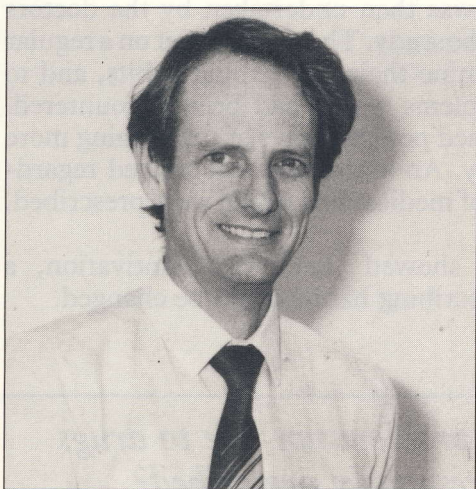


A Guide to Rational Prescribing for the General Practitioner

— G K Brink



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Curriculum vitae

Dr Garth Brink is in general practice in Durban and has been a member of the Academy since its foundation. He has been Chairman of the Natal Coastal Branch of the Academy for the last five years and in 1984 was Chairman of the Steering Committee for the 4th GP Congress held in Durban. Dr Brink has a strong interest in vocational training and is the Regional Director of the Academy of Family Practice Vocational Training Programme for the Natal Region. He is a member of the General Practice Faculty Committee of the College of Medicine of South Africa.

Oslers has stated that one of the biggest problems which confronts a doctor is the desire of man to take medicines. A bigger problem might well be the feeling by the doctor that drugs are the only method at his disposal which will help his patient.

As medical practitioners who act responsibly toward our patients, the responsibility includes

Summary

To prescribe in a rational manner is part of the responsibility of being a doctor. It requires a patient-centred, holistic approach, and resistance to various pressures. It also requires a critical evaluation of his prescribing patterns and the courage to change them.

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our prescribing of drugs. Drugs can be lethal weapons, and we must remember that the welfare and well-being of our patients are in our hands. *Primum non nocere* should always be uppermost in our minds when we treat our patients.

It is my belief that this will result in a rational use of our drug armamentarium; far safer treatment regimes; less iatrogenesis, and in addition, our prescribing will be cost effective.

It is not easy to define rational prescribing. Taylor¹ bases his definition on that of the US Task Force on Prescription Drugs, which takes into account the following:

Is the drug to be prescribed:

1. Necessary — is it likely that the patient's problem(s) will be best solved by the medicine?
2. Effective — does the drug really work?

3. Safe — will the drug do more good than harm?
4. Economic — is there a cheaper way of solving the patient's problem(s) as effectively?

Prescribing rationally cannot be treated in isolation — it must be linked to every facet of the art of general practice — patient-centered care, clinical skills and acumen; knowledge of epidemiology, the patient, and the therapeutic armamentarium at our disposal.

The biggest problem for the doctor is his patients' desire to take medicine

There is no incentive for us, as general practitioners, to critically survey the prescriptions which we issue. There is no watchdog, no-one providing us with up-to-date information regarding the usage of drugs, and whether the manner in which we prescribe is appropriate.

Continuing medical education is vital for the general practitioner. Much, if not all of the time, is spent debating diagnosis, communication, updating clinical knowledge. Little time is spent dealing with the specifics of therapeutics, and all that is involved in the appropriate, rational usage of drugs.

There are no formal studies that have been undertaken in southern Africa which have examined the prescribing profiles of general practitioners. Several enterprising studies have been undertaken overseas, and perhaps it is worthwhile examining them briefly.

... the responsibility of prescribing drugs

Baumguard² analysed prescriptions issued by a group practice over a period of one year. He found that:

1. There was considerable differences in average prescription costs between the doctors.
2. Repeat prescriptions were more expensive.
3. Children received cheaper prescriptions than adults.

4. Prescriptions for women were cheaper than those for men.

Baumguard concluded that the differences in overall prescribing costs were not due to different managements of the same disorders, but were due to different types of patients seen.

Harris, in a study entitled "Prescribing — a suitable case for treatment"³ undertook an enterprising intervention study. Certain practices were selected and the doctors' prescriptions were subjected to analysis. An intensive educational programme was then undertaken by the doctors involved in the study. The doctors met on a regular basis to examine their prescribing habits, and to identify problems which had been encountered. They examined possible ways of prescribing more appropriately. An awareness was created regarding the cost of medications which were prescribed.

This study showed that, with motivation, a doctor's prescribing habits could be changed.

Is the problem not due to drugs previously prescribed?

A follow-up study was undertaken two years later to ascertain whether the effects of the initial intervention were sustained.⁴ This study revealed that most of the effects of the intervention had disappeared, and it was concluded that sustained intervention is required to bring about more lasting change.

Factors influencing prescribing habits

There are many factors which could influence our prescribing. I will consider briefly the following factors:

1. Previous experience
2. When the patient is seen
 - (i) Time of day
 - (ii) Day of week
3. Patient pressures
4. Uncertainty
5. Representative pressure

1. Previous Experience

A positive experience with a particular drug will

lead to its usage again. Likewise, a negative experience will result in that particular drug not being used. Knowledge of the patient's reactions to drugs will also influence what drugs are prescribed.

2. When the Patient is seen

(i) Time of day

The decision to use certain drugs when called out late at night might differ if the patient was seen earlier in the day.

(ii) Day of week

Perhaps to avoid problems during a weekend, more extensive therapy is commenced on a Friday or Saturday.

Mrs L brought Johnny, a bright three year old, to see me. He had a respiratory tract infection which had started five days prior to seeing me. Mother was worried that, in view of his past history of recurring ear infections, it would happen again, and as they were going away for the weekend, she did not want to be in a situation

where she would need to find a doctor. She requested that I prescribe an antibiotic to avoid any complications.

Examination showed the usual findings of an upper respiratory tract infection, and certainly no otitis media.

We all know that prophylactic antibiotics play no role in preventing complications due to respiratory tract infections. Many would argue that there would be no harm in allowing Mrs L to have an antibiotic for Johnny so as to avoid her having to seek a doctor during their short stay away. And this I did.

Stott⁵ makes mention of four areas in the primary health consultation which must receive consideration during each patient contact. One of these areas is a modification of the help seeking behaviour of the patient. In this instance, no modification of help-seeking behaviour was undertaken, and a pattern of help-seeking has now been created which is not desirable. Mrs L will not feel safe going away for a weekend without



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being armed with an antibiotic should Johnny have a respiratory tract infection.

3. Patient pressure

Patients frequently request that we prescribe drugs without them being seen. They are indeed experts when it comes to the timing of such a request, and it is invariably when I am under pressure, and most likely to give in to the request:

Mrs S telephoned me one Saturday morning. She said that she had a painful mouth, in fact there was an ulcer present on the gum. She had dissolved a disprin on the painful area, but this had not helped. She came right out and said that the only thing that would help her would be an antibiotic, and could she please get the chemist to telephone me for a prescription.

Mrs S was certainly clever, contacting me late on a Saturday morning when I was hoping to finish the consulting session early. Besides, what harm would come from prescribing an antibiotic? What followed is probably an extremely common occurrence in family practice:

I decided not to accede to Mrs S's request, and the flow of excuses as to why I should, seemed endless: she had had a similar problem before and an antibiotic had resulted in instant cure; she was new to the area, and did not have a dentist whom she could consult on a Saturday; if the situation did not improve, she would see me on Monday.

I managed to withstand this initial salvo, becoming somewhat irate as she was wasting valuable time. Her response was one of the most interesting excuses that I had heard in a long time:

She was most concerned at the recent rise in the bond rate (19%), and did not wish to waste money on medical expenses, as she needed every cent she had to pay the bond. Further, she would have to wait to see me, as I was so busy, and time she did not have.

I pointed out to her that she might require an antibiotic, but if I did not see her, I might prescribe the incorrect one; her condition would not have improved, and she would require an



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additional antibiotic which was more costly than a consultation!

In the end she relented, and came to see me. She did have to wait, and she did require an antibiotic!

I have often considered why I dug my heels in with this patient and insisted that she see me. On reflection, I recall that she had attempted this ruse before, with success. Perhaps I felt that she had had too much of a good thing, and that it was time to put a stop to it. Mrs S has consulted me subsequently, and there has not been a telephone request for medicines to be prescribed.

Patients are becoming increasingly knowledgeable. Magazines, Journals and tea-parties are the common sources of the latest medical information. Many patients develop unrealistic expectations as to what drugs can do for a particular illness. I am amazed at the scant regard that some patients have for the effects that drugs can have. Knowledge gleaned from these magazines, journals and tea-parties has the outcome

that patients place pressure upon us to prescribe a drug which would not, in the first instance have been prescribed.

I am sure many of us have had the experience where patients contact us requesting a particular drug to be prescribed. In such instances, when I consult the patient's record, I find that this particular drug has never been prescribed for that patient. On closer questioning, it becomes apparent that the patient has been given the drug by a friend to try out, found that it worked, and now contacts me to prescribe that drug! After all, the patient argues, I feel so much better!

4. *Uncertainty*

Our ability to cope with the many uncertainties which occur in primary health care will also determine to what extent we readily resort to the prescription pad and pen.

5. *Representative pressure*

The pharmaceutical industry is highly competitive, and pressure is placed upon the medical

The advertisement features a large, stylized image of several yellow tennis balls arranged in a row, set against a background of a tennis court. Below the tennis balls, the brand name 'Cefadroxil' is written in a large, bold, red font with a registered trademark symbol (®). Underneath the brand name, the text 'Capsules 500 mg/Suspension 250 mg/5 ml & 500 mg/5 ml' is displayed. To the right of the brand name, there are images of various Cefadroxil products, including boxes of suspension and capsules, and several white plastic containers of suspension. The overall design is clean and professional, emphasizing the product's use in treating respiratory infections.

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representative to reach his target. This pressure is then transferred on to us to prescribe particular drugs.

Guidelines to Rational prescribing

It is evident that we need to be highly motivated in order to prescribe appropriately. Undoubtedly a holistic and patient-centred approach is required. It is essential that some guidelines be developed to enable us to prescribe in a rational manner, and to ensure that we continue doing so. It has already been mentioned that rational prescribing must involve all the facets of good family practice, and this must not be forgotten.

I have found the following guidelines to be useful, and will discuss each briefly:

1. Prescribing profile.
2. Devise a formulary.
3. Problem and Drug list.
4. Prescribing for the elderly.
5. Questions to ask when prescribing.
6. Inform the patient.

GPs need to critically survey their prescribing patterns

1. Prescribing Profile

There are a plethora of drugs available, and it is impossible for us to be completely aware of the problems of each drug. The adage that one must select one's drugs which are representative of each group and get to know them well, remains good even today.

Firstly it is essential to establish the prescribing profile, so that we are aware as to what drugs are the most commonly prescribed, and the conditions for which they are prescribed. Further analysis of our prescriptions would enable us to become aware of our prescribing rate, and the number of items per prescription as well as the cost of the prescriptions which we issue.

It will enable identification of problem areas, and solutions in order to solve these problems.

2. Devise a formulary

Getting to know the drugs which are prescribed is an important aspect if one is to prescribe rationally. By using the information gathered

when determining the prescribing profile, a list of drugs can be made for each problem which is treated in a particular practice setting. Detail all the information which you have about them, and gather more information if it is found to be inadequate.

The detail must be extensive, hence the reason for limiting the different drugs prescribed for each condition. Pharmacodynamics, pharmacokinetics, side-effects, special precautions, drug-interactions should be listed in detail.

A patient's reaction to a drug will influence the doctor's future use of it

Several resources are available from which such data can be obtained. There are standard textbooks, but these are expensive and date rapidly. Nevertheless it is essential to have a good reference book, as one can always add to it by gathering literature about drugs which have been developed following publication.

The medical representative will always be willing to provide the articles from which his information is taken. A non-biased viewpoint can then be obtained. Beware the literature, for it needs careful reading and appraisal, and cannot be accepted at face-value.

Recently published is the first South African Medicines Formulary.⁶ This is an extremely useful and informative work, and contains guidelines for prescribing for the young and old, during pregnancy, renal failure, and drugs which are excreted in breast milk. No general practitioner should be without it.

3. Problem and drug list

It has been mentioned that repeat prescriptions were more expensive than initial prescriptions. Certainly the question needs to be asked as to whether the patient should be on the medication at all, and the prescription not merely repeated for the sake of saving time.

A problem list, detailing the problems which the patient has, together with a list of drugs prescribed for each of the problems, affords one the mechanism of instant review of the drugs which the patient is currently receiving. This helps to avoid polypharmacy, and the problems associated with it.

4. Prescribing for the elderly

Prescribing for the elderly warrants special attention, and consideration. Studies show that the most commonly used drugs in the elderly are the cardio-vascular and psychotropic agents.^{7,8}

In developing countries, trends show that the proportion of elderly in the population has been rising steadily over the past several decades. We will be dealing with a greater number of older patients in our practices, and obviously will be prescribing medicines for them.

... unrealistic expectations as to what drugs can do for them

Where the proportion of the elderly (60 years of age and over) persons in the population is very high, 50% or more of the total drug consumption is by the elderly.⁹ The elderly differ from the young in the quantity of the drug delivered to the target organ, and possibly in the sensitivity of that organ to the drug.

Awareness of the differences in absorption, excretion and metabolism of drugs in the elderly is essential in order to avoid drug-related problems in these patients.

5. Questions to ask when prescribing:

(i) Why is the drug being prescribed?

Is the drug being prescribed to satisfy our needs, or that of the patient? Does the patient really want a drug? It is important to ascertain the patient's expectations. In so many instances it is because of our own uncertainty that we prescribe medication, not taking into account the desires of the patient. The last thing that the patient might want is a handful of medicines!

Is the drug prescribed because the representative says that it is excellent, and a colleague has used it with tremendous success? Has the particular problem been identified, or is it a case of treating the symptoms and not the cause?

(ii) Is the drug indicated, and is it necessary?

Mention has already been made that the patient might not wish to have a drug for a particular condition. More important is the value of ourselves as a therapeutic agent. Facilitation of discussion by the patient of the problem which is faced, often results in no drug being prescribed.

Patients openly state that they feel so much better following such discussions, and it is important not to forget this before pen is put to pad.

(iii) Symptoms or cause?

Mention has been made that adequate problem definition is necessary before prescribing. This would obviate prescribing for symptoms in place of the cause.

This is extremely difficult in general practice because of the many undifferentiated problems which patients present to us. Very often we are unable to define the precise cause of the patient's symptoms, and symptomatic relief is what the patient is requesting. Nevertheless, we should not allow ourselves to become complacent when faced with the multitude of vague symptoms which a patient presents to us late one afternoon following an extremely busy and hectic day.

(iv) Polypharmacy

How many drugs are really necessary to treat this particular problem? Does the patient still require the medication which he is currently taking? What about drug inter-actions?

The elderly patient poses a particular problem, as it is in old age that multi-organ pathology is evident. Patient-centredness in this area is of the utmost importance, as it will be the patient who will guide us as to what problem requires medication.

50%+ of the total drug consumption is by the elderly – we need to know how to prescribe to them differently

(v) Is the drug chosen the least toxic?

Anyone who believes that a drug treatment can combine sound efficacy with no adverse effects whatsoever, is due for a nasty fall.¹⁰

(vi) Cost

Is there a cheaper method of treating the patient?

(vii) Review long-term medication

With the aid of the problem and drug lists one can rapidly identify whether the drugs are necessary, and whether the treatment should be revised.

(viii) *New symptoms*

Should new symptoms arise in a patient who is receiving a number of drugs, consider first the possibility of the symptoms being due to the drugs which have already been prescribed before prescribing additional drugs.

Mrs M had consulted me regularly for a period of six months complaining of a cough occurring particularly at night. I had done every conceivable examination, and had been most unsuccessful in attempting to alleviate her of her tiresome and troublesome cough. It was only after I had decided to review her medication that I noticed that she had been prescribed Enalapril prior to the commencement of her cough!

What is the patient expecting from this drug?

Had I sought or even considered the possibility of drugs being responsible for the new symptoms which had arisen, much anguish and cost could have been prevented.

(ix) *Availability of information*

Is adequate information regarding the drug available? If none is to hand, do not prescribe the drug.

6. Inform the patient

Having decided to prescribe medication, the patient must be informed of the reasons for doing so, and what is expected of the medication. Mention must be made of the possible common side-effects, and the patient not left totally oblivious of the problems associated with the drugs prescribed.

Conclusion

To prescribe in a rational manner is a daunting task. It requires effort, resistance to various

pressures placed upon us, constant review and updating of our therapeutic knowledge. It involves a patient-centred, holistic approach to the patient and his problem. If this is undertaken, our patients will benefit in that they will be receiving appropriate therapy for a problem. In addition, our prescribing will also be cost-effective.

The GP's own uncertainty makes him prescribe

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