also choose your own doctor at differential costs according to his status. The fourth is government advice to the public to choose wisely and choose within one's means of affordability. The final policy is that although health care costs will be kept in check as long as possible, it is inevitable that from time to time, adjustments will be made in fees and charges. These changes in costs will be small and frequent rather than large and infrequent.

HOSPITAL TYPES

Against this backdrop I will now move into my topic.

Patients hospitalised in government hospitals could be placed in the acute, the semi-acute or the chronic care hospitals. I will confine myself to the

first two. For acute care, government is in the process of restructuring hospitals. Four are presently operating in the restructured mode. They are the National University Hospital, the Singapore General Hospital, Toa Payoh Hospital and the Kandang Kerbau Hospital. Those not yet restructured include Tan Tock Seng Hospital, Alexandra Hospital and Changi Hospital. As for semi-acute care, the Community Hospital at Ang Mo Kio is due to be ready by end 1991. I will leave this out for the time being and confine myself to the acute hospitals.

GENERAL PRACTITIONERS' ROLE

Hospital doctors look after patients for only a brief episode in the overall natural history of a disease the patient has. No matter how long this is, it is only a brief episode compared to the duration a general practitioner will know the patient.

Thus in the pre and post hospitalisation phases, the general practitioner handles the patient in toto. During the hospitalisation phase in government hospitals, the general practitioner's role is passive and minimal. This is not to say he has no role.

REFERRAL TO HOSPITAL

Patients may require referral to hospitals. The general practitioner, being the patient's family physician would know best what type of specialist care is required, which hospital to refer to, which specialist to refer to and the urgency or otherwise of the referral.

He has two options. He can refer to a specific doctor through the Accident and Emergency

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Department of that hospital because, in his view the case is urgent. Or, he could make an appointment for his patient to consult the specialist at the specialist outpatient clinic. In either case, a proper letter is useful.

The patient could self refer himself to hospital. It is unlikely he will be turned away at the Accident and Emergency Department. At the specialist outpatient clinic, he may be politely told to get an appointment and a referral letter from his doctor, or be seen last since he has no appointment.

PRE-HOSPITALISATION

There are five considerations once the general practitioner has decided that a referral to a government hospital is in the best interests of the patient.

The first is when to refer. Timing, Emergency, Urgency or Elective. Thus the doctor decides and advises his patient accordingly.

The second is who to refer to. In government hospitals, doctors are part of the staff of different departments and so have grades of seniority. The general practitioner in consultation with his patient may elect to refer to the Department Head, or Consultant or Senior Registrar. These grades of staff are specialists who have completed their training programme. The Registrar (Senior Resident) in today's context is the advanced trainee in that speciality still undergoing training. The medical officer (trainee) or resident is a basic trainee gaining the experience necessary to qualify to sit for the relevant postgraduate examination in that speciality. So referring doctors should know who they wish to refer to.

The third consideration is how to refer; which specialist outpatient clinic, what day, what time to make the appointment accordingly. Hospital switchboards always seem to be engaged. Some hospital doctors may accept a direct call to themselves. Many specialist outpatient clinics have direct telephone lines.

The fourth consideration is very important - charges. With the restructuring of hospitals, charges are no more standardised for all hospitals although rates for subsidised inpatient and outpatient care are under the purview of government. The general practitioner knowing his patient well, his social status and medical needs, is best placed

to advise his patient on what he can afford. This advice of course may not be heeded. Nonetheless before the general practitioner can give advice, he himself must know the hospital charges.

Towards this end, general practitioners have two sources of information. One the newspaper. For example in the New Paper was the headline - NUH ward charges up from September 1². The second information source is the hospital itself. Government encourages all hospitals to print and distribute free, information leaflets detailing the various charges current at that time. For example, Kangar Kerbau Hospital has a pamphlet - schedule of charges which covers inpatient fees, outpatient fees, and deposits payable on admission. The schedule lists specific fees, and range of fees and covers the four classes A, B1, B2 and C. This way both the referring doctor and the referred patient are aware of the estimated cost of a hospitalisation, an outpatient visit, prescription fees, investigation fees, etc.

The fifth consideration is the referral letter. Much can be done to improve this and this is applicable both ways - from the general practitioner to the hospital and vice versa. The family physician has such a wealth of information about this patient which could help in the specialist care of the patient. He should reveal as much as is helpful. Many times, the letter is too skimpy. Worse still, the essentials may be left out. This applies especially to drug allergies and maintenance medication.

To summarise, there is much information about hospitals that general practitioners need to have in their offices before their advice to their patients could be well considered especially with regard to costs and charges. General practitioners should be their patients' advocates in seeking value for money for the medical care their patients receive while in hospital. Hospitalisation is expensive business. It is therefore prudent that patients should have the choice for the care he needs. And this choice is meaningful if the general practitioner is equipped with the information to advise him.

HOSPITALISATION: MANAGEMENT PHILOSOPHY

The general practitioner's role is passive and minimal since his patient is hospitalised in a

government hospital. Medico-legally, the responsibility shifts from the general practitioner to the hospital doctors looking after his patient.

The patient is under the ward consultant's care with or without the care of his personal doctor (if the patient has one). Named referrals to specialists in hospitals means that specialist is in charge of the patient's total care. In government hospitals there are various grades of training staff - not only doctors but nurses etc. A team of doctors manages the patients. The class of ward is immaterial for medical care. It is the severity and complexity of the illness that determines if the specialist personally must care for the patient.

Thus, based on these three philosophies - every patient is under a consultant, the team concept of care and standard of care is independent of class status - what is the general practitioner's role? He has two roles. He is still very welcome to the ward to see his patient and continue with his medical advice. He is free to speak with the team of doctors managing his patient. His suggestions in the discussion would be considered but the final say and responsibility rests with the consultant caring for the patient.

POST-HOSPITALISATION

Patients on discharge from hospital are referred back to their general practitioners. In some cases, the first few visits post discharge are to the specialist outpatient clinic. Should shorter ward stays be the norm, more outpatient visits are necessary to ensure that the patients are stable before they return to their family physicians.

Patients sometimes desire not to be referred back to their general practitioners. Hospital doctors nonetheless encourage them to still return to their referring doctor at least for one visit. The alternative is for the patient to be followed-up at the government polyclinic if long term follow-up is necessary. If the latter, this referring doctor will still receive a reply letter to his referral letter. In this area, much can be done to improve the quality of such letters. It is not possible to give a complete picture with details of the hospitalisation, but at least the important data should be there together with a suggested plan for the patient's further management by his general practitioner.

THE COMMUNITY HOSPITAL

The first Community Hospital in Singapore is being built at Ang Mo Kio. Hence I foresee a greater role for general practitioners. But what I say is only speculative. You will understand.

The suggested patient types could be patients with medical problems like diabetes for control, peptic ulcer, pneumonia, viral hepatitis. The hospital could be for day surgery cases, and minor operations. Patients convalescing from appendicitis, renal calculus, fractures could recuperate there. Those with chronic illness like stroke, Parkinson's disease, chronic obstructive lung disease may be treated.

In line with our fast aging population, the geriatric assessment of patients with intellectual impairment, recurrent falls, bladder and bowel dysfunction, osteoporosis could take place in this setting. And importantly the Hospital is for respite care for the care-givers of patients with terminal illnesses and chronic diseases.

CONCLUSION

No one should belittle the general practitioner's role in the community. Although his direct active involvement for his hospitalised patient in government acute care hospitals is not great, his role is still vital and important. This is because the hospitalisation phase is but a very short phase in the illness of many patients. His role may increase in the Community Hospital.

There are three VIPs. The general practitioner is a VIP - a very important practitioner. He looks after all strata of society - from the Very Important People to whom money for medical care is no problem to the Very Impoverished People for whom money is a big problem. To them all, he is the gatekeeper to expensive hospital care. On his shoulders rest the responsibility of securing for his patients, value for their money.

References

1. Davie S. SGH to bring class C wards. The Straits Times 1990: October 20 : 1 (Column 3)
2. Anon : NUH ward charges up from September 1. The New Paper 1990: September 12 : 2 (Column 1)

THE EVOLUTION OF GENERAL PRACTITIONERS INVOLVEMENT IN PRIVATE HOSPITAL CARE OVER THE LAST 15 YEARS

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Fifteen to twenty years ago there were fewer and less sophisticated private hospitals. Similarly there were less specialists, physicians or surgeons in private practice. Consequently, the family physician played a major role in providing inpatient care in these hospitals. This was particularly so with certain hospitals like the Gleneagles Hospital which was founded by a group of expatriate companies. These companies had contractual agreements with private practitioners in group practices. At that time specialists were only called in for difficult cases. There were so few specialists in private practice that government and university staff provided surgical and medical consultation after working hours. As time went on when more and more medical specialists left the public institutions, the general practitioners involvement in private hospital care diminished. However even today, hospitals like Mt Alvernia Hospital have more general practitioners looking after its inpatients compared with Mt Elizabeth Hospital. You may recall that when the latter started to function in 1980, the developers made it a point to advertise the hospital as a specialist hospital, rightly or wrongly. As a result few general practitioners applied for privileges in the hospital. Some general practitioners felt that they were unwelcome in the hospital. After the National Medical Enterprise bought over the hospital there was a shift in emphasis; although not publicly advertised, many general practitioners have been granted privileges to use the hospital.

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CRITERIA FOR CREDENTIALLING AT MT ELIZABETH HOSPITAL

I want to say something about the credentialling of medical and dental practitioners at Mt Elizabeth Hospital because I think this would have bearing on the extent of involvement of general practitioners in providing inpatient care. The present National Medical Enterprise administration soon created a proper Medical Advisory Board and then gradually the MAB formed committees to ensure the provision of care of the highest standard; and that not only the name of the hospital but also the patients are protected by these quality control measures.

First let me speak about the credentialling of medical and dental specialists. Requirements are: 1) they must have a registrable basic degree, 2) they must have a recognised higher degree, 3) they must have 3 years post-graduate experience in a recognised hospital and or be an academician of the Academy of Medicine (Singapore), 4) in the case of subspecialty requirements, it is the same as the above namely 3 years post graduate experience of which a minimum of 2 years must be spent in a recognised centre or department in that speciality and 5) for special procedures such as use of laser equipment or invasive procedures like PTCA, there must be a documented evidence of experience and training.

For instance Mt Elizabeth Hospital credentials cardiologists for invasive procedures like PTCA.

Credentialling of general practitioners is more straight forward: 1) He must have a registrable basic degree, 2) he must be a graduate of 10 years standing or possess the MCGP.

Recently, I have proposed and my committee has accepted some minor modifications to the present criteria. For the medical and dental specialists, you may know that some of the higher degrees today are exit degrees meaning that they take longer; and by the time the higher diplomas are awarded, the doctors or dentists are supposed to be fully trained; whereas some higher degrees like FRCS or MRCP are entry degrees meaning that these individuals still require a period of training after taking higher degree before they can be confirmed physicians or surgeons. We have decided that with exit degrees we should still follow our present criteria namely that the person must be qualified 7 years as required by the Academy of Medicine; and whether the exit degree requires 4 or 5 years structured training, these doctors or dentists will still require to have 2 years of post graduate experience in recognised institutions. Whereas if they possess entry degrees they would be required to have at least 3 years and they must be qualified for at least 7 years. In the case of general practitioners we are aware that there is a 2 years vocational training programme for Family Medicine. I feel that if a person has completed this 2 years course after the housemanship, then 5 years of private practice should be sufficient to entitle him for privileges at Mt Elizabeth Hospital. In other words he need not be a graduate of 10 years standing.

You may wish to know what are the privileges granted to general practitioners at Mt Elizabeth Hospital: 1) they have the right to admit and treat inpatients with the exception of patients in critical care area, 2) they have the right to use the minor operating theatres and day care facilities. I doubt any general practitioner would want to manage a patient in the critical care area even if he is permitted because of tremendous demand on his time, attention and expertise. It would not be fair to the patient.

Let us look at the number of general practitioners registered at Mt Elizabeth Hospital. The total number of doctors registered at Mt Elizabeth Hospital is 150 but if you look at the number of doctors who used the hospital in 1989 to 1990, only 5 doctors referred, admitted and or looked after patients in hospital. The number of patients, however, admitted during this period was 351. It may look very odd that only 5 doctors admitted 351 patients, meaning that an average of 1 doctor admitted 60 patients per year. As a matter of fact

the bulk of the admissions by the general practitioners came from the airport clinic, bringing patients from other countries or transit passengers or patients returning to Singapore who are ill at the time of arrival.

The other patients are made up of cases referred and managed by group practises. So you can see that although many doctors have privileges for using this hospital, few actually exercise these privileges.

GENERAL PRACTITIONERS REFERRAL FOR ADMISSION INTO MT ELIZABETH HOSPITAL

The general practitioners involvement in inpatient care in Mt Elizabeth Hospital may take 1 or 2 forms. Firstly, he may admit the patient to the ward after making appropriate arrangement with the sister in charge of admission; he can continue to look after the patient all the way or he may want to refer to a specialist or transfer to the specialist where the cases are complicated or of a surgical nature; or lastly he may jointly look after the patient with a specialist or specialists if the case is suffering from multiple disorders. The second alternative is that the general practitioner may send the patient to the A & E Unit, particularly after hours. He may just write a note to the resident doctor at A & E Unit indicating that the patient may need admission and further care without specifying any specialist that he would want to refer the patient to. Secondly, he may want to continue looking after the patient after initial admission and checkup by the resident medical officer. Thirdly, he may write a note requesting that the patient be referred to a specialist or specifically named specialist. Lastly of course he may continue to look after the patient jointly with a specialist.

INVOLVEMENT OF GENERAL PRACTITIONERS IN INPATIENT CARE AT MT ELIZABETH HOSPITAL

As I pointed out earlier, the family physician may continue to look after the patient all through in a straight forward case where the patient is not critically ill but needs hospitalisation. All the radiological and laboratory facilities are available to him. More commonly the patient is referred to a specialist for an opinion; it may be one consultation at the time of admission to confirm the diagnosis. For such cases it is sometimes not easy

for the specialist to know whether he needs to see the patient daily after the first consultation. I believe the family physician should make it very clear that he would like to continue to look after the patient and that this is a one or two visit consultation. Multiple doctors looking after patients give rise to confusion. The line of order is unclear. There must be a doctor who co-ordinates and orchestrates. Furthermore, the cost to the patient will go up considerably. I think specialists themselves need to exercise judgement as to whether the patient needs to be seen once or twice or daily. In my experience, some specialists continue to see the patients daily when there is really no need to, and the referring practitioner may be too embarrassed to tell him not to do so.

I think we all should be fully conscious of the high cost of medical care today and we should therefore not impose unnecessary cost onto patients unless there is absolutely good indications. Often the family physician remains on the scene although he has transferred the care to the specialist. This tends to be the case with the more wealthy patients or patients whose cost is borne by the employer. I personally find that the continuous involvement of the family physician in giving support and background information to the specialist is extremely useful. We are only on the scene for the first time and very often do not really understand the full background of the case, socially and medically. There are lots of information about the past history of the patient which may have an important bearing on his present illness, present management or future management.

Some general practitioners feel uncomfortable or unwelcome in the larger private hospitals. I think this is because they do not frequent the hospitals often enough, hence the nursing staff do not know them and sometimes tactlessly query them. They also find that the nursing staff do not give them the same support that they give to the specialists. I don't think the nurses are consciously making a distinction. Because the specialists visit the hospital day in and day out and they really know the nursing staff so well that there is a closer rapport between them. Whereas the infrequent general practitioner finds that he has to find his way around before things can get done. Occasionally a situation arises which poses a problem for the nursing staff. For instance a general practitioner may be looking after a patient who suddenly deteriorates. The practitioner may not be

alert to these changes because the changes might have taken place within the last 12 hours. In such instances, the hospital administrative has given instruction to sisters that should such situations arise they must tactfully discuss the matter with the general practitioner, and advise that the patient be referred to a specialist for an opinion. We have told the nursing staff that it is not their duty to tell general practitioners to whom they should refer the case. It is our philosophy that the patient must always be given the opportunity to exercise his choice. The physician looking after the patient should always first tell the patient that this case needs to be referred to a specialist and to ask if he has any particular choice. I don't think it is correct for the family physician or any other physician to tell the patient that he should be referred to so and so, very often a close colleague of his. If the patient has no particular choice and the general practitioner has no strong feeling, then there is always the specialist roster on call for that week, who could be consulted. It is our belief that the freedom of choice of doctors by patients is of paramount importance, and should be upheld.

LOGISTICS & ECONOMICS

When all said then done, I think the role of the general practitioners in private hospital inpatient care is determined by the economics of times. Businessmen and lawyers will tell you time is money and it is not easy for a solo private family doctor to extricate himself from his practice to attend to one patient in a private hospital during his working hours. Traffic jams and carpark problems all add to this hustle. For this reason if a general practitioner has a difficult patient in the hospital it would be wise for him to share the management or transfer the management to a specialist who can attend the patient at a moment's notice if necessary. It is understandable that in the case of group practices, the opportunity for the doctor to visit the patient in hospital is greater because he is covered by his colleagues. Unlike Britain, doctors here earn on time giving basis. This is where the National Health Service in Britain has advantages over ours, in that the doctor is not paid exactly according to his time or the number of patients he sees. He can afford to attend to his patient in the hospital. It is therefore easier for Family Medicine to be practised in Britain, especially in the rural and suburban areas. In spite of the criticism levelled against the National Health Service in UK by some conservative

British politicians (not the public mind you) and by some Singaporeans, much can be said for some aspects of national health service where patients do not have a contractual relationship with their doctors. One can practise ideal medicine under that system where time is not necessarily equated with money.

WHAT OF THE FUTURE?

I believe that the introduction of the vocational training for family medicine by the Ministry of

Health is a very enlightened move. It will certainly give our family physicians a much more rounded training. Whether this will increase the family physicians involvement in private inpatient care is questionable. Personally, I do not think it will change significantly the pattern. The pattern is going to be determined by the economics of time, whether a doctor is in solo or group practice and to what extent can a patient pay for multiple doctors looking after him?

YOUR NATIONAL SERVICE PATIENT - FIT TO SERVE

M Tay MBBS, FRCS (Glasgow), FC Ophth (UK)

INTRODUCTION

The Singapore Armed Forces (SAF) medical services welcomes this forum as an excellent opportunity to strengthen links between GPs and doctors serving in the uniformed services. It will provide us with a golden opportunity to discuss issues, which in all honesty, have at times led to situations of misunderstanding and in some instances plain conflict.

This may seem odd, as a large number of the males here would have at one time or another passed through the ranks of National Service doctors and thus would be expected to know the inner functionings of the SAF. However, policies, directives, methods of screening and a host of other medically related procedures and guidelines are reviewed and changed regularly within the SAF. This is as per any rapidly growing organisation. So today's forum will allow us to discuss and update ourselves on some of these topics.

Let me first paint a background scenario.

CONFLICTING INTERESTS

Although we are all from the same profession, unfortunately we at times have conflicting interests. None more so than with the NS patient. The GPs on the one hand must have their patients' interest at heart. This does not mean however that the uniformed doctor does not. In actual fact, the serviceman's medical problems are indeed of utmost concern to us. But in addition to this it must be realised that we have organisational needs to fulfil.

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NS is a compulsory service to the nation and it is the function of the SAF medical services to:

- a. Ensure that the organisational requirements are fulfilled.

This in basic terms, means ensuring that individuals with medical problems are given training and jobs commensurate with what they are medically able to perform.

- b. Ensure that the serviceman's medical needs are at all times catered for.

PECULIARITIES

We must realise and remember two situational peculiarities when we treat and manage NS men. This can and also should extend to pre-enlistees and reservists.

Firstly, we must consider the profile of the patient we are dealing with. Whilst the vast majority of Singaporeans are eager to participate and fulfill their NS requirement, it cannot be denied that in some instances we are dealing with individuals who have little or no interest in NS. This may be compounded by worried or pressing parents with unreasonable requests. While the GP can do much to treat the serviceman as well as to counsel him and his parents, there will always unfortunately be cases where all this can be churned up into confrontational situations between the GP and the SAF doctor.

The second peculiarity that should be remembered is the size and structure of the organisation.

As with any organisation, the best utilisation of manpower is what is always aimed for. It is an obvious conclusion. But while the best means of deploying someone with medical problems is to

go through each individual case in its smallest detail and to match him with the smallest requirement in a particular vocation, this is hardly possible in such a large organisation as the SAF. To deal with this the SAF adopts medical guidelines and standards to group individuals to fit peculiar vocations. As with all guidelines there may at times be difficulties in suitably vocationalising soldiers. However, this has been compensated by ensuring that standards are high enough to exclude such cases as necessary from being involved in training that would aggravate their conditions.

Having laid this brief foundation I will now move on to discuss in further detail some functions of the SAF medical services which I hope you will find helpful in the management of your NS patient.

CLASSIFICATION OF MEDICAL CONDITIONS

We have adopted a classification system in the SAF by which every individual is given a grading dependent on the medical conditions that he may have. Most will be familiar with the term PES grading. This stands for Physical Employment Standard grading and is a one character summary of a subject's physical and mental capacity for military training and subsequent deployment.

The first system of medical classification used by the SAF was adapted from the British army. This system has subsequently been reviewed and upgraded over the years to its present state.

All pre-enlistees are worked up medically in the Medical Classification Centre during their pre-enlistment screening and are graded accordingly. This grading amongst other factors determines their deployment and subsequent training during the NS period. It is also carried forward with them into their reservist days.

The PES gradings ranges from PES A all the way through to PES F. Each vocation in the SAF has also been reviewed and depending on the job requirements and demands, only the appropriate gradings are matched with vocational deployment.

An important point to note is that once the PES grading of an individual has been assigned by the MCC, there is only one authority which can

amend or change this grading and this is the SAF Medical Board. I will be discussing the board in a while but allow me reiterate this fact. No SAF doctor on his own accord can alter a soldier's PES grading. Nor can any external medical agency be it from the private sector or a government hospital. The process is formalised through the SAF Medical Board to ensure impartiality and proper management of the classification system.

The importance of this to the general practitioner, is that at all costs we should avoid being pitted against each other by the demands of a patient who seeks from you a statement on his PES grading.

Many a times a general practitioner has stated that a patient under his care should be given a certain PES grading, not knowing however what this PES grading entails or whether it matches the guidelines set down by the SAF. It is definite fodder for a confrontational showdown.

This does not mean that we do not welcome the recommendations of general practitioners. Basically we also realise the great importance and value of the information that you as general practitioners can provide us about these patients. And this information will greatly assist the Medical Board to function in its purview as the authority to classify serviceman.

SAF MEDICAL BOARD

The SAF Medical Board is conducted at MCC daily and consists of 3 or more SAF doctors. As I have mentioned earlier it is the sole authority for any changes in PES grading of a serviceman after enlistment.

At the board, the unit Medical Officer is required to present to the board the worked up case of the serviceman involved. To ensure standards are maintained the board insists on a high standard of workup and presentation from our unit MOs. To assist the unit MO in his presentation, reports from hospitals and general practitioners are required.

This is the area in which the SAF greatly appreciates the value of the information that the general practitioner can provide. Being family physicians your links with the patient are stronger and longer than that of our SAF doctors. The background information that you can provide goes

a long way in ensuring the proper grading and classification of our men.

The Medical Board depends on the proper documentation of a patient's condition before it can come to a conclusion.

Relevant information that we can gain from well written general practitioner reports include results of investigations, serial measurements, how the condition affects the patient's civilian life style and employment. Hypertension, and psychiatric problems are good examples of these.

Allow me to move on to 2 other points which I feel we can discuss upon.

MEDICAL CERTIFICATES

Firstly, the issue of MCs has to be addressed. The SAF doctors is not out to question the legitimacy of a general practitioner's MC. However there are certain instances when action may be taken against an individual on MC and if this is not looked at in its totality, it can create misunderstanding between doctors. The prime example is the patient who doctor hops for MCs. This is a problem which we occasionally encounter. Perhaps one way that the SAF can overcome this is by restricting the soldier to 1 particular GP. However the other general practitioners not realising what this serviceman has been up to will feel that this a slur on them and hence misunderstandings may arise. Dr Lim is right when he said that communication is an important factor and I impress it upon the NS doctors to inform such general practitioners concerned of the whole matter.

COUNSELLOR ROLE

Finally, I would like to say a few words on one aspect of a general practitioner's work that is of great importance and that is the role of a counsellor. As general practitioners you will come across the whole spectrum of patients from the worried

pre-enlistee, the troubled parent, to the demanding reservist. The SAF medical services of course cannot lay claim to being the ultimate service but hopefully by the end of my talk and the workshops you will realize that we do have the means to look after our servicemen and our doctors do have the men's interest at heart. With your help in counselling, perhaps the fears and the anxiety of many parties can be alleviated.

CONCLUSION

I have only highlighted the broad outlines on how medical classification is done in the SAF. I have also tried to highlight areas in which GPs can play a fruitful role.

The time has come for more interaction and communication between GPs and NS physicians. With this closer rapport we can best help prepare our NS patient both mentally and physically for the period of his national service. It will also help us avoid confrontational situations in which patients pit us against each other.

I hope this talk has not portrayed itself as a session in which the SAF is trying to tell general practitioners what to do. This is far from the truth. We in the SAF value the help provided by general practitioners. It is only our hope to be able to discuss problems openly. As Dr Lim has highlighted the 4Cs will go a long way in improving our care to our patients. I cannot but agree with him fully, especially on the need for better communication.

Finally, the three workshops that follow will go into deeper detail on problems identified with regards to the specialities of orthopaedics, psychosocial medicine and internal medicine. I hope with your active participation we can then arrive at some consensus on these issues and I have no doubt that this will do much to improve our patient care.

MANAGEMENT OF HYPERLIPIDAEMIA

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

INTRODUCTION

Hyperlipidaemia is defined as excess concentrations of cholesterol or triglyceride, or both, in plasma. There is now substantial evidence from both primary and secondary prevention trials that treatment of hyperlipidaemia which results in a reduction in low density lipoprotein [LDL] cholesterol and or increase in high density lipoprotein [HDL] cholesterol leads to decrease coronary morbidity and mortality. However, controversy still remains as to whether hypertriglyceridaemia is an independent risk factor for coronary heart disease [CHD].

GUIDELINES FOR MANAGEMENT

Management plans for hyperlipidaemia are summarised in Tables 1, 2 and 3. It is a truism that dietary modification is the cornerstone of any lipid-lowering regimen. Most well motivated patients will mild-to-moderate hyperlipidaemia respond to diet alone, especially where the hyperlipidaemia is due mainly to faulty diet or obesity. However diet can be beneficial even in genetically determined forms of hyperlipidaemia.

Generally speaking modified fat diets differ from 'normal' diets in containing less total fat, saturated fat and cholesterol, and more polyunsaturated fat. Protein intake is kept fairly constant so that relatively more of the total energy intake is derived from carbohydrates, especially complex carbohydrates rather than refined sugars. The amount of energy provided should be just sufficient to enable the patient to achieve and maintain desirable body weight.

Most patients show obvious decreases in serum lipids and a rise in the HDL ratio after 6-12 weeks on a modified fat diet. Failure to respond usually indicates either non-compliance, which

can be monitored by measuring the linoleate content of plasma lipids or adipose tissues, or genuine non-responsiveness. Occurrence of the latter phenomenon despite achievement of desirable body weight suggests a genetic basis for the hyperlipidaemia, such as familial hypercholesterolaemia [FH] or familial combined hyperlipidaemia [FCH].

In general terms, the use of lipid-lowering drugs should be reserved for individuals at high risk for CHD or with severe hypercholesterolaemia who do not respond adequately to diet, whereas drug therapy is often used as an adjunct to diet in the context of secondary intervention. Any drug therapy must be combined with strict adherence to diet, maintenance of near-ideal body weight, cessation of smoking and adoption of a regular exercise program. Numerous studies have shown that moderate amounts of aerobic exercise [walking, jogging, cycling or swimming] on a regular basis have beneficial effects on serum lipids. These include reductions in serum TG, LDLC, and increase in HDLC. An increase in HDLC is also noted with cessation of smoking.

Before embarking on drug therapy, it is important to exclude causes of secondary hyperlipidaemia [Table 4]. Once the cause of a patient's hyperlipidaemia has been established and lipid concentrations have been brought under control, serum lipids should be monitored every 3-6 months until they are stable, then annually. The goals are a plasma TC below 5.2 mmol/L, LDLC below 4.0 mmol/L and TG below 2.0 mmol/L.

DRUG THERAPY

Lipid-lowering drugs should always be used as an adjunct to dietary measures rather than an alternative. Drug therapy is likely to continue for many years or for a lifetime. Hence, the decision to add drug therapy to the regimen should be made only after vigorous efforts at dietary treatment have not proven sufficient. The patient must be well informed about the goals and side effects of

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Table 1. INVESTIGATIONS

Random total cholesterol	Action
< 5.2 mmol/L	Reassure and repeat in 5 years
5.2 - 6.5 mmol/L no CHD no more than 1 other risk factor*	Give general dietary advice
5.2 - 6.5 mmol/L CHD present OR 2 or more other risk factors*	Measure fasting lipids [See Table 2]
> 6.5 mmol/L	Measure fasting lipids [See Table 2]

* Male sex, family history of CHD before age 60, hypertension, smoking, hyperglycaemia.

Table 2. INTERPRETATION OF RESULTS

Lipid in mmol/L*	Desirable	Borderline	Abnormal
Total cholesterol [TC]	< 5.2	5.2 - 6.5	> 6.5
LDL cholesterol [LDLC]	< 4.0	4.0 - 5.0	> 5.0
HDL cholesterol [HDLC]	> 1.0	0.9 - 1.0	< 0.9
Triglyceride [TG]	< 2.0	2.0 - 2.5	> 2.5
HDL ratio +	> 0.25	0.2 - 0.25	< 0.2

*mmol/L to mg/dl: TC x 39, LDLC x 39, HDLC x 39, TG x 88.6

$$+ \text{HDL ratio} = \frac{\text{HDLC}}{\text{TC} - \text{HDLC}}$$

medication and the need for long-term commitment.

There are various ways in which lipid-lowering drugs can be classified; perhaps the most useful, from the clinician's viewpoint, is to subdivide them according to whether their predominant effect is on cholesterol-rich or triglyceride-rich lipoproteins. Obviously there will be some overlap in the spectrum of drug effects, just as there is overlap between different types of hyperlipidaemia. The major effects of various classes of lipid-lowering drugs, their adverse effects and their clinical use are described in Table 5 and Table 6.

Often combinations of two lipid-lowering drugs control hyperlipidaemia better than either drug given alone. There are several reasons for

using combination drug therapy:

- (1) to treat mixed hyperlipidaemias
- (2) to offset undesirable changes in serum lipids which may accompany single drug therapy
- (3) to achieve synergistic effect in refractory cases of severe hyperlipidaemia
- (4) to increase cost-effectiveness of therapy by using low doses of two drugs rather than high doses of one.

NON-PHARMACOLOGICAL THERAPY

Radical, or non-pharmacological methods of treatment should never be used until it has been established that conventional therapy either fails to control hyperlipidaemia or cannot be tolerated

Table 3. INITIAL THERAPY

Abnormal serum lipids or
Borderline serum lipids with CHD or
2 other risk factors

Institute formal dietary therapy, ideally
involving a dietitian.

Abnormal serum lipids despite diet for
3-6 months, especially if total cholesterol
is > 7.8 mmol/L and LDL cholesterol is
> 5.0 mmol/L

First exclude secondary hyperlipidaemia
[Table 4]. Then consider using drugs.

Table 4. CAUSES OF SECONDARY HYPERLIPIDAEMIA

Dietary factors

excessive carbohydrates, alcohol and saturated fats

Disease factors

diabetes mellitus
hypothyroidism
pancreatitis
renal diseases [nephrotics]
liver diseases [cholestatics]

Drug factors

combined oral contraceptive pills
diuretics e.g. thiazides
non-selective beta-blockers e.g. propranolol

by the patient. Such methods include the surgical procedures of partial ileal bypass, proto-caval shunt and liver transplantation, and medical manoeuvres such as plasma exchange and LDL apheresis. In general, the use of these techniques will be restricted to patients with refractory FH and CHD.

CONCLUSION

Hyperlipidaemia is an accepted and important cause of CHD. Relative small changes in serum lipids achieved by diet or drugs can reduce the combined morbidity and mortality from CHD by almost one third over a period of 5-6 years and this is accompanied by a reduction in total mortality in those with pre-existing CHD. For every 1% decrease in serum cholesterol there is a 2% reduction in CHD risk. It should be noted that young male patients offers the greatest scope for intervention, and that long-term drug therapy is easier to justify in hyperlipidaemia patients with estab-

lished CHD than in asymptomatic individuals, especially if female. Thus it is important to seek and treat hyperlipidaemia in patients with coronary disease or at increased risk of its development.

REFERENCES

1. W J Cliff, G I Schoefl, (Ed), Coronaries and Cholesterol, Chapman and Hall Medical, London 1989.
2. NH Fidge, Lipid-lowering drugs - mechanisms of action, Australian Prescriber Vol. 13 No. 4 1990 pg 73-77.
3. ED Janus, Treatment of hyperlipidaemias - current avenues and new horizons, Australian Family Physician Vol. 18 No. 9 September 1990 pg 1071-1084.
4. LA Simons, Lipid-lowering drugs - clinical applications, Australian Prescriber Vol. 13 No. 4 1990 pg 77-80
5. GR Thompson, Management of hyperlipidaemia, Prescribers' Journal Vol. 29 No. 6 December 1989 pg 221-233.
6. GR Thompson, A Handbook of Hyperlipidaemia, Current Science Ltd, London 1990.

Table 5. CLINICAL PROPERTIES OF LIPID-LOWERING DRUGS

DRUG	Action/Effect			Adverse effects
	LDL cholesterol	HDL cholesterol	Triglyceride	
Anion-exchange resins: cholestyramine (Questran®) cholestipol (Colestid®)	Decreased	Increased	Increased	Mainly GIT disturbances - Constipation, diarrhoea, bloating, abdominal pain, unpalatability.
HMG CoA-reductase inhibitors: simvastatin (Zocor®) lovastatin pravastatin	Decreased	Small increase	Minimally decreased	Usually minor and include GIT disturbances, headaches, transient elevations in transaminases and CPK levels. Myositis-like syndromes are rare if combination therapy with fibrates or nicotinic acid is avoided. This problem is sufficiently important to justify a recommendation that reductase inhibitors not be combined with fibrates or nicotinic acid unless absolutely necessary.
Probucol (Lurselle®)	Decreased	Decreased	Little effect	Occasional mild GIT disturbances including loose stools. May cause a prolongation of the QT interval in some patients.
Fibrates: clofibrate (Afroimid-S®), Lipaten®) gemfibrozil (Lopid®), Ipolipid®) bezafibrate (Bezalip®) fenofibrate (Lipanthyl®)	Decreased	Increased	Decreased	GIT disturbances. All can cause a myositis-like syndrome especially in patients with impaired renal function. This syndrome is fully reversible upon withdrawal of the drug. Fibrates predispose to gallstones by increasing biliary cholesterol excretion.
Nitric acid compound Acipimox (Olbetam®) nicofuranose	Decreased	Increased	Decreased	The side effects from nicotinic acid are mild but frequent, particularly at the doses required for efficacy in lowering LDL. These side effects include metabolic changes, such as an elevation of liver enzymes, moderate impairment in glucose intolerance with an increase in blood sugar level and an increase in uric acid. Cutaneous flushing occurs frequently and is possibly mediated by prostaglandins. Pretreatment with aspirin has been reported to reduce this problem. Pruritus and skin rashes, occasional abdominal pain and tachyphylaxis may occur at a given dose level.
Benfluorex (Mediaval®)	Decreased	Increased	Decreased	Mild GIT disturbances, dizziness, infrequent and transient drowsiness, general fatigue. Progressive dosage helps reduce the incidence of these side effects.
Fish-oil (Vitaepa®)	Little change	Increased	Decreased	Occasional nausea and belching.

Table 6. CLINICAL USE OF LIPID-LOWERING DRUGS

DRUG	Clinical use	Remarks
Anion-exchange resins: cholestyramine (Questran®) cholestipol (Colestid®)	Very safe therapy for hypercholesterolaemia; effectiveness constrained by unpalatability. Not indicated where the predominant problem is hypertriglyceridaemia. Being non-absorbed, resins are the only lipid-lowering drugs which can be recommended for the treatment of childhood hypercholesterolaemia. However, it is not usual to commence these medications until 8-10 years of age and even then in situations of increased risk.	Concurrent administration of various drugs may result in reduced bioavailability of drugs. The most important are warfarin, digoxin, NSAIDs, thiazides and some antibiotics e.g. tetracycline. The interaction can be avoided by administration of other drugs at least one hour before, or 4 hours after the resin. Note that resin can be ingested at the same time as other lipid-lowering drugs without loss of efficacy.
HMG CoA-reductase inhibitors: simvastatin (Zocor®) lovastatin pravastatin	More potent than resins in lowering cholesterol and better tolerated. Not indicated where the predominant problem is hypertriglyceridaemia	In medium-term usage, they are safe, easy to take and have already revolutionized the management of severe hypercholesterolaemia, especially FH. Because HMG CoA reductase plays a crucial role in providing cholesterol to developing cells, these inhibitor drugs must not be given to pregnant women and are not recommended for paediatric use.
Probucol (Lurselle®)	A moderately effective cholesterol-lowering agent. Not indicated where the predominant problem is hypertriglyceridaemia. It can be used alone when the resins are not tolerated, or used in combination with resins when further cholesterol lowering is required. When combined with resins may have a net beneficial effect on stool consistency and cholesterol-lowering efficacy.	Probucol should not be combined with nicotinic acid or fibrates as this often results in a precipitous fall in HDLC, the effect of which is not yet known. Despite reducing HDLC, probucol can cause regression of xanthomata, which suggests therapeutic reduction of HDLC is not necessarily disadvantageous. There is also experimental evidence that probucol's anti-oxidant properties prevent lipid peroxidation, thereby inhibiting LDL uptake by macrophages; if confirmed in humans, this would be a novel means of preventing atherosclerosis.
Fibrates: clofibrate (Afamid-S®, Lipaten®) gemfibrozil (Lopid®, Ipolipid®) bezafibrate (Bezalip®) fenofibrate (Lipanthyl®)	Fibrates will induce a significant fall in triglyceride or cholesterol level in 60-70% of patients; if this has not been achieved in compliant patients within 6-8 weeks, it will not follow later and reorganisation of the treatment will be required. Fibrates may then be usefully combined with either a resin or nicotinic acid. However, as discussed earlier combination therapy with either HMA CoA-reductase inhibitor or probucol should be avoided.	Fibrates should not be used in patients known to have gallbladder disease. This group of drugs enhances the effect of anti-coagulants, the dosage of which should be halved initially. Fibrates enhance the hypoglycaemic effect of sulphonylureas.
Nitrotic acid compounds: acipimox (Olbetam®) nicofuranose	A potent lipid-lowering drug which reduces both cholesterol and triglyceride but especially the latter. However, for hypercholesterolaemia, its maximum effect is achieved when combined with an anion-exchange resin.	This group of drugs would be more widely used were it not for its side effects. Despite these problems, evidence from both primary and secondary prevention trials suggests that long-term administration of this drug, either alone or in combination with a fibrate, reduces coronary mortality. As discussed earlier, combination therapy with either a reductase inhibitor or probucol should be avoided.
Benfluorex (Mediaval®)	Effective for both hypertriglyceridaemia and hypercholesterolaemia.	Improves glucose tolerance through an insulin-sparing effect. Contraindicated in chronic pancreatitis.
Fish-oil (Vitaepa®)	May be used in patients with severe hypertriglyceridaemia judged to be at special risk of CHD and/or pancreatitis. Not indicated where the predominant problem is hypercholesterolaemia	

Multiple Choice Questions

1. In the interpretation of laboratory results in the case of hyperlipidaemia
 - A. accurate electrophoretic analysis is essential for proper assessment
 - B. only fasting plasma samples are acceptable for diagnosis
 - C. a raised fasting plasma triglyceride with normal cholesterol indicates a rise in HDL
 - D. a raised fasting plasma cholesterol with normal triglyceride nearly always indicates a rise in LDL
 - E. a rise in the fasting plasma levels of both cholesterol and triglyceride is nearly always due to a combined rise in LDL and VLDL.
2. The following may cause a reduction in the plasma cholesterol level
 - A. regular exercise
 - B. cholestyramine
 - C. simvastatin
 - D. gemfibrozil
 - E. acipimox
3. The following may cause a rise in the plasma level of HDL cholesterol
 - A. probucol
 - B. cessation of smoking
 - C. regular exercise
 - D. a diet low in total and saturated fat
 - E. gemfibrozil
4. Lipid-lowering drugs that are effective for both hypercholesterolaemia and hypertriglyceridaemia
 - A. benfluorex
 - B. nicotinic acid
 - C. cholestyramine
 - D. bezafibrate
 - E. fish-oil
5. Combination therapy of the following lipid-lowering drugs should be avoided
 - A. nicotinic acid with an anion-exchange resin
 - B. a fibrate with a HMG CoA-reductase inhibitor
 - C. a fibrate with an anion-exchange resin
 - D. nicotinic acid with a HMG CoA-reductase inhibitor
 - E. a fibrate with nicotinic acid.
6. Side effects of lipid-lowering drugs include
 - A. myositis-like syndrome with fibrates
 - B. glucose intolerance with benfluorex
 - C. hyperuricaemia with nicotinic acid
 - D. cholelithiasis with clofibrate
 - E. constipation with anion-exchange resins.

ANSWERS

1. B D E
2. A B C D E
3. B C D E
4. A B D
5. B D
6. A C D E



CALL FOR ABSTRACTS

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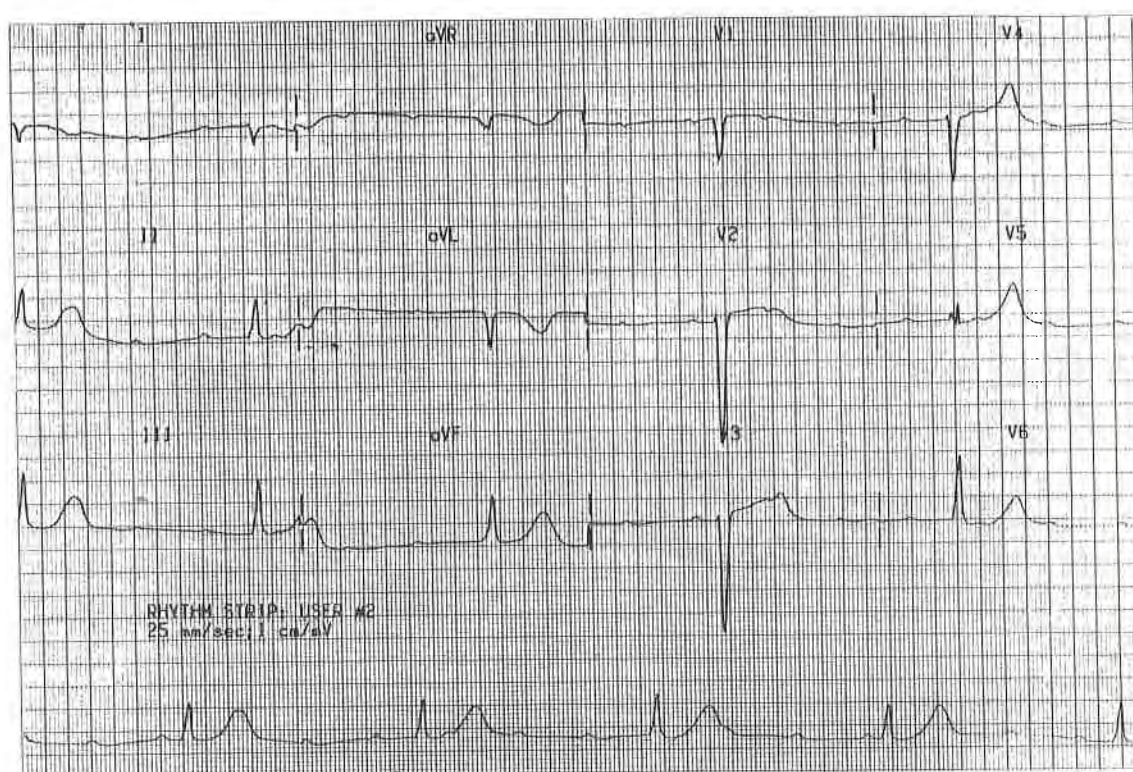
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ECG QUIZ

*Contributed by Dr Baldev Singh,
MBBS (S'pore), M.Med (Int Med), MRCP (UK)*

The ECG shown below belongs to a 76-year-old diabetic female who was seen in the A & E for complaints of dizziness and vomiting. She had no chest pain and was alert and orientated. Blood pressure was 140/80.

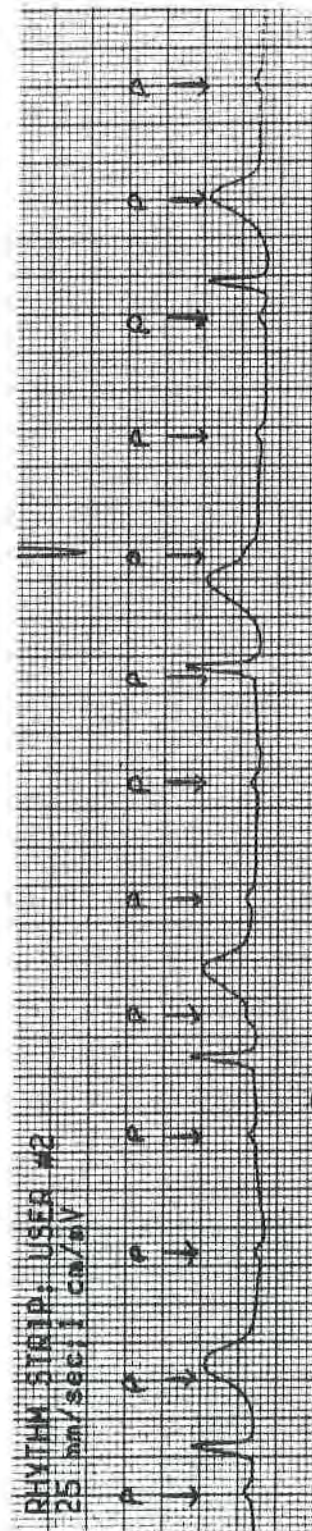
1. What is the chief ECG abnormality?
2. How would you manage this patient?



Answer to ECG Quiz

1. The ECG shows Complete Heart Block with a very slow ventricular rate of 28/min. The rhythm strip shows that the P wave occurring at approx. 100/min bears no relationship to the QRS complexes.
2. An intravenous line was started and the patient admitted to ICU for continuous cardiac monitoring. Just after she was put on the ICU bed, she went into asystole and her eyes rolled up. CPR was started with prompt return of pulse and consciousness.

An intravenous infusion of isoprenaline was started and this increased her heart rate. A temporary transvenous pacemaker was then inserted from the right femoral vein and she was paced at 70 beats/min. She remained stable throughout the day but was totally dependent on the pacemaker to keep her heart rate up. The same evening a permanent pacemaker was implanted and she was discharged a few days later ambulating well. All laboratory tests such as electrolytes and enzymes studies were within normal limits. The Complete Heart Block is probably secondary to ischaemia or degenerative disease of the conducting system.





NEW BOOK ANNOUNCEMENT

The Rational Use of Drugs in the Management of Acute Diarrhoea in Children

1990, iv + 71 pages (available in English; French and Spanish in preparation)
ISBN 92 4 156142 4
Sw.fr. 14.-/US \$12.60
In developing countries: Sw.fr. 9.80
Order no. 1150355

This clear, authoritative, objective and well-referenced book provides information essential to those concerned with improving the rational use of drugs in the management of acute diarrhoea in infants and young children and with tackling the immense problems posed by the prescribing of clinically useless and potentially dangerous drugs. Noting that diarrhoeal diseases continue to claim some 4 million young lives each year, the book gathers the information needed to argue against the widespread use of medicines that have no established clinical benefits, are frequently harmful, and — most importantly — may delay or replace effective treatment measures. The book also responds to the problem of antibiotic resistance and the corresponding need to curtail the unnecessary widespread use of antimicrobial medications.

Drugs judged effective are dealt with concisely in a table listing four first-choice antimicrobials, and six alternatives, useful in the management of cholera, shigella dysentery, amoebiasis, and giardiasis. Apart from these cases of specific etiology, readers are informed that antidiarrhoeal drugs and antiemetics should never be used for children, as none has any proven practical value and some are frankly dangerous.

This statement is then substantiated through a thorough review of data on antidiarrhoeal drugs widely used in paediatric practice. These include two antitility drugs (diphenoxylate hydrochloride and loperamide), four antimicrobial agents (neomycin, streptomycin, hydroquinolones and nonabsorbable sulfonamides), and five adsorbents (kaolin and pectin, activated charcoal, attapulgit and smectite). For each, the book provides a critical evaluation of experimental and clinical data on pharmacology, mechanism of action, efficacy, adverse effects, and drug interactions. Criteria for evaluating efficacy center on the ability to reduce stool water and electrolyte losses.

On the basis of this review, the book concludes that none of these preparations has any documented benefits, some actually prolong diarrhoea, and others have been shown to produce severe and, in some cases, fatal side-effects. The book further concludes that the continued production, promotion, and sale of these preparations for paediatric practice cannot be justified.

Drafted by officials in the WHO Diarrhoeal Disease Control Programme, and checked for accuracy by an international group of experts, the book presents information of vital importance to the sound and effective management of acute diarrhoea in children. Its clear and authoritative advice should prove useful to paediatricians, pharmacists, and teachers of medical students and nurses as well as to officials in national diarrhoeal disease control programmes.

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DSA.90.173



NEW BOOK ANNOUNCEMENT

IT CAN BE DONE

A Smoke-Free Europe

"To all the thinking people concerned with the saving and not the destruction of human life, the message from the First European Conference on Tobacco Policy is clear. Target number one is a smoke-free Europe. It can be done."

This book summarizes the tough lines of action mapped out during Europe's first conference on tobacco policy, a watershed event in the history of action against tobacco. The conference, which united some of the most experienced scientists, social scientists, and experts on health education and public health policy in Europe, drew unprecedented force and determination from a number of developments in research and public opinion, including data showing the increased risk of lung cancer and other severe diseases in non-smokers exposed to tobacco smoke, the growing view that tobacco-polluted air is a matter of grave environmental concern, and the increasing unwillingness to swallow the industry's argument for corporate freedom at the expense of so many lives.

The book opens with a six-point charter asserting the moral right of Europe's citizens to be protected not only from the diseases tobacco causes but also from the severe hazards of breathing air polluted by tobacco smoke. To make it possible for every person in Europe to enjoy the rights stipulated in the charter, the book sets out ten precise strategies for a smoke-free Europe, further concluding that a tobacco control policy that encompassed these ten strategies could bring about a significant reduction of tobacco consumption in Europe and could eventually eliminate the diseases caused by tobacco.

Measures proposed in this model tobacco policy, which stresses the importance of strong legislation, include a total ban on all forms of direct and indirect promotion of tobacco products, a 1% levy on all tobacco sales in every country of Europe, use of funds from the levy for health promotion and to buy out tobacco industry sponsorship of sports and cultural events, regular increases in tobacco taxation, complete protection of nonsmokers in offices and in meeting rooms and premises where two or more people are gathered, mandatory nonsmoking education as part of school curricula throughout Europe, and prohibition of smoking in public transport, schools, health care facilities, and any meeting held by a health or medical association. Concerning the importance of public education, the report concludes that people are not adequately informed of the dangers of tobacco smoke and, moreover, that the widespread assumption that "scare" tactics in educational campaigns do not work has not been substantiated by either sociological research or experience.

In line with this view, the book is itself heavily and pointedly illustrated. The pictures of coffins and of model ads showing an amputated leg or the cancer surgeon at work contrast sharply with a series of cartoons depicting the cigarette, with its watering can of poison, under the increasingly well-armed attack of a stormy climate of opinion, a surgeon's scalpel, the muscle of fitness, stethoscopes, a gavel, and the ball-and-chain of a tax increase. These illustrations work to enforce the report's conclusion that a popular movement to rid Europe of tobacco-related disease will be irresistible. It can be done, and this book shows how.



NEW BOOK ANNOUNCEMENT

Injectable Contraceptives

Their Role in Family Planning Care

1990, x + 117 pages (available in English; French and Spanish in preparation)
ISBN 92 4 154402 3
Sw.fr. 21.-/US \$16.80
In developing countries: Sw.fr. 14.70
Order no. 1150339

This book presents comprehensive guidelines for family planning programme managers considering the introduction or expansion of injectable contraceptives as an option for women seeking fertility control. Thoroughly grounded in research as well as practical experience, the book concentrates on the facts and advice needed to help service managers understand what the decision to offer injectables means in terms of both demands on staff and services and the health and welfare of clients. Emphasis is placed on the safe and effective use of depot-medroxyprogesterone acetate (DMPA) and norethisterone enantate (NET-EN), the most widely used injectables currently licensed in some 100 countries.

The book has nine chapters. The first provides essential technical information about injectables, the history of their development, mode of action, advantages, including non-contraceptive benefits, disadvantages, and contraindications. Readers are also given a thorough explanation of the controversy surrounding safety evaluations, particularly concerning the marketing of DMPA in the USA. The second chapter explains the place of injectables within family planning pro-

grammes, including important distinctions between clinic-based and community-based services. The remaining chapters concentrate on practical and logistic problems encountered in the day-to-day organization, management, and evaluation of a programme. Readers are given advice on factors, such as community attitudes towards menstrual irregularities, that can influence the acceptance of the method, the points to include in a medical history, the importance of record-keeping and post-administration care, methods of forecasting the need for supplies, and the training requirements for medical, nursing, paramedical staff, and lay workers. Details range from a 13-point checklist of activities required for the introduction of injectables, through points to be covered during a counselling session, to advice on the design of programme evaluation.

In view of the risk of HIV transmission through injections, the book issues explicit instructions for the sterilization of needles and syringes, the correct techniques for performing injections, the safe use of disposable needles and syringes, and steps needed to avoid dangerous mistakes. Additional practical information is presented in a series of five annexes. These list countries and territories where DMPA and NET-EN are registered, identify international sources of technical and funding assistance, give the names and addresses of the principal manufacturers, explain how to calculate the equilibrium level in the number of users, and list indicators for the evaluation of services.

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DSA/90.037



NEW BOOK ANNOUNCEMENT

Community Participation in Maternal and Child Health/Family Planning Programmes

An Analysis Based on Case Study Materials

by *S.B. Rifkin*

1990, ix + 38 pages (available in English; French and Spanish in preparation)

ISBN 92 4 156135 1

Sw.fr. 9.50/US \$7.60

In developing countries: Sw.fr. 6.65

Order no. 1150338

This book reviews a wide range of experiences in maternal, child health, and family planning programmes in an effort to identify factors and conditions that encourage effective community participation. Addressed to health planners, the book concentrates on questions of management and human behaviour that need to be considered when planning health programmes based on the concept or methods of community participation. Throughout the book, numerous case studies are used to develop an analytical framework for understanding why such programmes so often fail to reach their goals.

The book has four main chapters. The first provides a brief history of community participation in health care, concentrating on changes in attitudes that focused attention on the potential of community participation to extend health coverage to the underserved and contribute to overall socioeconomic development. The second chapter discusses the various interpretations of community par-

ticipation, emphasizing those most relevant to the delivery of maternal, child, and family planning services. A discussion of community development as a method, a movement, a programme, and a concept is followed by a list of false assumptions that have plagued efforts to encourage participation of the people in their own health development.

The analytical framework for the study is developed in the third and most extensive chapter, which describes programmes on the basis of their objectives and the ways in which those objectives are pursued. Five different levels of participation are identified, moving from the passive receipt of health benefits to active involvement in the monitoring, evaluation, and planning of programmes. The author suggests that the progress and success of a programme are governed by two sets of factors: descriptive factors, which are mainly of an environmental nature, and action factors, which refer to organization, management, and resource mobilization. Arguing that descriptive factors are especially difficult to change, the author concentrates on six specific action factors and then shows how each factor may operate to favour or hinder effective community involvement. The final chapter draws a number of conclusions concerning the questions that will need to be addressed and answered by planners and agencies.

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DSA/90.036

GUIDELINES FOR AUTHORS

THE SINGAPORE FAMILY PHYSICIAN

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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These should be limited to the work cited in the article.

References should be double spaced and arranged alphabetically by author. Personal communications are not acceptable as references. Unpublished material should be included only if an address can be given from which a copy of the material cited is available.

Authors are responsible for accuracy of references, which should conform to the Vancouver style (see Further reading). List all authors (include all initials) when there are six or fewer; when seven or more list the first three and add et al. Give the title of the paper cited in full, the title of the journal abbreviated according to Index Medicus (if not listed by Index Medicus spell in full); the year; the volume number and the first and last page number of the article.

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All accepted manuscripts are subject to editing for length, clarity and conformity with this journal's style. They will be also subjected to peer review. Statistical assessment will be carried out if relevant.

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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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Orcein-stained section (x 400) of arterial wall showing lamellar arrangement of elastin fibres. Treatment with Coversyl results in normalisation of medial thickness (reduction of smooth muscle hypertrophy and extracellular collagen mass) and improvement of the elastin/collagen ratio in hypertensive arteries (1,2).

Coversyl is a long-acting ACE inhibitor. **International non proprietary name:** Perindopril. **Indication:** Essential hypertension and Congestive Heart Failure. **Dosage and Administration:** Hypertension: 4 mg once a day in the morning. If necessary, the dose may be increased to 8 mg after one month of treatment. *Elderly patients:* start treatment at 2 mg daily. Congestive Heart Failure: 2 mg once a day in the morning and this may be increased to 4 mg after 15 days. **Contra-Indications:** Children. Pregnancy. Lactation. Patients with a history of hypersensitivity to Coversyl. **Precautions:** Assess renal function before and during treatment where appropriate. Renovascular hypertension. Surgery / Anaesthesia. Renal insufficiency: the dose should be cautiously adjusted in accordance with the creatinine clearance (refer to complete data sheet). Symptomatic hypotension is rarely seen, but is more likely in volume-depleted patients, those receiving diuretics, or with the first two doses. In diuretic-treated patients, stop the diuretic 3 days before starting Coversyl. A diuretic may later be given in association if necessary; potassium-sparing diuretics are not recommended. Combination with neuroleptics or imipramine-type drugs may increase the hypotensive effect. Serum lithium concentrations may rise during lithium therapy. **Side Effects:** Rare and mild, usually at the start of treatment. Cough, fatigue, asthenia, headache, disturbances of mood and / or sleep have been reported. Less often taste impairment, epigastric discomfort, nausea, abdominal pain and rash. Reversible increases in blood urea and creatinine may be observed. Proteinuria has occurred in some patients. Rarely, angioneurotic oedema and decreases in haemoglobin, red cells and platelets have been reported. **Composition:** Each tablet contains 4 mg of the tert-butylamine salt of perindopril. **Presentation:** Boxes of 30 and 300 tablets of COVERSYL 4 mg (scored) and COVERSYL 2 mg. Refer to data sheet for complete prescribing information.

1. Levy et al., J. Hypertension, 1988, 6, S23-25. 2. Christensen et al., J. Hypertension, 1989, 7, 83-90. 3. Safar et al., Circulation, 1988, 78, 941-950. 4. Safar et al., Arch. Mal. Cœur, 1989, 82, 51-56. 5. Borisse et al., Data on file. 6. Santoni et al., Clin. Exper. Hypertension, 1989, A11, 605-619. 7. Luccioni et al., Eur. Heart J., 1988, 9, 1131-1136.

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Brand Name	CEREKINON TM Tablets		Precaution				
Generic Name	Trimebutine maleate						
Chemical Name	(±) 2 Dimethylamino 2 phenylbutyl 3, 4, 5-trimethoxybenzoate hydrogen maleate						
Description	<table><tr><td></td><td>Content of Trimebutine maleate</td></tr><tr><td>CEREKINON Tablets</td><td>100 mg/tablet</td></tr></table>		Content of Trimebutine maleate	CEREKINON Tablets	100 mg/tablet		
	Content of Trimebutine maleate						
CEREKINON Tablets	100 mg/tablet						
Indication	<p># Gastrointestinal symptoms associated with chronic gastritis (feeling of abdominal distention, abdominal pain, nausea and eructation)</p> <p># Irritable bowel syndrome</p> <p># For gastrointestinal symptoms due to chronic gastritis Usually, for adults daily dose of 300 mg as trimebutine maleate (3 tablets) in 3 divided doses through oral route. The dose may be increased or decreased according to the age and symptom of patients</p> <p># For irritable bowel syndrome: Usually, for adults daily dose of 300 — 600 mg as trimebutine maleate (3 — 6 tablets) in 3 divided doses through oral route</p>						
Administration & dosage							
Clinical application	<p>1. Clinical effects</p> <p>1) Chronic gastritis As the results of clinical trials including two comparative double-blind studies, CEREKINON Tablets showed overall improvement rate of 64.1% (including moderate improvement) in the treatment of gastrointestinal symptoms (feeling of abdominal distention, abdominal pain, nausea and eructation) due to chronic gastritis (526 cases)</p> <p>2) Irritable bowel syndrome As the results of clinical trials including two comparative double blind studies, CEREKINON Tablets showed overall improvement rate of 56.5% (including moderate improvement) in the treatment of abnormal stool and gastrointestinal symptoms due to Irritable bowel syndrome (642 cases)</p>		<p>2. Adverse reactions Adverse reaction episodes of 259 cases (0.4%) were reported out of total 59,801 cases. The most often encountered adverse reactions were gastrointestinal symptoms such as diarrhea, constipation and thirst</p> <p>1. Adverse reactions</p> <p>a) Gastrointestinal system Constipation, diarrhea, borborygmus, thirst, numbness in the mouth may occur rarely</p> <p>b) Cardiovascular system Palpitation may occur rarely</p> <p>c) Psychoneurotic system Sleepiness, dizziness, lassitude, headache, may occur rarely</p> <p>d) Hypersensitivity Hypersensitive symptoms such as eruption may occur infrequently. In such case, medication should be discontinued</p> <p>2. Medication to pregnant women and nursing mothers The safety of CEREKINON Tablets in pregnancy or nursing women has not been established. Therefore, CEREKINON Tablets should not be given to pregnant women, women suspected of being pregnant and nursing women, unless the potential benefits outweigh the possible risks</p> <p>3. Medication to children The safety of CEREKINON in children has not been established</p>				
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			How supplied				
			<p>1. Caution: Dispense by physician's prescription Keep out of reach of children</p> <p>2. Storage: Store in a light-resistant tight container below 30°C</p> <p>3. Expiry date: Indicated on the outer package</p> <p>CEREKINON Tablets: 100 tablets (10 tablets × 10) PT P</p>				

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URETHRITIS

SINGLE-DOSE TREATMENT

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pefloxacin

2 TABLETS

Prescribing information

Peflacin (Pefloxacin) is a synthetic antibiotic which belongs to the quinolone family.

MICROBIOLOGY

In-vitro tests on PEFLACINE demonstrate that the quinolones are bactericidal against the following organisms:-

Staphylococci, including *S. epidermidis* and methicillin resistant strains
Acinetobacter spp.
Enterobacter spp.
Pseudomonas aeruginosa
Proteus mirabilis
Providencia spp.
Escherichia coli
Klebsiella spp.

Other strains of Gram-negative organisms sensitive to PEFLACINE include *Neisseria meningitidis* and gonorrhoeae, *Salmonella* and *Shigella* species.

Most strains of *Streptococcus* and anaerobes are resistant to PEFLACINE.

Indications

Severe infections, in adults caused by sensitive micro-organisms (gram-negative organisms and staphylococci), including cystitis and gonorrhoea.

Administration

PEFLACINE is available in both intravenous and oral formulations.

By the oral route

PEFLACINE tablets (400mg) should be taken twice daily with meals to avoid gastrointestinal disturbances.

The recommended dosage for cystitis and gonorrhoea is 2 tablets (400mg each) stat.

By the intravenous route

Peflacin injection should be administered by slow intravenous injection (one hour) at the dosage of one ampoule of 400mg, diluted in 250ml of isotonic glucose solution, twice daily. A chloride solution should not be used to prepare the dilution as Pefloxacin precipitates in the presence of chloride ions.

Dosage

Adults with normal liver function

On average, 800mg daily (either 2 tablets or 2 ampoules, each containing 400mg). An initial loading dose of 800mg may be given in order to produce effective blood concentrations more rapidly. Dosage need not be reduced in case of renal insufficiency. However, dosage should be adjusted in hepatic insufficiency.

Side-Effects

Digestive disorders: gastric pain, nausea, vomiting
Allergic skin reactions and photosensitivity
Muscular and/or articular pain
Thrombocytopenia at high doses (1600mg daily)
Neurological disorders: headache, disorders of vigilance

Contra-indications

Allergy to drugs of the quinolone family
Children under 15 years of age
Pregnancy
Nursing mothers

Packing

Tablets containing 400mg of Pefloxacin in box of 50.
Ampoules of 5ml, containing 400mg of Pefloxacin in box of 10.

Further information is available on request from



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