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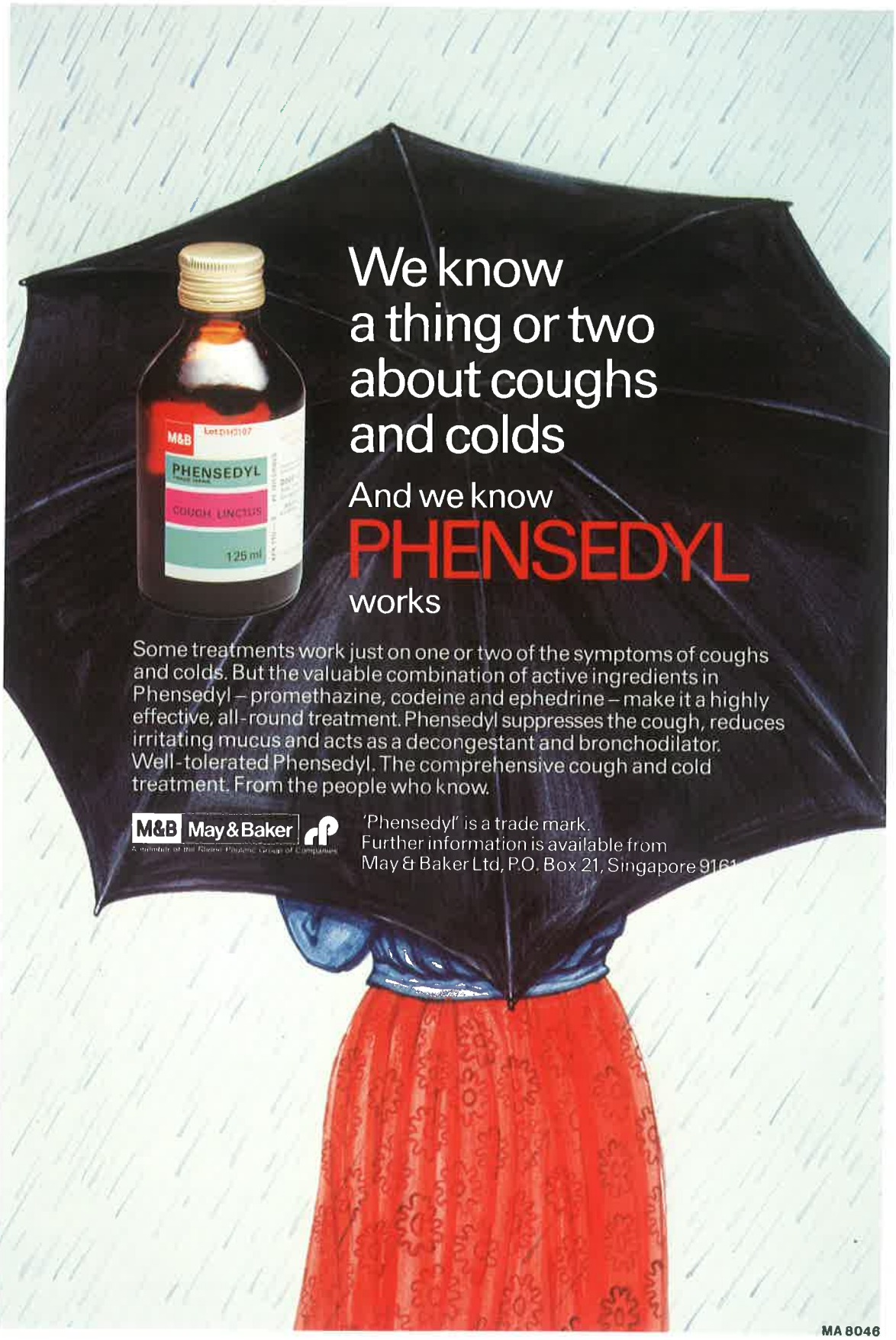

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'Tagamet'
The long and the short of it

'Tagamet', now available in over 80 countries throughout the world, is estimated to have been prescribed in the treatment of over 3,500,000 patients. By its unique mode of action in reducing gastric acid secretion, 'Tagamet' has been shown to be unequalled in the short-term treatment of reflux oesophagitis and peptic ulceration; particularly for providing rapid symptomatic relief and complete healing in most patients with duodenal ulceration. [1-3]

Unfortunately, duodenal ulceration is a naturally relapsing disease, irrespective of the agent which initially induced remission. Thus considerable interest has been aroused by the possibility of using longer-term 'Tagamet' treatment at a maintenance dose in order to minimise the risk of relapse.

Long-term treatment

In fact, 'Tagamet' is the only drug which has been proved to reduce the frequency of relapse in duodenal ulceration.[4-6] Overall results from on-going clinical trials have shown that in treatment periods of up to a year (mean treatment period 6.3 months) only 9.5% of 'Tagamet'-treated patients relapsed compared with 49.9% in the placebo group.

In patients who have healed their ulcers and who may benefit from maintenance therapy, treatment should be continued for at least 6 months at a reduced dosage of 400mg nocte.

The nature and incidence of untoward symptoms found in long-term trials has not differed greatly from that observed in short-term trials.

Short-term treatment

Reflux-Oesophagitis – a review of 120 patients
'Tagamet' 67% complete healing/marked improvement
Placebo 14% complete healing/marked improvement

This group of patients included patients with serious oesophagitis having ulcers and erosions diagnosed at endoscopy.

Benign Gastric Ulcer — a review of 409 patients
'Tagamet' 75% completely healed
Placebo 41% completely healed

An analysis of treatment periods showed that significantly more patients had complete healing after 6 weeks (76%) compared with those treated for 4 weeks (62%). (Note: Malignant gastric ulcer should be excluded.)

Duodenal Ulcer — a review of 1055 patients
'Tagamet' 77% completely healed
Placebo 41% completely healed

For those patients who may benefit from longer-term treatment, therapy should be continued for at least 6 months at a reduced dosage.

Recommended Dosage

For Acute Management

Duodenal Ulcer
Usual dose:

1 tablet (200mg) t.i.d. with meals and 2 tablets (400mg) at bedtime for 4-6 weeks.

Benign Gastric Ulcer
Usual dose:

1 tablet (200mg) t.i.d. with meals and 2 tablets (400mg) at bedtime for at least 6 weeks.

Reflux Oesophagitis
Usual dose:

2 tablets (400mg) q.i.d. with meals and at bedtime for 4-8 weeks.

For Maintenance Therapy Following Ulcer Healing

Usual dose:

2 tablets (400mg) at bedtime.

Some patients may require 2 tablets (400mg) at bedtime and an additional 2 tablets (400 mg) in the morning.

For patients with a history of recurrent ulceration, treatment should be continued at reduced dosage for at least 6 months.

Presentations

'Tagamet' Tablets: Containing 200mg Cimetidine, in containers of 50 tablets.

'Tagamet' Ampoules: Containing 200mg Cimetidine in 2 ml solution, in boxes of 10 ampoules.

(Before prescribing, see Product Information)

References

1. Cimetidine in the treatment of active duodenal and prepyloric ulcers. (1976) Lancet, **ii**, 161.
2. The effect of cimetidine on duodenal ulceration. (1977) Proceedings of the Second International Symposium on Histamine H_2-Receptor Antagonists. Excerpta Medica, p.260.
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6. Prophylactic effect of cimetidine in duodenal ulcer disease. (1978) Brit. med. J., **1**, 1095.

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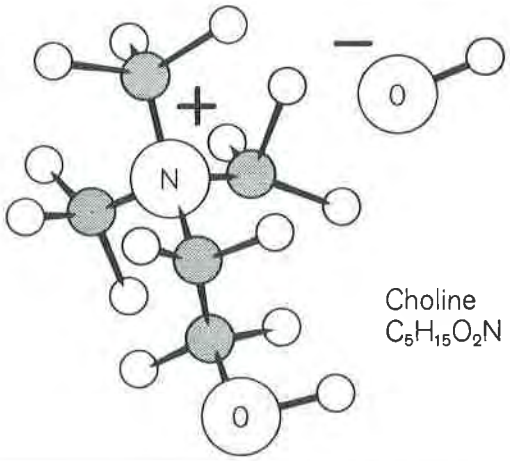

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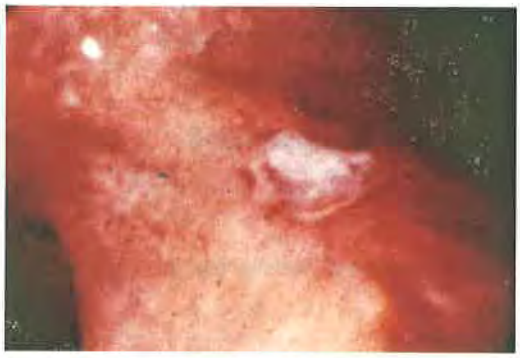
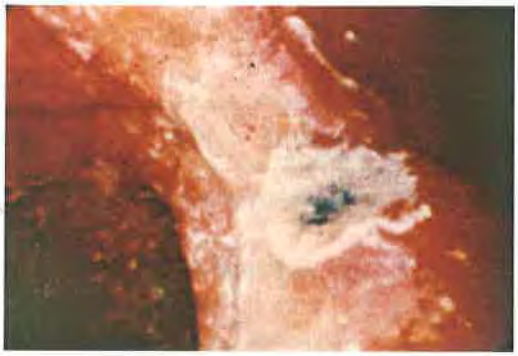


Before **ULSANIC** medication. Showing Ulcer at the lesser curvature of lower portion of corpus



Three hours after **ULSANIC** medication. Showing a membraneous coating to the lesion.

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Symptoms	Number of patients	Good to excellent results
Nervous	831	77.4%
Respiratory	105	65.7%
Cardiovascular	370	74.0%
Gastrointestinal	310	78.0%
Urogenital	82	79.3%
Other	141	76.6%
Total of patients	1,182*	75.8%

*Most patients presented more than one symptom.

Figure 1. Results of treatment with<Lexotan>in 1,182 patients with functional disturbances.

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- **Selective anxiolytic**
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- A valid alternative for diazepam

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Editorial
Medical Certification

There are two paragraphs in the official publication of the Singapore Medical Council, "A Guide On The Singapore Medical Council", which merit special attention by registered medical practitioners. They refer to "Medical Certification" and "False Certification".

Medical Certification

"Before issuing a medical certificate, a doctor should ensure that he had sufficient grounds and evidence to justify the certification of illness. All medical certificates should bear the **date of issue** and the **date or dates of incapacity."**

False Certification

"Any practitioner who issues in his professional capacity any certificate or document containing statements which he knows, or ought to have known, to be untrue , misleading or otherwise improper, brings himself within the scope of the Council's disciplinary jurisdiction."

Strangely enough the guide bears no date of issue and publication. The recency of the publication can only be gauged by the third paragraph of the Introduction which gives the address of the Singapore Medical Council at the Ministry of Health, 7th Floor, Cuppage Centre, Cuppage Road, Singapore 0511. Most medical practitioners will remember that it was a fire at Palmer Road which necessitated the change of address. The failure to date a publication or document is a failing of most medical people.

In the 1979 Annual Report of the Singapore Medical Council the number of cases considered by the Penal Cases Committee totalled 41 and of these, eight cases were for false certification. Three cases were referred for disciplinary inquiry. Two were suspended for 3 months each and the third for 6 months.

We can take the attitude that nothing is amiss and promptly dismiss the whole thing from our minds. We can also regard these failings as symptoms manifested by a disease process which demands elucidation. The first attitude is negative and surely not becoming of a professional body of men. Our training demands that every symptom is important if we are to understand the pathological processes of the disease.

"Medicalization" of Illness

We have arrived at a certain mile-stone in civilization when a person cannot declare himself (even by statutary declaration) ill and unable to attend to his duties. Such a proferred statutary declaration would not only be unacceptable but would most certainly invite suspicions of psychotic behaviour.

Medical science has painstakingly and progressively categorised the afflictions of man. What it has not been able to do, it has conveniently and neatly put into the category of "unknown origin". Every illness therefore must be put into a neat category and the people entrusted to do this are the "high-priests" of this system – the medical doctors. Whether we like it or not, realised it or not, human illnesses have been fully medicalized and no person can be ill unless he is so certified by the medical priesthood. Even fitness has been included in its responsibility and again no one can claim to be fit unless he is given the testimony of fitness. The medical profession has generated a demand for its certificates and therein are the difficulties.

A Legal Document

A medical certificate of illness is a legal document which enjoys no legal compulsion. When submitted by an employee to his employer, there is no legal compulsion on the latter to accept it and to accord it the rights that accompany its acceptance i.e. leave with full pay. The more enlightened employer, however, accepts it more to keep the "peace" with the union (especially when it is strong and powerful) than for any altruistic reason.

As a legal document, the medical certificate should enjoy a certain degree of uniformity. Vaccination and inoculation certificates for travel are standardised. So are death, birth and other statutary certificates which medical practitioners have to fill in from time to time. Medical certificates of illness and fitness in spite of their importance enjoy no uniformity and standardization. Until recently, there was even confusion over whether there was a need to insert the date of issuing the certificate.

Like all legal documents, no alterations, deletions or additions may be made to the medical certificate unless each of such corrections is clearly endorsed. The validity of the medical certificate is conditional upon the strict observance of these fundamental requirements. Clearly with such an important document, the person who signs it should make doubly sure that the material facts are verifiable and true before parting with it. If all doctors would take the trouble to fill the

medical certificates themselves and not leave them to subordinate staff, much of the trouble in connection with their abuse can be avoided. Much of this dependence on subordinate staff is learned during hospital practice.

Hospital Practice

In a hospital setting, the doctor in the lowest rung of responsibility is given the highest responsibility in the issuance of the medical certificate. The writing of a medical certificate is considered to be the meanest of duties – something definitely beneath the dignity of even the registrar of the unit. The relegation of this very economically important task becomes firmly established and perpetuated. Sometimes there is further relegation of responsibility and it is the staff-nurse who fills in almost all the details except for the illegible signature of the responsible person.

Pressures

There is an unwarranted misconception that the only "leave" open to an employee who is faced with a crisis in his domestic life and is in need of leave is medical leave. This is indeed a pressure area which many doctors do not know how to handle. In a moment of weakness, the doctor succumbs to the tearful tale of his patient and jeopardises his good standing in the medical profession. There is no monetary advantage or consideration in most cases. This rashness is nothing but a false sense of loyalty to his patients. He should realise that his first loyalty is to the truth.

Some years ago when most of the low-lying areas of Singapore were under flood-water after incessant rain, all the major roads were impassable to traffic. Many workers were unable to attend work. One would have thought that this was sufficient reason and ground to be excused from duty. The next day many doctors were troubled with requests for medical certificates to cover their patients' absence from duty the previous day. The consistent and insistent argument was that there was nothing in the book to excuse a worker from absence due to floods and no one in authority was prepared to write "flood" against the absence of the worker. The demand was for "sick certificates" as these were the only acceptable excuse for absence from work. I am certain that many doctors had many phone calls to make to convince bureaucratic officials that "medical certificates" could not be debased to cover contingencies such as floods. To have knuckled under pressure would have been an open invitation for more abuses.

The Law Courts

If a person is certified unfit for work is he unfit to attend court? Until recently, the answer appeared rather obvious. Arising out of the demands by courts of law to know, many medical certificates now bear statements that the validity of the certificate extends only to work and does not cover the patient if he has to attend court. I believe that many doctors are totally ignorant why medical certificates are issued in the first place. If they are aware then their preoccupation with fitness to attend court but unfitness to work will not have arisen.

The medical profession should be unified in this respect. Trying to balance the niceties of being able to say whether a person is fit to attend court and not to attend work is not possible. In issuing a medical certificate, the doctor is surely not testing the patient's endurance or ability to perform his duty in the face of illness but to offer him rest as a therapeutic measure or treatment so that he can recover quickly from his illness. The other aspect of medical leave is that his fellow workers need to be shielded from him lest they be infected. The third aspect is that the patient has to be protected from his work environment lest he becomes a danger to himself and others.

When a judge has paronychia, he is most certainly fit to put in an appearance in court but he is not totally fit to sit in judgement because discomfort or pain may warp his judgement. Therefore to all intents and purposes, he is not fit to attend to his duties. Similarly a person requested to attend court may have a fever. No doubt he can endure his illness and attend court but his illness may prevent him from giving testimony **at his best.** This is tantamount to saying that he is unfit to perform his duties i.e. duties as an ordinary citizen. There are actually very few illnesses which are totally incapacitating.

Conclusion

Medical certification of illness merits far more importance than is accorded to it by the medical profession. In the past and at present it has received scant attention at the undergraduate level. At the pre-registration level its importance has always been relegated to the lowest. Post-registration, many doctors still appear not to understand what medical certification is all about.

Perhaps we have created a demand for medical certification but have not fully prepared ourselves for the responsibility.

L.V.C.

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

A survey of defaulting in general practice

CHIA SZE FOONG,
M.B.B.S. (Singapore),
M.C.G.P. (Malaysia)

INTRODUCTION

Defaulting treatment is an outcome of failure of the patient to co-operate with his doctor. Whether a patient defaults will depend on the reactions[1] (depression, fear, counterphobia, anxiety, anger, apathy, exaggeration of symptoms, regression, dependency and self-centredness) to the sick role he tends to adopt after medical counselling and on the effects of treatment & doctor's advice. The development of these reactions is influenced by the patient's own concept of his illness or problem and its severity, his ability to handle the problem or illness himself, the degree of agreement with his doctor with what is bothering him and the basis on which he will care for him. The extent of the effect of the treatment & doctor's advice on patient's decision to default will depend on the degree of improvement of his illness or problem, trust & confidence in the doctor, complexity of the regimen, chronicity of his illness and the socio-economic environment of the patient.

The aim of this study is to find out the possible factors that may influence defaulters in Malaysian sick population.

METHOD

A survey on defaulting treatment was carried out from 1.11.78 to 31.1.79 in the author's urban practice. Every patient seen serially & without selection was asked whether he had been seen by a doctor before for his main presenting complaint. If he had he was further inquired whether he had been told to return for further treatment. Those who gave affirmative answers were classified as defaulters. There was no inquiry about his secondary complaints. On the basis of his principal complaints, further information was sought for on the nature of previous consultation and the reason for defaulting.

The limitation of this method lies in the person-to-person approach. The patient may not be answering truthfully especially when asked for his reason for defaulting when confronting the doctor who had previously advised him to return. A written proforma for each patient to fill in privately would have minimised this problem but the majority of these patients were illiterate in English.

RESULTS

There were a total of 176 cases of defaulting treatment.

Symptoms (Table 1)

Cardiovascular symptoms accounted for the most number of defaulters followed by dermatological & respiratory symptoms – all 3 groups forming 63.6% of the total number of defaulters.

Duration of symptoms was less than 1 week in 22 cases, between 1 week to 1 month in 44 cases, between 1 month to 1 year in 74 cases and greater than 1 year in 36 cases. In Figure 1 cases with cardiovascular symptoms tend to be more chronic measuring in months & years while cases with respiratory symptoms tend to be more acute measuring in weeks & to the lesser extent in days. Dermatological symptoms tend to be more subacute.

TABLE 1: SYMPTOMS

	No. of cases	%
Cardiovascular	52	29.5
Dermatological	35	19.9
Respiratory	25	14.2
Neurological	13	7.4
Gynaecological	12	6.8
Genitourinary	7	3.9
Gastrointestinal	7	3.9
Surgical	6	3.4
Psychiatric	6	3.4
Fever	6	3.4
Metabolic	6	3.4
Others	1	0.5

Age

There were 36 cases below 13 years, 111 cases between 13 to 60 years and 29 cases above 60 years old.

Previous Consultations (Table II)

49 cases of self-medication obtained their Western medicine from Chinese drug shops not authorised to sell poisons & scheduled drugs while 5 cases took left-over medicine from previous consultation by the patient or even by other members of the family. Self-medication did not appear to have a marked preference for any group of symptoms. Of the defaulters who self-medicated, 40% were apathetic about follow up, 22% complained of no improvement of symptoms and 15% could not afford long-term treatment.

Only 1 out of 32 cases taking native medicine saw a Malay bomoh while the rest sought Chinese sinseh's treatment. 75% of patients who took native medicine had symptoms more than 1 month in duration and 59.4%% of them had seen more than doctor for the same complaint.

TABLE II: PREVIOUS CONSULTATIONS

	No. of cases	%
Incomplete course	28	15.9
Doctor-hoppers	75	42.6
Native medicine	32	18.2
Self medication (Western medicine)	54	30.7

Reasons for defaulting (Table III)

In Table III 54 patients felt it was unnecessary for further visits to their doctors and apathy appeared to be the reason. 31 cases who gave inconvenience as their reason for defaulting were rural residents. In 27 cases, drugs were the reason for defaulting, 16 complained of too many drugs and taking them on long term-basis. The other 11 cases complained of feeling worse after taking the drugs. 23 cases could not afford to take drugs on a long term basis and 9 patients complained they were not given sufficient explanation the reason for further consultation.

TABLE III: REASONS FOR DEFAULTING

	No. of cases	%
Follow unnecessary	54	30.9
No improvement	32	18.2
Inconvenience	31	17.6
Drugs	27	15.4
Doctor's fee	23	13.1
Doctor's attitude	9	5.1

In Table IV the following information were obtained after further analysing the 3 biggest groups of defaulters.

i) Cardiovascular group with the most number of chronic cases had the lowest incidence of doctor hopping. More patients in this group than in

TABLE IV: COMPARISON BETWEEN CARDIOVASCULAR' DERMATOLOGICAL AND RESPIRATORY GROUPS OF DEFAULTERS

	CARDIOVASCULAR		DERMATOLOGICAL		RESPIRATORY	
	No. of cases	%	No. of cases	%	No. of cases	%
Doctor hoppers	11	21	17	47	17	68
Reasons for defaulting:						
Followup unnecessary	19	37	10	29	5	20
Drugs	15	29	5	14	1	4
Inconvenience	7	13	6	17	4	16
No improvement	1	2	12	34	13	52
Total No. of cases	52		35		25	

the other 2 groups felt unnecessary or apathetic about further consultation and they complained more about having to take more drugs & their side-effects.

ii) Respiratory group with the most number of acute cases had the highest incidence of doctor hopping. They had the most number of cases who complained of no improvement of symptoms.

iii) Inconvenience as the reason for defaulting did not appear to have any marked preference for any of the 3 groups.

DISCUSSION

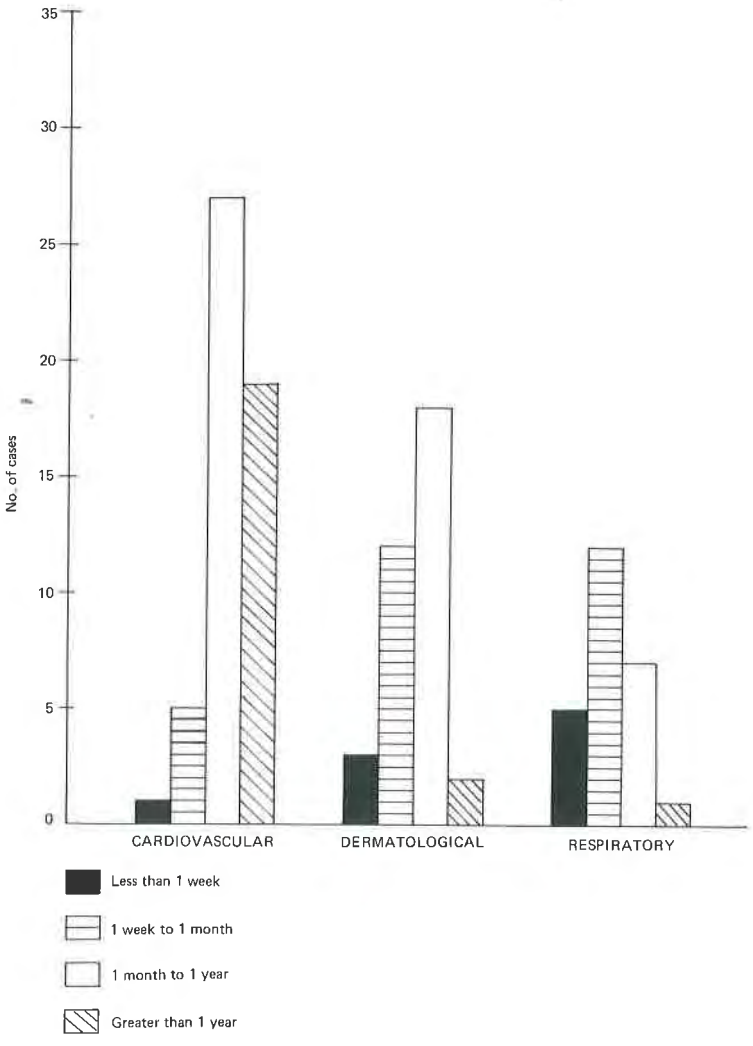
From the results of the survey the following conclusions can be drawn.

Most defaulters had chronic complaints with 62.5% more than 1 month's duration because compliance diminishes with time. Cardiovascular, dermatological & respiratory symptoms formed 63.6% of the complaints. Cardiovascular cases were more chronic & respiratory cases more acute in duration.

The main reasons for defaulting in the order of importance were apathy, no improvement of symptoms, inconvenience, too many and side-effects of drugs, & inability to afford long-term treatment.

The incidence of self medication in Western medicine (30.7%) in defaulters was higher than in doctor-hoppers in a Malaysian survey[2] (28.3%) and much higher than a[4] survey done in Singapore (12.5%) done in general sick population. Since the patients in all three surveys were predominantly Chinese & urban it can be concluded that defaulters were more than twice likely to self medicate compared with the general sick population, and

FIGURE 1: DURATION OF SYMPTOMS



hence much more likely to expose themselves to the side-effects of drugs over a longer period. The usual source of self medicated Western drugs is the Chinese druggist where unauthorised selling of potent unscheduled drugs & poisons is very widespread in Malaysia. These defaulters were mainly patients who were apathetic about followup and thought they could handle the problem themselves while a significant proportion of self medicated patients could not afford long term treatment.

Native medicine still exerted a significant influence in 18.2% of defaulters a figure slightly higher than doctor hoppers (15.9%) in the Malaysian survey[2]. When symptoms or illness tend to persist for a long time in spite of repeated treatment with Western medicine patients would seek Oriental forms of treatment widely available in multicultural Malaysia hoping for an end-all cure.

In chronic cardiovascular cases, 85% of which were hypertensive, apathy was the main reason for defaulting followed by too many and side-effects of drugs & inconvenience. Hypertensives being more often symptomless, may feel that doctor's advocacy of therapy runs contrary to their conception of hypertension as a serious illness, of their own responsibilities to its complication, of the effectiveness of treatment being proposed, and the barriers which they have to overcome in complying with regimen. Where illnesses are chronic the level of patient-doctor interaction is one of mutual participation. The doctor helps the patient to help himself. This help may take the form of health education, close & frequent personal supervision of the patient and patient's participation in monitoring the progress of his own illness all of which had been proved quite successful in a Canadian survey[3].

In more acute respiratory cases no improvement of symptoms was the main reason for defaulting and incidence of doctor-hopping was the highest, a finding consistent with that in the Malaysian survey[2]. The phenomenon of doctor-hopping here is encouraged by relatively cheap medical charges & plentiful doctors[5]. The twin problem of doctor-hopping & defaulting can only be minimised by drawing not only on the doctor's diagnostic acumen & therapeutic skill but also his willingness to have prolonged contact with his patients by which[6] he can use repeated opportunities to gather information at a pace appropriate to each patient and build up a relationship of trust which he can use professionally.

ACKNOWLEDGEMENT

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Puffer fish poisoning

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The paralysing and fatal effects of puffer fish poisoning antedated from the realm of folklore. The classifical features of paraesthesia over the extremities and circumoral areas, wobbling gait, muscular paralysis, vomiting and abdominal colic and fatal respiratory paralysis are due to a potent neurotoxin called tetrodotoxin, which is present in lethal levels mainly in the liver and ovaries of the fish. Though the ill effects of puffer fish are well known, many people still eat it as a delicacy after carefully removing the viscera first. However, the neurotoxicity of the fish varies with seasons, reaching its height during the spawning periods, when even the musculature may possess lethal toxic levels of tetrodotoxin. Failure to abide with the rules of preparation of puffer fish or of awareness of a seasonal variation in neurotoxicity is responsible for most of the cases of puffer fish poisoning.

It is therefore of interest to report a case of puffer fish poisoning with a subsequent relapse, both episodes of which were successfully treated.

Case Report

T.B.S., a 21 year old Chinese male, was admitted to hospital with sudden onset of generalized paralysis. He had earlier eaten a fried puffer fish with its roe, for his afternoon meal at 1 p.m. At about 3 p.m. he had circumoral numbness, which spread to involve his limbs and body. At 4.30 p.m. he had abdominal colic and vomiting. At 8 p.m. he became drowsy and had a wobbling gait. His parents were alarmed and admitted him. Puffer fish ingestion had been a favourite indulgence of the family.

On examination at 9.30 p.m. he was prostrated and apprehensive, with slurred speech imploring for help. Occular movement was impaired in all directions including a poor light reflex. His neck muscles were weak.

Generalized paralysis set in very quickly and by 11.30 p.m. he was comatose, completely paralysed, cyanosed and his respiration very depressed. He was immediately intubated and respiration maintained on a Bennet's respirator and oxygen.

An ECG revealed slight PR interval prolongation with T inversion in the chest leads. There was no evidence of hypokalaemia.

He did not respond to intravenous potassium (Darrow's solution). Neostigmine methyl sulphate 1.5 mg. and atropine gr. 1/100 given I.V. appeared to improve his state. By 7.30 a.m. the following morning, he became conscious and was able to move his limbs. He was extubated at 9 a.m. to breathe on his own. He had to be catheterized for urinary retention.

During the next two days, he regained his strength and was able to walk.

On the 5th day, he was severely constipated and was given an enema simplex. Thirty minutes after the enema, he became completely paralysed again. He was treated with I.V. neostigmine 1.5 mg. and atropine gr. 1/100 again, and this combination was repeated 6 hourly. He regained his power the next day.

Summary of Case

Following ingestion of a puffer fish, a healthy young adult developed a cold sensation distributed around his mouth, tip of his tongue and over his extremities, abdominal colic and vomiting, and ataxia. With alarming rapidity he became generally paralysed, comatose and cyanosed with marked depression of respiration. He responded to artificial respiration, potassium chloride and neostigmine therapy. Four days later 20 minutes following an enema for constipation he developed generalised paralysis again. On a vigorous regime of neostigmine parenterally he improved fairly dramatically.

Discussion

Though isolated reports of puffer fish poisoning have appeared from coastal waters in different

parts of the world, it is chiefly in countries surrounding the South China Sea, particularly in Japan, that it is becoming a public health problem. Data from the Japanese Ministry of Welfare, show that in the period 1956-58, 715 individuals were poisoned from eating puffer fish; of these the morta lity was 59 per cent. Legislative controls aimed at preventing tetrodon poisoning in Japan, require licensing of cooks who prepare puffer fish for eating in certain perfectures (states), to outright prohibition of sale of the fish in others. As tetrodon poisoning is becoming an increasing public health problem in Japan, Japanese workers have done extensive study and purified an extract from the eggs which they termed tetrodotoxin.

It is well known that puffer fish are poisonous during certain seasons whilst in other months of the year they are eaten with little effect. This is due to the fact that the concentration of the tetrodotoxin is maximal in the liver and ovaries and when the ovaries mature and grow in size during the spawning season, they understandably become most poisonous. This explains why the patient described had eaten the fish with impunity for many years and the severe paralytic symptoms described, arose because he had eaten the roe in addition to the flesh.

In puffer fish poisoning, the first symptom is said to be circumoral numbness followed by a wobbling gait and later paralysis of skeletal muscles. Vomiting and abdominal colic often occur and eventually convulsions and respiratory arrest follow. In some instances there may be a precipitous fall in arterial blood pressure.

In his excellent review, Kao indicated without doubt evidences that the site of action of tetrodotoxin is on the axon of the preganglionic cholinergic and somatic motor nerves. Its action resembles local anaesthetics closely, but its toxic effect is 160,000 times as strong as cocaine when nerve blocking actions are compared. Evidences indicated that the neuromuscular junction remains unaffected by the toxin and the end plate membrane remains responsive to acetylcholine.

Tetrodotoxin has also direct depressive actions on the neurones of the spinal cord, medulla and cerebral cortex which are probably responsible for the wobbling gait, retention of urine and unconsciousness. The mechanism of respiratory arrest is thought to be due mainly to the depressive effect on the medulla though paralysis of diaphragm contributes to it. Hypotension is believed to be due to vasodilatation as well as a central depression of the vasomotor centre.

The general measures in the treatment of tetrodotoxin poisoning are gastric lavage or administration of emetic to the patient, intermittent-positive pressure respiration and oxygen therapy. It is suggested that a vigorous course of neostigmine should be tried as it appears to have an "antidote" effect.

Better prescribing

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M. D.

1.0 AN INTRODUCTION BY WAY OF HISTORY.

Smith[1] quotes Voltaire as saying that:

"Doctors pour medicines about which they know little, for diseases about which they know less, into human beings about whom they know nothing." This bleak view of eighteenth century prescribing would probably still hold as a description of prescribing that would be labelled "bad."

If we reorganise this statement, "better prescribing" might be seen as:

"Doctors introducing medicines about which they are well informed, correctly chosen by them for the disease process they are attempting to ameliorate, into human beings whom they know well and understand."

Certainly, this statement would describe a highly desirable state of affairs.

However, it leaves unspecified, some important elements of what the author sees as prescribing. In the following paragraphs, a more general definition of prescribing will be developed. From this definition, certain elements will be chosen for closer examination, in order to offer some ideas that might help family physicians to engage in "better prescribing."

2.0 PRESCRIBING

For the purpose of this paper, prescribing will be defined as:

"The process of introducing chemicals into or onto a patient's body in order to correct a malfunction or malfunctions of that patient's body, where the malfunction may be due to causes internal or external to the patient."

It is easy to limit the definition of prescribing to the act of writing a prescription for a patient. Such a view does not necessarily ignore the events leading up to that prescription. However, it does ignore the events that follow the writing of the script. It even ignores the purposes of the script – that is, an improvement in patient well-being.

Hence, the author prefers the much broader definition offered above because it presents for consideration the entire cycle of events which lead to a patient **using** a chemical to enhance their health.

Thus, the definition describes a process or cycle which will be developed briefly in a following segment.

The specification of such a cycle allows one to see in context the major steps involved in the act of prescribing. For the author, it highlighted such things as the importance of patient behaviour in the functional entity called prescribing. This feature and others culled from the cycle presented below will be examined for ways and means to make them and the cycle "better."

3.0 THE PRESCRIBING CYCLE AND 'BETTER' PRESCRIBING.

The events in the prescribing cycle for a single patient problem, managed by a single doctor, may be viewed broadly as in FIG. 1.

Most of these steps will be accepted as being suitably performed during this paper. However, research shows that several are not so performed, and this paper makes suggestions about doctor behaviour, that if adopted, would lead to a more appropriate use of drugs and to a greater adherance on the part of the patient to suggested therapeutic regimes.

This, in turn, would lead to a more favourable result for the patient and constitute better prescribing.

It could be argued that defining "better" in terms of a result for the patient is not sufficient. For example, should a consideration of "better" include looking at such factors as the amount of drug dispensed, the cost of the drug ordered, dispensing cost, etc? The author considered these kinds of issues but came to the general conclusion that the greater the competency of decision-making at each step outlined in the cycle, and the greater the integration of each step with each other step) then the more likely it would be that any factor under consideration would be favourably improved. At the same time, though not necessarily as the sole outcome, the result for the patient was likely to be "better."

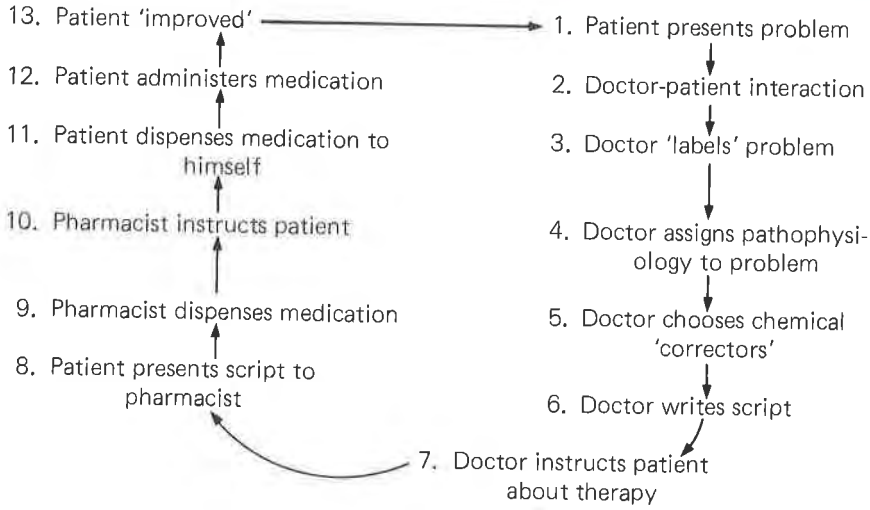

FIG. 1.

4.0 THREE FACTORS TO BE CONSIDERED.

According to where one practices family medicine throughout the world, the following may be able to be assumed at the various steps in the prescribing cycle to which they relate, or they may require particular consideration.

(i) Drug Availability.

Drug availability in a given country is generally controlled by government legislation of some kind. Not all countries have the same therapeutic compounds available for a given problem. For example, beta blockers are more generally available in Britain and Australia than they are in Canada and the United States.

Thus, a physician in any given country may be limited in the range from which he can select appropriate therapies. The answer to better prescribing here lies in family physician involvement in governmental regulatory procedures.

(ii) The Cost of Drugs.

The "cost" of drugs can have an important effect on prescribing and dispensing habit. Cluff, et al,[2] argue that government subsidies for therapeutic substances may increase their utilisation. The relative cost of drugs in some Asian countries is such that patients consider buying medication on a single dose basis.

In the province of Quebec in Canada, under certain conditions, the pharmacist can offer the patient chemically equivalent therapeutic compounds without physician approval to "alter" the script. Pharmacists thus engage in price-cutting advertising battles with pharmaceutical colleagues, where the result is that the patient has the physician's prescription filled with the cheapest "equivalent" compound available. The practical pharmacological question is: "Does chemical equivalence equate with therapeutic equivalence?"

Thus, according to local factors, cost may affect prescribing. Physician awareness of drug costs, patient purchasing power and pharmacist practices are important elements in better prescribing where cost is concerned.

(iii) Care by More than One Doctor.

Physicians often seem to forget when more than one doctor is involved in a patient's care. Facts that may stem from this are that physicians "routinely identify fewer than one-half of the medications taken by their patients, and only one third of their adverse drug reactions."[3]

We also know that the more doctors a single patient attends, the greater the number of therapeutic compounds they will be taking.[4]

Thus, awareness that multiple doctors mean multiple therapies and an active seeking of a detailed drug history where multiple physicians are involved in a patient's care, may mean better prescribing.

5.0 CHARACTERISTICS OF THE PRESCRIBING CYCLE WE CAN ALTER FOR THE BETTER

In this section, the author would like to consider two aspects of doctor knowledge. The first is that knowledge which relates to the choosing of a therapeutic compound. The second section concerns knowledge which relates to how doctors interact with patients and how this knowledge may be used to increase patient compliance.

Both of these areas of knowledge or behaviour affect various steps in the prescribing cycle to greater or lesser degrees.

(i) Doctor Knowledge of Drugs.

It is well accepted that knowledge in the area of pharmacology is expanding at an enormous rate,

producing for the family physician a state of "knowledge shock." The following items represent both strategies and information that the author believes will help the practising family physician combat this knowledge explosion.

(a) **Continuing Medical Education.**

How to organise education for mature adults has been the subject of many reviews in recent years.[5,6,7,8] The key features of such an education programme related to up-dating physicians in therapeutics and pharmacology would seem to be that it should: be continuous – be convenient – place particular emphasis on the use of understandable language – involve the creation of drug information services – be on-going – promote involvement of the "learner" physicians in its teaching method – and take cognisance of physician anxiety in learning what is often radically new information.

The creation of such programmes might be left to governments or other bodies, but it would seem to the author that the various colleges should take the lead in monitoring both the content and process of this vital area of family physician education.

(b) **Awareness of Adverse Drug Reactions.**

Cluff, et al,[9] draw an effective picture of the potential and real problems related to adverse drug reactions (drug interactions are a kind of adverse drug reaction).

For example:

- Potential "deleterious interactions between drugs being taken can be identified in over one-half of ambulatory patients studied."[3]
- The risk of an adverse drug reaction increases at a rate that is more rapid the more drugs a patient is taking (e.g. increasing the number of drugs taken from five or less, to between eleven and fifteen, increases the incidence of adverse effects from 4% to 24%).[10]

". . . two to five percent of patient admissions to the medical and paediatric services of general hospitals are attributable to drug-induced diseases."[11]

Thus, we need to be informed and have a highly preventive attitude toward prescribing if we are not to contribute to these statistics.

Education as outlined above, is one answer to better prescribing in this area.

There are also many monographs, card systems, texts and charts, etc. available that provide information about drugs. Family physicians should seek out and buy those that suit their prescribing practice and learning style.

Of great value to the author is a small device marketed on a world-wide basis by Excerpta Medica – the "Medisc." This small pocket-sized device provides "ready reckoner" type advice about most potential drug interactions that a family physician would be likely to encounter.

Cluff et al[12] also provide some general guidelines and information that if utilised would reduce the incidence of adverse drug reactions.

- Regard any patient who has had an adverse drug reaction as being a "high risk" patient for drug reactions in the future – even with drugs dissimilar to those that caused the initial adverse reaction.
- Beware of the young and the elderly.
- Beware of the sick patient, as they may not 'deal' with any drug as would the healthy patient.
- Remember that the greater the number of drugs prescribed, the greater is the risk of an adverse drug reaction. (Also, the more physicians that attend a patient, the more drugs the patient will be prescribed).
- Atopic patients or patients with gastrointestinal disease are more prone to adverse drug reactions.

Finally, the author would also suggest that each patient should have their medication implemented in a slow or trial fashion. That is, their therapy should be handled on the basis of individual titration.

Any reduction in adverse drug reactions must mean "better prescribing."

(c) **"Over-the-Counter Drugs" – "O.T.C.'s"**

Compound that exert pharmacological effects on the body are available from many sources. Those available without a doctor's prescription are generally labelled O.T.C.'s by the pharmaceutical industry.

In the author's experience, practising family physicians generally:

- do not have an understanding of this marketing concept.
- underestimate the therapeutic implications of patient self-medication with such substances. For example, we tend to remember alcohol as an O.T.C. but forget the sympathetic nervous system stimulants present in most cough mixtures.

Given the information presented above, we should be diligent in completing drug histories about such compounds, with a view of minimising drug interactions and other iatrogenic disease due to these compounds.

(d) **The Bathroom Cupboard.**

Surveys such as those of Dugdale et al,[13] and Nicholson,[14] illustrate the variety and complexity of pharmaceutical compounds "stored" in the average "Western" home. These compounds include O.T.C.'s and "prescription only" drugs. The

comments already made about O.T.C.'s apply here, but must be magnified when one considers that the essential criteria of restriction for "prescription only" drugs is their potential threat to individual health if taken without supervision.

(e) **The Role of College Therapeutics Committees**

From the above, it is clear that some groups need to play a dominant role in the area of "drug education and services." It would appear to the author that the various Colleges are the ones best suited to undertake this role, through one or several specially instituted Committees.

Such committees should be the major facilitators and education guides for all on-going education in the area of therapeutics for family physicians. Apart from this general role, the author would also suggest that they should make particular efforts to become involved:

- with agencies involved in the advertising of therapeutic compounds both for "prescription only" and O.T.C. substances.
- with industry in two ways. Firstly, there is a need to convince the pharmaceutical industry that there are benefits to be had for the industry by its investment in educational activities that are not product-oriented. Secondly, there is a valuable role to be played in pharmaceutical research. There are new compounds to be put through therapeutic trials and there are many old compounds that need to be reworked in the light of new pharmacological concepts. When undertaken, such research work produces increased general and specific knowledge. It also provides a handsome income which could be used to provide other pharmacological education. All would lead to the betterment of prescribing.

(f) **Some Questions for Detailers.**

The author has found that many family physicians lack sufficient knowledge to ask a detailer (or an academic) meaningful questions about new therapeutic compounds. The following list of questions is offered for consideration by individual readers. The author finds that such questions provide useful prescribing information and that detailers welcome them as a means of focussing their interview.

- What does the drug do?
- How does the drug exert its effect(s)?
- On what system does the drug have its primary effect(s)?
- On what system(s) does the drug have its undesired or secondary effect(s)?
- What chemical group is the drug derived from?
- How does the drug differ from earlier therapeutic substances in that chemical group? How does the difference modify its effect(s)?
- Is the drug more effective than that drug currently most effective for the problem area?
- What preparations of the drug are available?
- If the preparations available are limited; for example, there is an oral form but no injectable form, why is it so?
- What are the dosage regimes? Is a "loading" dose advisable? Can the drug be given once a day?
- Is there a dose above which there is an insignificant gain in therapeutic effect?
- Is there a "therapeutic range" for the drug?
- What is the drug's half-life?
- What factors affect the drug's absorption from the bowel (if it is administered orally)?
- Is the degree of protein binding of the drug an important consideration in its usage?
- Is the drug metabolised in the body?
- Where is the drug metabolised?
- If the drug is metabolised, are the breakdown products active within the body? If so, what do they do?
- Where is the drug (or its metabolites) excreted?
- Does the drug (or its metabolites) cross into the uterus, breast milk or the central nervous system?
- What are the effects of the drug on the foetus?
- What are the toxic effects of the drug?
- What drug interactions are known or can be hypothesised for the drug?
- What does the drug cost: the community; the pharmacist; the patient?
- What other countries have licensed the drug for human use?

(ii) **Patient Compliance.**

When the prescribing cycle is analysed as noted earlier in this paper, it can be seen that the patient is involved in about fifty percent of the steps and is the critical factor in at least two – "dispensing for self" and "administration to self."

Thus, patient behaviour has always been a critical component in the prescribing cycle. The degree to which a patient's behaviour coincides with the physician's expectations of him, is a measure of his "compliance." After an extensive review of the literature, Podell[15] says the following of compliance as it related to following dosage schedules:

> "a rule applicable to most studies is that one-third of patients always take their medicines, one-third sometimes take their medicines, and one-third seldom or never do."

Podell goes on to present many of the research findings related to the problem of non-compliance. Some of his summarised recommendations will be presented subsequently, but it is clear from his review that what the doctor does is of vital importance in determining what the patient does.

When one examines doctor behaviour as a

determinant of drug compliance, one is struck by the similarity of the findings to those listed by researchers[16, 17] who have investigated doctor behaviour that occurs during the consultation. The author feels that the following behaviours that commonly occur, if **avoided** by family physicians, would improve patient compliance, because of the enhanced interaction between patient and doctor.

- Doctors fail to introduce themselves or other staff.
- We fail to give patients the feeling that they are free to tell us everything that is of importance to them.
- We fail to establish the patient's concern(s) about himself or herself. Not only do we fail to establish their perception of the problem, we also fail to establish their perception of the cause(s).
- We fail to establish their expectation(s) about their concern(s).
- We fail to establish sociological factors that are affecting the office visit: e.g., are there other children to be picked up? Is there anger at having had to wait a month for an appointment, etc.?
- We fail to explain what is our plan of action: that is; why are we doing this vaginal examination? Why will we be meeting again in a month?
- We fail to use understandable language in our conversation with the patient. Not only do we fail to use appropriate language in our speech, but as the recent paper by Shaw et al[18] shows, we also use inappropriate language for the instructions put on the labels affixed to the dispensed medication.

Other factors that have been shown to affect appropriate data acquisition and patient problem-solving are:

- the kind of intellectual framework we have. That is, psychiatrists miss organic things and organic doctors miss psychiatric things – as a function of their intellectual training.
- lack of awareness in the physician of how his behaviour is affecting the interview.
- the asking of closed questions; that is, questions that tend to require a "yes," "no" response.
- the asking of multiple questions. For example: "Blood in the urine!" – "Well now, have you any loin pain, scalding, difficulty in passing or discomfort after having passed urine?"

It is already established that if family physicians eliminated these behaviours from their consultation style, the interaction with the patient would be improved. It is the author's belief that such an outcome would enhance compliance.

After considering the findings on issues affecting patient compliance, Podell makes a series of recommendations that he believes would improve the situation. These recommendations, slightly reorganised and expanded by the author, together with a statement from Blackwell,[19] are as follows:

A. **Beware the "At Risk" Group.**[19]

"patients 'at risk' will be those with chronic illnesses requiring long-term maintenance, with suppressive or preventive treatment. The ill-effects of stopping medication may be subtle or remote rather than dramatic or immediate. Children, the elderly and the disadvantaged can co-operate less readily . . ."

B. **Make Sure the Patient Understands.**

(a) Ensure he understands why he is having the treatment.
(b) Tell the patient your treatment strategy.
(c) Tell the patient exactly what you want him to do.
(d) Consider what part of the task of patient education about their problem and therapeutic regime can be transferred:
  - to your nurse
  - to written material
  - to audiovisual materials
  - to community health education courses.

C. **Check for Non-Compliance at Each Visit.**

(a) Ask yourself – Is he taking each medication correctly?
(b) Ask the patient for negative feedback about the therapy.
(c) Monitor compliance by such means as tablet counts.

D. **If the Patient is Non-Compliant – Check the Cause.**

(a) Determine the patient's priority for treatment. Does he or she have a "hidden" agenda in that they have expectations of which the physician is unaware?
(b) Re-examine your own priorities. Do the patient's priorities complement or conflict with your own?
(c) Seek out the obstacles to compliance. For example, does the patient understand enough about the regime to implement it? Are there other practical problems like work schedules that are limiting compliance? Does the patient have health beliefs that prevent him or her from taking the medication?

E. **Tailor the Treatment Regime to the Individual.**

This may mean modifying things in such a way so as to minimise side-effects and to reduce the frequency of timing of dosage. It may also be useful to involve the patient's family in monitoring dosage.

F. **Use Strategies that Motivate Positively.**

Some behaviours relevant to this point have been listed above. Others found to be important in drug usage are as follows:

- Be approachable and elicit the patient's questions.
- Be sure to present a logical case for the therapeutic regime.
- Emphasize the most important instructions.
- Speak with authority and confidence.
- Be sure to respond if a patient complains about his drugs.
- Seek a quick therapeutic effect where possible.
- Feedback the positive outcomes of therapy to the patient.

G. **Improve Your Organisation.**

- Share your concern about patient compliance with your staff. Encourage them to seek out negative feedback from the patient.
- Allow other personnel to do as much as possible for the patient so that a visit is more efficient and more convenient for the patient.
- Give definite appointments for follow-up.
- Follow-up those who do not return for review.
- Integrate with the local pharmacist so that he is also involved in patient education and the monitoring of the therapy.
- **Have continuous care by a single physician** as far as possible.

Thus, when we look at patient compliance as a factor in better prescribing, we find, interestingly, that changes in doctor behaviour are a large part of the solution.

6.0 CONCLUSION

This paper has defined prescribing as a stepwise process designed to improve patient well-being. Not all steps in the process have been examined in an attempt to review "better prescribing." Some steps have been accepted as being satisfactory and some cautious challenges have been made of other steps that might normally be accepted with out comment.

The major discussion in the paper has centred upon how to provide information to doctors about drugs and also, upon what physicians might do to enhance patient compliance. Within the discussion, emphasis has been placed on providing practical ideas that the practising family physician might use in his daily practice, or within his College of Family Practice, for the betterment of patient care through better prescribing.

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Urinary tract infections in childhood and infancy*

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Introduction

Bacterial urinary infections in neonates and children are potentially dangerous not only because they may present as life-threatening episodes with serious prognosis, but also because they may be the forerunners of severe renal disease of adulthood. Infections of the urinary tract in children may be asymptomatic or may present with atypical symptoms. The early detection of many such infections depend largely upon the physician's degree of suspicion and his willingness to perform a bacterial urine culture. Since practical detection methods and effective treatment are now available, most damage caused by untreated urinary infections in infancy and childhood can be prevented.

The purpose of the lecture is to define terms used in relation to the subject matter, discuss the incidence of U.T.I., the importance of proper diagnostic criteria and methods, differences in clinical presentation in infants and children, management, and the value of programmed follow-up to prevent recurrence.

DEFINITIONS

Urinary Tract Infection

Urinary tract infection may be defined as the presence of significant numbers of pathogenic organisms in the urinary tract. Although the term may include viral, fungal and other types of infections, it is generally used to describe bacterial invasion of a system that is normally sterile.

Bacteriuria

This term refers to bacteria in voided urine that exceed the number usually caused by contamination from the anterior urethra and that are in the range of bacterial titres commonly found in infected urine. In most circumstances, this means culture of voided urine showing more than 100,000 colonies per ml.

The physician must be aware that the method of collection, transport and subsequent handling of the urine specimen can significantly affect the results. For example, when the urine is obtained by catheterization or suprapubic aspiration of the bladder, lower colony counts (over 200 colonies per ml of a Gram negative organism) may indicate infection. With the other methods, confirmation of infection may require 2 or 3 consecutive specimens that after culture show significant quantities of a single organism and the same pattern on the antibiogram.

Pyelonephritis

This means seeding of the kidney parenchyma with bacteria and it does not necessarily result in florid symptomatology. Often pyelonephritis is associated with minimal signs and symptoms, or even a totally asymptomatic state.

Cystitis

Bacterial infection is confined to the urinary bladder.

The bacterial count necessary to diagnose bladder infection is also greater than 100,000 colonies per ml. of urine, and the number of cultures needed for confirmation is also 2 to 3. In order to confirm the site of infection, localization studies are needed.

Urethritis

Acute inflammation, bacterial or otherwise of the urethra.

INCIDENCE

Surveys have established the incidence of U.T.I. in neonates and in children to be consistent. Asymptomatic neonatal U.T.I. varies from 1 to 3.7 per cent in boys and from 0.3 to 2.1 per cent in girls. Symptomatic U.T.I. in neonates, a disorder

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almost exclusively of boys, is 1.4 per 1,000 births. U.T.I. in the newboorn is almost entirely haematogenous in origin.

Urinary tract infection in older children occur much more commonly in girls. The incidence is 0.5 to 2 per cent, being highest in the first year and declining until puberty.

Between 6 and 13 years of age, one per cent of all school girls have asymptomatic bacteriuria, but the cumulative rate of bacteriuria in this age group ranges from 2.9 to 5 per cent.

The incidence of symptomatic infection fluctuates widely in relation to age, reaching a peak between 2 and 5 years of age. This age distribution is not understood, nor is the mechanism by which asymptomatic bacteriuria is changed into manifest infection.

Bacteriuria is rare in older boys.

CLINICAL MANIFESTATIONS AND COURSE

Urinary tract infection has the distinction of being one of the most misdiagnosed diseases of childhood. Many children are treated for urinary infections that do not exist; other children remain untreated because the disease is not recognized.

While the clinical features of urinary infection in older children are similar to those in adults, gastrointestinal symptoms or non-specific signs are more common in infants.

In neonates the clinical picture varies from life-threatening septicaemia associated with pyelonephritis to occult bacteriuria.

Nonspecific symptoms associated with urinary tract infection in infants are:—

1. Fever.
2. Unsatisfactory weight gain.
3. Gastrointestinal symptoms such as anorexia, vomiting, loose stools or paralytic ileus.
4. Meningitis, convulsions, lethargy, irritability, hypotonicity or respiratory irregularities.
5. Pallor, cyanosis.
6. Jaundice.

Many of these manifestations are probable consequences of endotoxaemia secondary to septicaemia.

In children, dysuria, frequency, abdominal or flank pain, and fever are common features.

Since many urinary tract infections in childhood are either asymptomatic or have atypical symptomatology, diagnosis depends mainly on the urine culture.

DIAGNOSIS

The key factor in the management of childhood urinary infection is the collection of **accurate urine samples.**

The simplest method of urine collection should be used. Contamination of urine specimens is particularly common in infants and only 50% of Paediatric bag specimens containing greater than 10^5 colonies/ml. are confirmed by the subsequent bladder puncture or catheter specimen. For this reason, a bladder tap is the best method of getting an accurate urine sample in the sick infant who requires urgent assessment in hospital.

In general practice, bag specimens are a useful method of excluding infection and any equivocal results, particularly those containing few or no pus cells, can be re-assessed by obtaining a second specimen. Mothers can assist considerably in obtaining specimens.

In older children, contamination of mid-stream urine specimens is less of a problem. However, cultures showing a mixed growth or between 10^{4-5} colonies/ml. should be regarded as equivocal results and a second urine sample obtained before starting treatment.

URINANALYSIS

Presence of organisms in the uncentrifuged urine correlates well with a positive urine culture.

Pyuria is less reliable as it may be absent or may be found in numerous other conditions such as severe dehydration, trauma, febrile states, chemical inflammation, or general infections. There is no definable level of pyuria diagnostic of urinary tract infection.

Before 1960, most urinary infections were referred to as pyelonephritis, often without confirmatory tests. Anatomic localization of urinary infection is desirable as it helps in prognostication and choice of specialized procedures, e.g. radiologic evaluation may not be necessary in bladder infections, which are usually self-limiting.

Various methods are available but in the ambulatory patient it is unpractical to perform these special tests (Ref. Advances in Paediatrics, Vol. 25, p. 391). Some test results are so elusive that their value is limited. Such tests may therefore be considered for the patient with recurrent urinary tract infection.

MANAGEMENT

Treatment of an urinary infection should achieve the following goals:—

1. Eradication of infection.
2. Prevention and treatment of recurrences.
3. Identification and correction of congenital or

acquired structural abnormalities.

General Rules in Management

Symptomatic medication may be prescribed for fever or vomiting as needed.

Fluid intake should be abundant, consisting of clear liquids to ensure diuresis.

The child should be advised to empty the bladder completely with each voiding. A bladder analgesic such as phenazopyridine hydrochloride (Pyridium) (7 to 10 mg/Kg/day) is occasionally helpful for dysuria.

SPECIFIC THERAPY FOR ACUTE U.T.I.

The usual organism is E Coli. The drug selected should be orally absorbable and nontoxic. Cotrimoxazole (Septrin or Bactrium) or Ampicillin usually is recommended.

Antibiotic sensitivity tests need not be obtained if there is difficulty getting it done but in hospital practice this is always done.

If treatment is successful, the urine should be sterile and symptoms controlled 24 to 48 hours after the initiation of therapy. Whenever the urine culture remains positive and/or the patient's clinical condition has not improved, the initial drug should be changed according to the results of sensitivity tests on the urine culture taken at 48 to 72 hours of treatment. A 2-week course is usually adequate.

Urinary tract infection in neonates is treated differently as it may be part of septicaemia although at times it may be the site of origin of bacteraemia. When neonatal sepsis is suspected a bladder tap is mandatory and Ampicillin/Gentamycin should be given for 2 to 3 weeks, parenterally.

Follow-up cultures after treatment are essential since recurrent urinary infections are frequent (30 to 50 per cent of girls, some say 80%). The following schedule is recommended:—

(a) One week after completion of therapy.
(b) Monthly urine cultures for six months.
(c) Every third month for six months.
(d) Every six months for the following two years.
(e) Annually thereafter.

COMPLICATED INFECTIONS

Management of complicated infections, relapses, and reinfection will not be discussed as such patients should be referred to hospital for management.

INDICATIONS FOR RADIOGRAPHIC EVALUATION

The two studies are IVP and MCU (micturating cysto urethrogram). The need for such studies has been a source of controversy. Although all agree that at least an IVP and MCU should be obtained, a consensus on whether these studies should be performed after the first, second or subsequent infections has not been reached. The main reason for disagreement relates not only to the inconvenience and morbidity that these studies impose on the patient but also the expense involved and the low yield of positive findings when surgical intervention is needed.

It is suggested that the IVP should be performed for **all patients** (male or female) with one documented urinary tract infection, regardless of age. Note that the other line of management is to do IVP for **all males** but only for all females **after the first recurrence.** The argument for doing it in **all** females after the first infection is that the recurrence rate within 18 months in females is up to 80% in some reports, so that it is only logical to do the investigation early.

The MCU is used primarily to detect Vesico Ureteric Reflux, but it is also useful in showing up gross urethral destruction, abnormal voiding pattern and possibly bladder diverticula. It is indicated:—

(a) When the urine does not become sterile with good management and proper patient compliance.
(b) All patients after the first recurrence.
(c) When abnormalities observed in the IVP suggest further study.

VESICO URETERIC REFLUX

Vesico ureteric reflux accompanying an acute episode of uncomplicated urinary tract infection in childhood is found in 30 to 50 per cent of cases and subsides in about 80 per cent of the treated cases within a few weeks after completion of therapy.

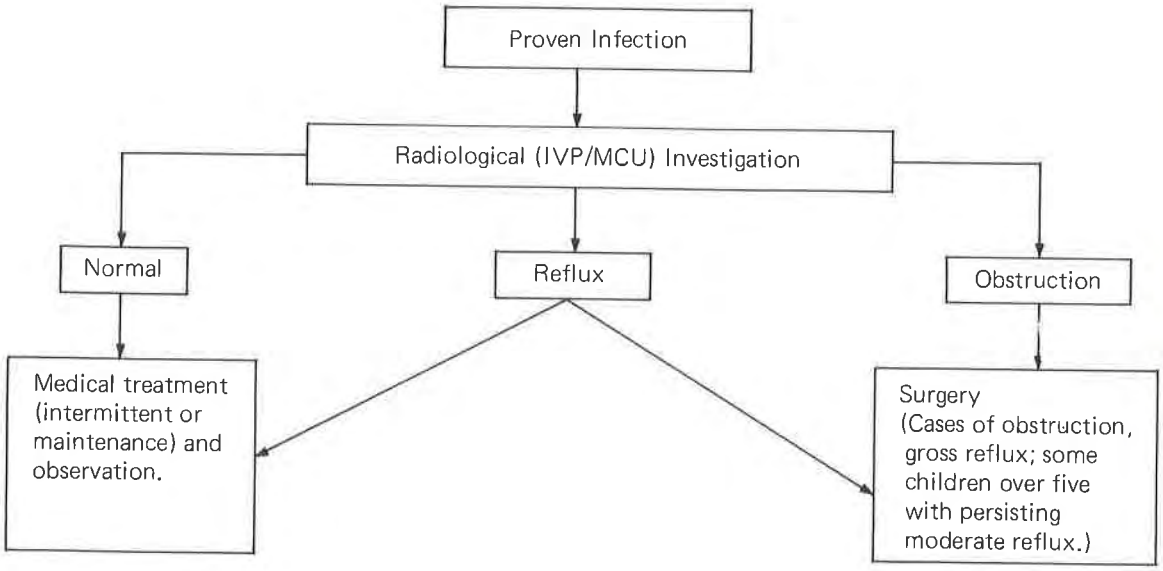
Primary VUR associated with abnormal ureteral insertion into the bladder is considered a predisposing factor to infection. The indications for surgical correction are still controversial.

(1) Primary VUR of slight to moderate severity

(X-ray findings) tends to disappear before adolescence.

(2) In contrast, gross reflux with hydronephrosis should be treated surgically.

SUMMARY OF MANAGEMENT OF CHILDHOOD UTI
(following treatment of an acute proven infection)



Medical photography in a general practitioner's office

GABRIEL CHIONG PECK KOON,
MBBS, MCGP(S)

Introduction

Photography is not a mere hobby as everyone may think. It can be very professional or semi-professional. In the newsletter of the Royal Photographic Society of Great Britain, the medical group of the Society described how a U.K. general practitioner, Dr. John Woodward, gave a talk on A CAMERA IN MY MEDICAL BAG. This illustrates how a medical practitioner can make use of an ordinary camera in his professional field not only as a hobby but also in other pursuits; to continue educating himself, collecting data for research, for court evidence, for the progress of a patient's disease and to record any interesting event which might not recur in the whole of his professional life as a general practitioner.

When I was a medical student, I thought medical photography was only confined to the expert photographer in the medical/surgical department or the surgeon who might want to record the events of his surgical operation. After ten years of involvement in pictorial photography as well as contemporary photography which depicts creativity in the photographic field, I have begun to discover the unlimited field in medicine in which photography plays a great role just as in many other branches of science where photography is indispensable.

Altough almost everyone owns a camera, more doctors than other professionals are interested in photography. This does not imply that doctors are also artists as well. By making use of the camera frequently in a clinical setting instead of putting it aside for the fungus to erode the lenses, the general practitioner is not only improving his medical education but also mastering the art of photography as well as keeping a pictorial record.

The field of medical photography is unlimited. Some applications are ordinary photography of the patient to study the facies and posture; local macrophotography of the eye, mouth, nose, the rectal and vaginal orifices, the skin etc; laboratory medicine, photomicrography and even cine-photomicrography; fluorescence angiography, fluorescent photomicrography, infra-red medicine photography and so on.

Documentation

Before referral to a specialist or the hospital, a patient's X-rays together with the report may be duplicated by electronic flash light for future reference. This is important because the referred patient may turn up again usually without the original X-rays which the family physician has initially ordered. Although X-ray findings may be recorded in the patient's file, there is no tangible photographic evidence to show and demonstrate to the patient. A slide projector showing the patient's previous X-rays which had been handed over to the hospital or misplaced is very impressive to the patient concerned. Photographic slides filing is a highly sophisticated system of filing and recording. In group practices, a full time photographer may have to be employed for this purpose alone. This is usually not required when the family physician merely wants to keep a handful of slides for educational purposes or to capture photographically a rare condition if he comes across one.

Fluorescence photography, photomicrography and infra-red medical photography are used to show up structures that may not be so obvious to the naked eye. It must be pointed out that colour photography may not show up what is required or what is seen visually as the processing laboratory may distort the colour of the slide or picture. For example, "jaundice" may be shown up in a perfectly normal patient or erythema may show up in areas which are not at all erythematous. The photographer or the physician may be disappointed in seeing that the resulting picture may not turn out to his expectations or record what was not intended. Repeated practice at photography will make the practitioner a better medical photographer. All it costs is a little of the practitioner's money. With

constant practice, one day he will get the results he wants. He will acquire the expertise to photograph in such a way, either by adjusting the angle of view or the lighting chosen, that the picture will turn out perfect. It is not envisaged that the family physician will turn out to be a medical photographer or that he should turn his consultation room into a photographic studio. What is required is the ability to record faithfully his patient's interesting lesion. For this purpose simple accessories are made use of. A cold-coloured background cloth is useful. Other accessories include a close-up lens, a ring flash mounted onto the front of the lens together with a power unit for the ring flash. One can calibrate the apertures and the distance markings on the lens on to a small slip of paper. Placed under the glass top of the practitioner's desk, the calibrated table will serve the purpose of standardizing the distance and the amount of flash light required to take a particular close-up lesion. For example, a skin lesion of 5 cm. in diameter will require, as indicated from the table, an aperture of F8 and a distance dial of the lens of say 56 cm (22 inches). The camera is adjusted to obtain a sharp image of the lesion. When this is obtained, the shutter is gently squeezed. It is really a very simple process. Sometimes one must also include a certain portion of the body e.g. the hand or the elbow to show that it is the forearm and not the leg that is being photographed.

For total nudity, one must ensure that the private areas are discretely covered. Also, a nurse must be in attendance. Shyness can be overcome by providing the patient with a cloth to wrap herself in. When everything is ready, the patient is instructed what is required to be photographed so that the duration of the patient's nudity exposure is kept to the minimum. A piece of black cardboard is given to the patient to cover his/her eyes just like what we see in most medical text-books. The correct approach towards the patient will not lead to misunderstanding. Most patients will give their consent. Medical photography should be done only after completing consultation and treatment. A special request is made to the patient with adequate explanation as to the purpose of the pictures. Most patients do not mind. So far very few have rejected medical photography. During minor operations one might want to record the size of the lump excised, before and after, and the keloid or scarring formed later. A centimeter ruler is placed by the side to measure the size of the lump. The side view is better than the direct view for a lump on the skin surface.

A patient may not realise the improvement of his baldness due to tinea capitis infection and the degree of improvement after treatment months later. He may complain that his lesion has not shown any improvement, when he uses a hand mirror for review. With photography before and after treatment, improvement becomes indisputable.

Medical photography is a specialised branch of photography. As a medical practitioner and not a full-fledged medical photographer, he can only gain superficial expertise in certain areas of this field. However, the important point is that the medical practitioner who possesses some knowledge of photography can also take part and perhaps is the best person in this field. The best medical photographer is the doctor himself and this is true in the U.K. where doctors are appointed as chiefs of the medical photographic departments/institutes. Indeed he is the best person in staff training as well as in guiding the medical photographer in certain areas of this special branch of knowledge.

Equipment

The practitioner must first be equipped with the necessary instrument and its accessories. A working knowledge of the camera, its accessories, and film materials is necessary. Generally, a general practitioner's office is a far cry from a studio. Therefore big projects are unlikely to be taken. Lighting and positioning of patients are out of the point of discussion. However, applications can be extended to cavity photography such as oral, anal and vaginal orifices and these are places rich in clinical signs. A ring flash is a must for such close-up cavity photography and adequate lighting is necessary for focussing. Generally a strong examination angle poise lamp will do the job during the time of examination of these areas and patients must be informed and must also consent to have this done for educational purpose and nothing else. This is because any patient would have no difficulty in recognising that the instrument facing him is a camera unless it is special like the eye fundus camera which ophthalmologists use for fundus photography. For ordinary purposes, a simple SLR camera with micro-lens is always useful. In specialized units and surgery, cinematography may be more useful, such as to record the pumping action of the heart in the opened thoracic cavity.

Sometimes, the use of a special light filter or close-up lens is required to achieve a certain effect. It is also better to use electronic flash for fast action in situations such as a baby crying, a baby

gasping for breath with paroxysmal cough and a baby's reflexes etc. These are however best recorded by means of cinematography rather than with still photography. Patients are not the only subjects for medical photography. Laboratory reports, EEGs, CT scans, visual field charts etc are suitable subjects for the recording camera. Sometimes a drug manufacturer's diagram or illustration is so excellent (for teaching or research) that it is well worth while copying by the micro-lens attached camera. (One must bear in mind copy-rights.)

Positioning of patient's anatomy is important e.g. genitalia, head, nose, eyes, surgical fields etc. The background of the picture is important and a black, blue or green background is needed in making the subject promiment. Sometimes a detached flash gun is used to do the job of a side lighting to show the particular feature of the area. Sometimes no lighting is necessary as in the transilluminating method of a hydrocoele. Occasionally two views of the picture are necessary just like the PA and Lateral views of a chest X-ray. Patients may need positioning in surgical conditions as in demonstrating a direct or indirect inguinal hernia. Photographs must be taken in both the lying down position and the standing or standing-with-strain positions. Photographing children is not as difficult as one may think. Generally mothers will have no hesitation in helping the doctor to photograph their children. This is somewhat surprising to know. In photographing the patient the practitioner must show the same consideration as when he examines the patient i.e. not to make the patient suffer discomfort just for that little extra knowledge he wants to acquire. One or two pictures usually suffice. The patient will not mind even a few more views as long as he is confident and not unduly fatigued. Medical photography is rewarding to the practitioner. After he has seen the processed slides or photographs and recalled the clinical condition, he may want to study the subject further.

Medical photography can be used with good advantage as an ***illustrator*** as well as a ***communicator.*** It provides continuity in the field of medical education in the practitioner's career. In genetic studies, a growth scale in the form of squares is drawn on the wall in the doctor's consultation room. With medical photography, one is usually surprised when the slides or photographs reveal later the many details missed during the initial clinical examination of the patient. Skin lesion with oozing, scaling and erythema etc. may well show up beautifully in the slides or photographs. It is not necessary that every patient's condition be photographed and recorded by this means. At times one would think how much one would miss if a particular condition was not photographically recorded for future use. To the layman clinical photographs are simply the records of progress i.e. his condition before and after treatment. However, the progressive record by this means has more meaning than just simply depicting the cure of the condition. It certainly has research value and sometimes even in the most comprehensive medical books, such photographs are not in evidence.

The family physician may not be aware that medical photography offers him greater opportunities such as case history documentation, medical education teaching of patients with his own pictures, informing colleagues or even consulting his specialist colleagues for certain rare conditions he has not seen before. A slide library is invaluable to document certain diseases which are gradually disappearing from every day practice. Studying the photographs or slides of patients' progress is only part of the research value of medical photography. It is particularly useful in charting children's growth in terms of total body or even localized areas of the body or even the limbs. Lastly medical photography is very useful in medico-legal disputes.

Legal Aspect

The legal aspect of medical photography is rather complicated. However, medico-legal principles should apply. In professional photography, especially in western countries, model consent forms must be signed for future commercial publications and modelling fees paid. In Medical photography we confine ourselves to teaching and educational purposes. For publication, the photographs should be restricted to medical books or medical journals and shown in lectures to medical personnel only.

For local and close-up photography of patients confined to non-sexual areas e.g. the finger, the hand, the foot, the eye or the nose, verbal consent alone is sufficient. In male patients, there is no problem at all in obtaining consent. Even in female patients, consent poses no problem. In photographing a female patient, a female nurse should be present for obvious reasons. In photographing total nudity, it is advisable to obtain written consent with witnessing for the legal protection of the physician. In publishing medical photographs, the patient's face must be masked with black tapes. Some patiens may change their minds at the eleventh hour regarding medical photography. This is however rare if the doctor-patient relationship is built on goodwill and trust. As long as patients'

photographs are not exploited for commercial purposes, they will not mind having parts of their anatomy photographed in the interest of medical science.

More often than not, when referring patients for institutional care and treatment or specialist opinion, the accompanying X-rays may never come back again. However the patient may come back for follow-up care following discharge from institutional care. It is an advantage to duplicate the important part of the X-ray or some of the X-rays and their accompanying reports so that in subsequent follow-ups or in legal disputes, one could have this in hand rather than merely the X-ray serial number or the report. It should not be taken for granted that radiologists have duplicate X-rays of the patient. What if these are lost? It does not mean that every X-ray taken of the patient should be duplicated. Only interesting pathological features for educational purposes or probable medico-legal cases need be duplicated.

Conclusion

Medical photography in a family physician's office serves a multiplicity of functions and purposes. It is an educational aid, a teaching media, a medico-legal aid as well as a pictorial record of the patient and his investigations. It serves to document the improvement attained by a patient after a period of treatment. Photographic documentation requires a separate filing system other than the patient's written record file alone. It is good to record the data of laboratory findings such as stool ova, urine microscopic findings, haematological slides etc for research and further educational purposes as all family physicians are committed to up-grade their level of knowledge and skill.

It is very important to keep a camera with a close-up attachment or a ring flash in front of the lens in a family physician's drawer. He is then ready for any rare or interesting pathological manifestation which may just occur once in a life time. It also serves to record features or conditions which he has not seen before. With the slides or photographs he can consult his senior colleagues or medical textbooks instead of relying entirely on a verbal description. The art of taking a good photograph lies with the physician. He must first master the camera and the film and their characteristics and limitations as well as knowing the effect of lighting in order to bring out the three dimensional aspect of the pathological lesion he wants to photograph.

For the busy family physician, a simple SLR camera with close up attachments $1 \neq 2 \neq 3 \neq$ is more than adequate. It will be very useful in the field of primary health care. The general practitioner has to treat disease conditions promptly and primary signs are often minimal and transient. Unless promptly recorded photographically, they may be lost to future generations of GPs. Medical photography is a most stimulating field even if it does not interest the doctor in terms of photographic creativity. It does make a positive contribution to medical knowledge throughout his professional career.

About the Author

Dr Gabriel Chiong is a well-known international photographic judge in Singapore for almost a decade. He has been advisor, chairman and exhibitor not only in local photographic circles but also in an international setting. He has gained recognition and honours from photographic organisations all over the world. He is a FPSNY (New York), FPSC (Taiwan), Hon. FBSC (Hongkong), Hon. FSCPS (Singapore), ARPS (Great Britain), IMFIAP, AFIAP and ESFIAP (Excellent Service) of the Federal De Arte Photographique. His expertise as a photographic judge has been tapped by the Ministry of Culture in the National Day Photographic Competition and the Singapore Armed Forces. He has given lectures and contributed photographic articles not only in medical circles but also in community centres, local photographic societies, and has obtained Journal awards of the Photographic Society of America by contributions of creative original articles in its Journals.

MEDICAL NEWS

'MARATHON MANIA'

A letter in the ***New England Journal of Medicine*** reports on the mentality of the long-distance runner.

Examples are quoted of a participant in a marathon who ran a further 6 km after the advent of chest pain and another, who, having just inscribed on his tee shirt "You haven't really run a good marathon until you drop dead at the finishing line", died at the end of a training session, despite having collapsed at the end of a previous one.

These cases back up the conclusions of Glaser who described "marathon mania" and people experiencing a positive addiction to the antidepressant effects of long-distance running.

It is postulated that this addiction and ability to ignore the warning signs of pain from myocardial ischaemia and other damage, such as stress fractures, is due to chemical changes within the hypothalamus. ***(The New England Journal of Medicine*** 1980, No. 1, p56)

COT DEATHS

About one baby in every 500 born alive dies suddenly and unexpectedly between the ages of 1 week and 2 years. Typically an apparently healthy baby (or, occasionally, one with only minor symptoms) is put in his cot to rest and sometime later is found dead. Although an infant may be face down in the cot with the bedclothes over him, suffocation should not be assumed. Sometimes vomit, which may be blood-tinged, is found around the mouth or on the bedding, but regurgitation usually occurs after death and is not the cause of death.

In some cases necropsy discloses an unsuspected congenital abnormality or rapidly fatal infection. But usually there is no evidence of severe disease, though there might be slight reddening of the tracheal mucosa, which in other babies normally resolves spontaneously.

Parents often blame themselves and may worry that the infant suffocated as a result of neglect. They should be told that their feelings of guilt are a natural reaction, and the doctor should explain to them, and to anyone who was looking after the baby when death occurred, that cot death is a well-recognised but ill-understood condition and that no one is to blame for the infant's death.

'HYSTERIA' IS SAFETY-VALVE FOR INDUSTRIAL CONFLICT

By Mary Gee

Outbreaks of "mass hysteria" occur frequently among female workers in factories all over Malaysia. Symptoms are: violent convulsions, loss of consciousness and aggressive behaviour — often interpreted by the community and the workers themselves as due to evil spirits.

More than 40 such outbreaks occurred among the Malay female workers of a shoe factory in Malacca since July 1977. In one instance, more than 30 workers were affected. The factory manager had to hire a bus to take the hysterical worker home and to close the factory for nearly two weeks . . . . .

Dr Raymond Lee, a lecturer in the University of Malaya, said in a recent paper that managements did not blame or punish the workers despite such large-scale disruption of work. In fact, one manager summoned four "bomohs" (Malay traditional medicine men) to exorcise the spirits in an attempt to allay the workers' fears of supernatural forces pervading the factory. The ritual slaughter of a goat and other sacrifices were performed to appease the offended spirits. But this failed to stop them from "attacking" the workers . . . . .

"The phenomenon of mass hysteria at this and other factories occurs within a context that prohibits public acknowledgement of opposing claims.

The underlying conflicts of interest are symbolically transformed and disguised as spirit possession," Dr Lee said. "Aggressive behaviour, defined as spirit possession, is treated as involuntary illness with no blame or responsibility attributed to the victims."

He said mass hysteria is, in fact, a "safety valve" for industrial conflict, diverting hostility to the supernatural and preventing its release against factory and family authorities. Conflicts of interest between labour and management are covertly expressed while at the same time denied.

Dr Lee said the factory girls have not consciously articulated common goals and formed an interest group. They remain an unorganized group that tacitly denies its objectives, yet is oriented by these interests on an unconscious level.

The existing structure of relations in the factory is maintained rather than challenged by the ritualization of conflict in terms of mass hysteria, he said. Perhaps such managements should organise more social and outdoor activities for the workers away from working hours; set up committees of workers to voice their grievances and, most of all, to improve the working conditions and atmosphere. (Asian Medical News Mar 25-1980 Vol. 2 No. 5).

Are the noise and flashing lights at discotheques a health hazard?

Noise may cause deafness, and this is associated with degeneration of the hair cells in the basal turn of cochlea.[1] The risk of loss of hearing is more likely the higher the sound pressure levels, the greater the high frequency components, and the longer the exposure time.[2] Individuals vary widely in their susceptibility to damage by noise, and the sufferer does not usually complain of deafness until there is a permanent hearing loss of more than 30 dBA.[3] Mean noise levels in discotheques are 110 dBA, and transients reach 122 dBA,[2] which exceed the auditory pain threshold of 120 dBA. Satistically significant hearing losses have been found in young people who attend pop music functions at least once a month,[4] and two hours of exposure to noise levels in discotheques causes a temporary threshold shift of the audiograms in 16% of people.[5] To prevent this temporary shift in 98% of exposed people, the levels need to be reduced to 100 dBA.[5] Musicians, however, refuse to play rather than submit to restraints of amplification, fans object to interference, and people may benefit socially from this entertainment.[4] Staff working in discotheques can be protected with noise-insulating barriers, by wearing ear muffs with fluid-filled seals, and by reducing time spent near the loudspeakers. For a few sensitive people, lights flashing with a flicker rate of 50 Hz can induce grand mal epilepsy, bilateral symmetrical myoclonic jerks without loss of consciousness, or petit mal attacks. Noise and flashing lights may also cause headaches and irritability. (BMJ 16.2.80)

1. Hammond V, ***Br Med F*** 1970; ii:523.
2. Chadwick DL, ***Proc R Soc Med*** 1973; **66**:1078.
3. ***Lancet*** 1970; i:928.
4. Hanson DR, Fearn RW, ***Lancet*** 1975; ii:203.
5. Dey FL, ***N Engl F Med*** 1970; **282**:467.

What treatment is advised for lice in a schoolchild's hair, and how can recurrence be prevented if other children at the school are infected?

Both eggs and lice are easily killed with one thorough application of a 1% malathion cream or liquid shampoo, which should be thoroughly rubbed into the hair for five minutes before rinsing it off. Thorough combing should precede drying the hair. This treatment should be repeated one week later if there is any doubt about the survival of any eggs or lice. If other children in the same school are also infested with lice, the parents should insist that the school nurse or the school medical officer examine all children in that particular form or in the entire school. The child concerned should be advised not to share combs, brushes, or schoolcaps (or any other headgear). Any secondary, pyogenic infection, especially if associated with swollen lymph nodes, should be treated with chlorhexidine lotion or cream and with co-trimoxazole for five days (BMJ 23.2.80)

THERAPEUTIC TIP

Treatment of Tinnitus

Tinnitus is usually experienced as a non-pulsatile, continuous, subjective noise. It may be caused by a disturbance of any part of the auditory system, but the lesion is usually peripheral. The cause may be trivial – e.g. wax in the meatus; or there may be an underlying more serious disorder – e.g. otosclerosis or Meniere's disease. Tinnitus may be the first warning of the onset of hearing loss induced by noise, or of ototoxicity from drugs such as streptomycin. Unilateral tinnitus may be the first sign of an acoustic neuroma, and requires full investigation.

Tinnitus with no demonstrable hearing loss is encountered occasionally and in such cases non-

auditory lesions including impacted wisdom teeth, anaemia and hypo- or hypertension should be considered. The most common cause of ***pulsatile*** head noise is atheromatous stenosis of the arteries of the neck. Finger pressure on the common carotid artery will stop or alter this and establish the diagnosis.

Generally, treatment of tinnitus is unsatisfactory, since the most common cause is degeneration of the organ of Corti, which is irreversible. In these cases explanation of the symptom and reassurance about its harmlessness should help the patient accept and adapt to it. Hypnotics may be useful at night.

In patients with intolerable tinnitus, recent work has suggested that IV lignocaine (1 to 2mg/kg) is effective in suppressing symptoms in patients with sensorineural hearing loss due to degeneration of the organ of Corti, but is less effective in other groups. In patients whose symptoms are relieved by IV lignocaine, treatment with carbamazeipine (in gradually increasing doses up to 600 to 1000mg daily), or in those intolerant of this drug, phenytoin (in doses up to 400mg daily), has proved successful. [BMJ. 1:1445 (1979)]

EAT LATE, GROW FAT?

By Dr Paddy Neustatter

There are people who, despite cuts in their calorie intake, seem unable to lose weight.

A professor at the City University, New York, suggests that "when you eat during the day can be almost twice as important as what you eat" and that it is "pointless to think of total calories".

In the same way that body temperature, urine output, blood pressure co-ordination, blood clotting and many other bodily functions undergo cyclical variations with the circadian rhythms, so do the metabolic processes.

Thus, insulin reaches a peak level in the late afternoon promoting more efficient fat deposition from food eaten at this time.

This has lead Dr Ronald Gatty to postulate that food eaten early in the day is less fattening than that eaten in the evening.

Experiments at the Minnesota Medical School reported to the US 10th National Congress of Nutrition in 1975 would seem to confirm this idea.

In this experiments subjects were given a 2,000 calorie diet eaten as one meal either at 7 a.m. or 5.30 p.m. The late eaters gained weight whereas the early eaters lost weight. The experiment was repeated with the subjects allowed to eat as much as they liked, and still similar results were obtained.

From this work Dr Gatty has developed his "Body Clock Diet"* in which he advocates that not more than 30 per cent of the daily food intake should be eaten at the evening meal, and at least 35 per cent of it eaten at breakfast.

This means a large breakfast which should also contain a lot of protein, as in the steak and eggs breakfast that is the tradition in Dr Gatty's homeland of Australia.

For those owls who cannot face a large solid breakfast he recommends Beverly and Vidal Sassoon's Vitality Drink containing powdered protein and granular lecithin at 230 calories a glass.

The book contains other detailed advice about how to make up your diet and an interesting section on circadian cycles, suggesting, for example, that we are more suited to love making in the morning than at night and should be groping for our mate rather than the alarm clock.

Although Dr Gatty's ideas are not entirely new, they may be worth considering in those patients with intractable weight problems.

* *The Body Clock Diet by Ronald Gatty, Gollancz, price £4.95.*

DRUG INTERACTIONS WITH TETRACYCLINE

ARTHUR G. LIPMAN

The tetracyclines in clinical use today are listed opposite. These drugs share similar potential for interactions, although doxycycline is reportedly less liable to interact with divalent and trivalent cations.

Tetracycline hydrochloride Achromycin, others	Oral, IM, IV
Chlortetracycline Aureomycin	Oral, IV
Oxytetracycline Terramycin, others	Oral, IM, IV
Doxycycline Vibramycin, others	Oral, IV
Demeclocycline Declomycin	Oral
Minocycline Minocin, others	Oral, IV
Methacycline Rondomycin	Oral

Interacting drug	Effect	Comments
Antacids, oral Aluminium Magnesium Calcium	Impaired tetracycline absorption due to complexation	Administer oral tetracyclines and oral antacids 2 hours apart; interaction also occurs with dairy products, as they contain calcium
Anticoagulants, oral	IV tetracyclines may reduce plasma prothrombin activity	Low potential for interaction; observe patient for enhanced anticoagulant effect
Antidiabetic agents Insulin Oral hypoglycaemic agents	Oxytetracycline may cause hypoglycaemia in diabetics	Monitor patients; reduce antidiabetic agent dose if necessary
Barbiturates	Enhanced liver metabolism of doxycycline	Avoid concurrent use or monitor clinical response to doxycycline
Carbamazepine	Possible enhanced doxycycline metabolism	Monitor clinical response to doxycycline
Diuretics	Additive BUN elevation	Consider alternative antibiotics for patients with renal malfunction who are taking diuretics
Iron	Impaired tetracycline absorption due to complexation	Administer iron 3 hours before or 2 hours after tetracycline
Methoxyflurane	Additive nephrotoxicity	Preliminary data only; use concurrently with caution; lower potential for interaction with doxycycline
Penicillins	Potential antibacterial antagonism	Significant effect occurs primarily when rapid bactericidal effect is needed; such a combination is generally unnecessary or inappropriate
Phenytoin	Decreased half-life of doxycycline	Monitor response to doxycycline; dosage increase may be needed
Sodium bicarbonate	Impaired tetracycline absorption due to pH change	Avoid simultaneous administration

News from the Council

College Fellows

At the 13th Council Meeting, Council members agreed to recommend four of our members for confernment of the Fellowship:

Dr Victor L Fernandez
Dr Koh Eng Kheng
Dr Lee Suan Yew
Dr Wong Heck Sing

At the College Annual General Meeting held on Sunday, 18 May 1980 at the Academy Lecture Theatrette, Alumni Medical Centre, the floor voted unanimously for the award.

Congratulations to our four eminent and deserving members.

Eighth College Examination

The Eighth College Examination for the Diplomate Membership of the College will be held during October/November 1980.

The Theory papers, comprising of one essay and two M.C.Q. papers will be held on Sunday, 26 October 1980.

The Clinicals will be held on Thursday, 6 November 1980.

Third Sreenivasan Oration

The Third Sreenivasan Oration, the Convocation and Annual Dinner of our College will be held on Sunday, 16 November 1980, at the Shangri-La Hotel, Island Ballroom.

Tenth WONCA World Conference, 1983.

The College will be bidding for the Conference to be held in Singapore. Should we be successful in our bid, we will need the co-operation of all our members in holding the World Conference.

OBITUARY

We record with deep regret the death of DR. WILLIAM HENG on 13th April 1980 at the age of 67. DR. HENG was a well-known and highly respected founder member of the College of General Practitioners, Singapore. The President, Council and members of the College extend their deepest sympathy to his wife and family.

DR. WILLIAM HENG

M.B.,B.S. (H.K.); D.C.H., D.R.C.O.G. (London); L.M. (Rotunda).

D. William Heng, a founder member of the College of General Practitioners, Singapore, died at the Gleneagles Hospital on 13th April 1980. Dr Heng was in private general and paediatric practice. He was 67.

Dr. William Heng was born on 2.4.13 in Singapore, educated at the Anglo-Chinese School in Singapore and completed his medical education at the University of Hongkong in 1937. On graduation he served as House Physician in the University teaching medical unit of the Queen Mary Hospital in Hongkong.

On his return to Singapore from the United Kingdom, he joined the Straits Settlements Medical Services and served in the paediatric unit at the Sepoy Lines General Hospital (now the Singapore General Hospital) under the late Dr. Gopal Haridas. During the Japanese Occupation of Singapore he moved into private practice at Hill Street.

He obtained the D.C.H. and D.R.C.O.G. (London) and the L.M. (Rotunada) during periods of post-graduate studies abroad. In Singapore his practice in Armenian Street flourished and he gained the reputation as a leading paediatrician of his time.

In 1962, although a specialist in his own right, Dr. Heng associated himself with a few general practitioners interested in fostering a Society devoted to upgrade medical education of general practitioners and to keep them abreast of the rapid advances in medical sciences and special techniques. In 1963 he chaired the inaugural meeting of the Society of General Practice and installed the late Dr. Gopal Haridas, a fellow paediatrician as its founder chairman.

An ardent supporter of the Society of General Practice (later the Society of Private Practice) he participated in lectures, demonstrations and round table discussions at which he offered to his colleagues the benefit of his experiences.

From this modest beginning and urged by the encouragement of members of Colleges of General Practitioners of Britain and Australia, Dr. Heng initiated the first step and proposed the formation of a college at an Annual General Meeting of the Society of Private Practice. Ailing health prevented him from active participation in the working committees leading to the formation of the College of General Practitioners, Singapore; but he was a member of the delegation of the Singapore College at Melbourne in 1972, when the College was accepted into WONCA.

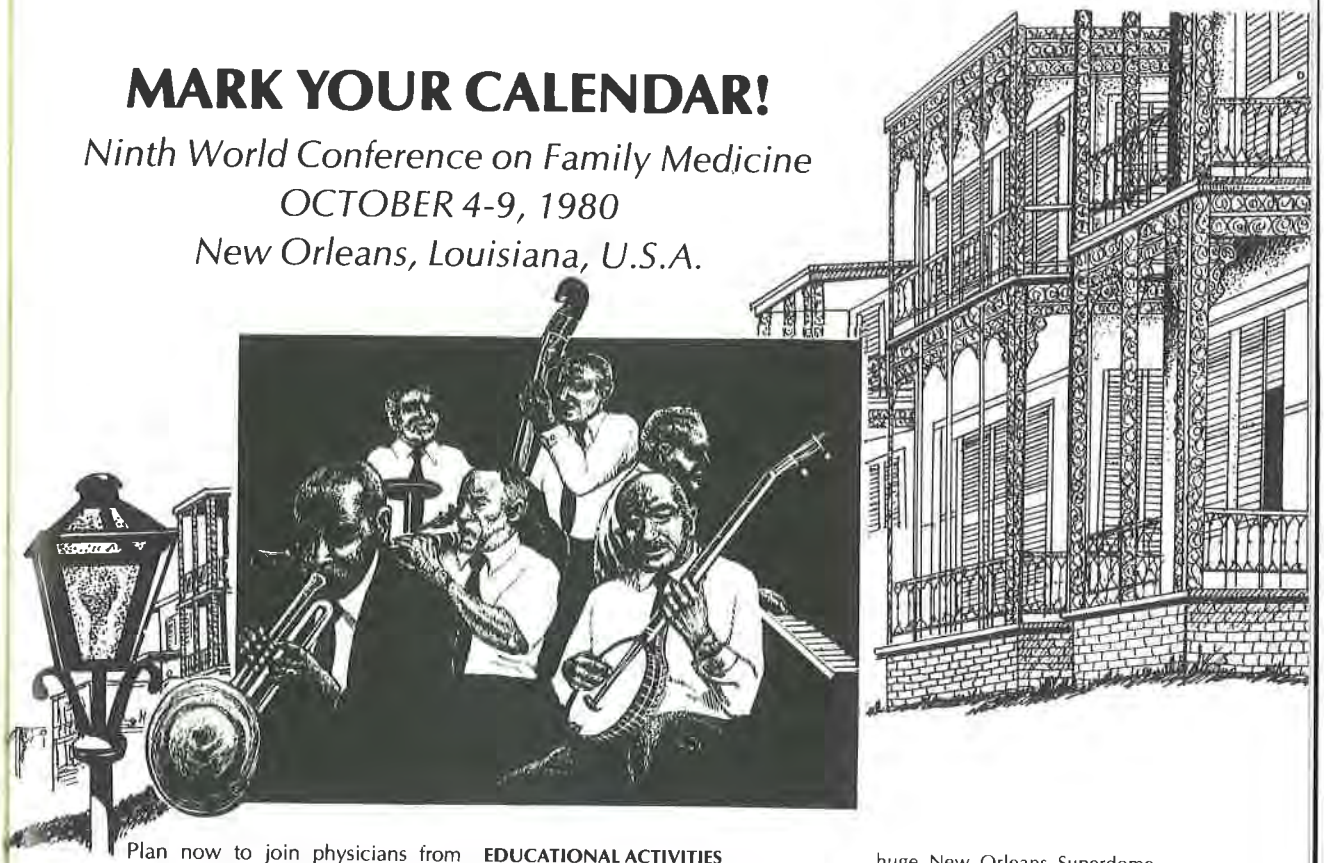
To his friends, he was modest, unassuming and generous; astute in his judgement, of high clinical acumen and a gentleman in its true sense.

He leaves his wife and three sons to whom we offer our deepest condolences.

Colin Marcus.
Foo Chee Guan.

MARK YOUR CALENDAR!

Ninth World Conference on Family Medicine
OCTOBER 4-9, 1980
New Orleans, Louisiana, U.S.A.



Plan now to join physicians from around the world who will assemble in New Orleans for the WONCA/AAFP World Conference on Family Medicine—an unprecedented opportunity in continuing education and international camaraderie.

Hosted by the American Academy of Family Physicians and scheduled in conjunction with the Annual AAFP Scientific Assembly, the New Orleans meeting of WONCA (World Organization of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians) is expected to attract more than 7,000 physicians.

The scientific program offers 13 separate educational activities covering more than 100 current medical topics, complemented with a comprehensive entertainment package for physicians' spouses and children. The combination will allow registrants a convenient and inexpensive way to enrich their professional knowledge while enjoying the sights and sounds of New Orleans.

EDUCATIONAL ACTIVITIES

1. WONCA Plenary Sessions* and discussion groups
2. WONCA Committee Forums
3. WONCA Free-Standing Papers
4. WONCA/AAFP Joint Lecture Series*
5. Taping and Strapping Demonstrations
6. Dialogue
7. Programmed Instruction
8. Fractures Demonstrations
9. Scientific Exhibits
10. Live Teaching Demonstrations
11. Clinical Seminars
12. Continuing Education Courses
13. Cardiac Symposia (Harvey—The Cardiac Simulator)

*(All presentations will be in English Those marked with * will be translated simultaneously into French and Spanish The first 10 activities require no fee in addition to the $50 general registration; others are nominally priced and will require on-site registration)*

SPECIAL ACTIVITIES INCLUDED IN THE $50 REGISTRATION FEE

1. WONCA Welcoming Reception
2. AAFP/WONCA All-Member Mardi Gras Party—an extravaganza in the huge New Orleans Superdome—featuring jazz musicians, special local foods, costumed entertainers, and a parade of bands and floats.
3. AAFP/WONCA Presidents' Reception and Dance, including a light buffett

OPTIONAL EVENTS FOR SPOUSES AND FAMILIES
(most include translation services into French and Spanish)

The events include: (1) a Mississippi river cruise (with luncheon); (2) a New Orleans "nightlife" tour (not translated); (3) a tour of southern plantations (with luncheon); (4) an excursion to the Garden District (with luncheon); (5) a tour of historic landmarks; (6) a tour of famous New Orleans sites (with box lunch); (7) a seminar on verbal communications (not translated); (8) a youth tour to historic New Orleans landmarks (with box lunch), and (9) a youth tour to a southern plantation (with box lunch).

World Conference general registration fee of $50 (U.S. dollars) is required for each physician in advance. Payment for optional entertainment events also necessary in advance. For more information, contact:

Director of Planning ■ 1980 WONCA/AAFP Conference ■ 1740 W. 92nd St., Kansas City, Missouri 64114, U.S.A.
Telephone: 816-333-9700 Telex: 426321 LKGRPTRVL KSC or your travel agent.

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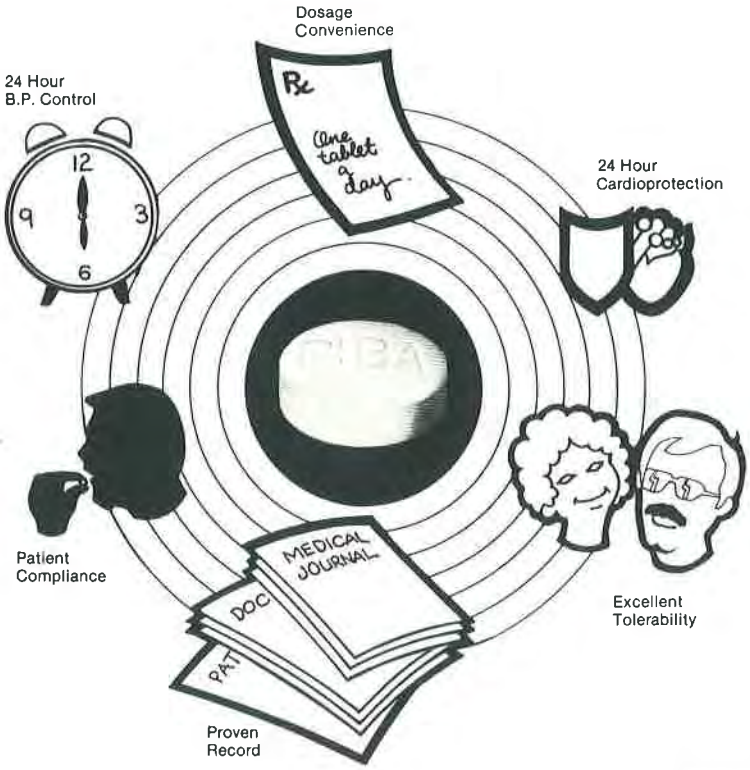

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This cannot happen if through lack of caloric sufficiency protein-calories are diverted to fuel growth. For this reason a higher protein content is indicated than that found in starter milks which are geared to resemble breast milk.

"From the age when mixed feeding is established, there is little or no advantage in continuing for long to give cow's milk which has been meticulously modified in composition to resemble breast milk, and there could be an advantage in using milk which is relatively unsophisticated and which is a fairly rich source of nutrients".

"Present day practice in infant feeding" Dept. of Health and Social Security, U.K. 1974

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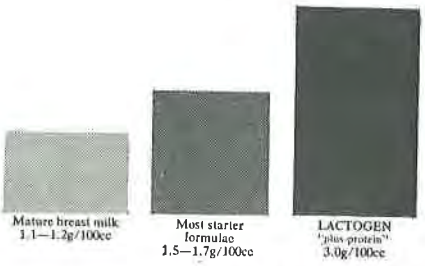

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consider the logic in prescribing

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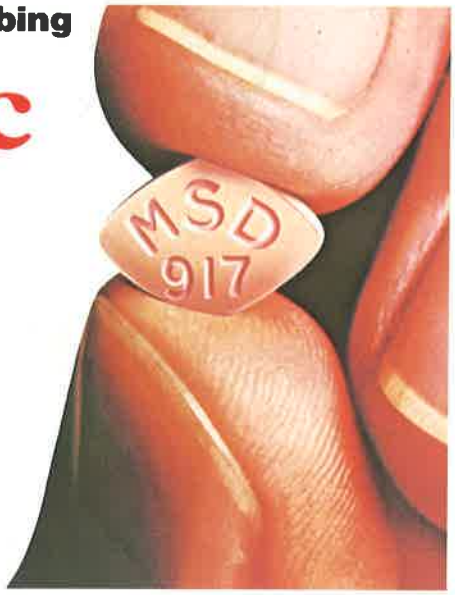

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