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Organizing the Office for Effective Detection and Management of Hypertension

SUMMARY

An effective office organization for screening and follow-up of hypertensives can be simple. The physician must first adopt a policy of regularly taking blood pressures of patients who attend for any reason. Notations on the outside of the chart are a visible record and reminder. A tickler file with 12 monthly divisions provides an efficient follow-up system. There are no ethical barriers to instituting this approach. (Can Fam Physician 1985; 31:351-354)

SOMMAIRE

Il peut être facile d'organiser au bureau le dépistage et la relance des hypertendus. Le médecin doit d'abord adopter une procédure de prise régulière de la tension artérielle des patients qui consultent, quelle qu'en soit la raison. En inscrire la lecture sur la couverture extérieure du dossier permet de visualiser rapidement et constitue un rappel. Un dossier chronologique avec divisions mensuelles procure un moyen de relance efficace. Il n'existe pas de barrière éthique à utiliser cette approche.

Key words: Hypertension, screening, records

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IN 1983, A FOUR-PERSON working group of the Federal/Provincial Advisory Committee on Community Health Services identified specific problems with hypertension detection and management in Canada.¹ They attributed these perceived problem to the family physicians of Canada, saying they lacked organized approaches and were too preoccupied with curative services and acute problems. While I strongly disagree with most of the above, I do agree there is a lack of organization in our approach to hypertension.

Detection of hypertension is often hit and miss. Patients attending for

headache, fatigue, heart complaints or an annual check-up have their blood pressure measured, but with minor injuries or infections, the problem of the moment is treated, with little attention to prevention. The physician is not underrating the importance of detecting hypertension; he is attending to the problem that most concerns the patient. We would all accept that prevention is an important part of family practice philosophy,² so how is it that we often miss prime opportunities to conduct a preventive test? This happens because policies are not in place to ensure that the philosophy is carried out.

Similarly, hypertensive patients are lost to follow-up, not because the physician underrates the importance of follow-up; but because there are no policies on the follow-up of hypertensive patients or no specific approaches to enforce the policies. Too often, the physician says "See me again in three or four months". The patient leaves the office without a specific appointment and either forgets or keeps wait-

ing for a 'convenient' time. A percentage of hypertensive patients may even feel that they don't need to be seen if they are feeling well.

We want to detect patients with elevated blood pressure early, to assess and manage them appropriately, and to follow their progress continuously. Family practice is well suited for the above, since patients are cared for over time and seen for a wide variety of problems. The family doctor has the capabilities to detect, assess and manage all aspects of hypertension.³ Before developing specific approaches to ensure that the above objectives are met, we need to consider the natural history of hypertension and the resources available.

We know that diastolic pressures change slowly over time rather than abruptly. From the Australian trial, we learned that diastolic pressure increased in only 12% of identified mild hypertensives (BP 95-109) treated with placebo within three years.⁴ Also during that period, diastolic pressure fell below the mild hypertension range

in 48% of the identified hypertensives. We are not under the pressure of time, therefore, in identifying and managing hypertensive patients in the mild range. This is important to know when choosing a screening interval and determining follow-up times.

The resources available to the family physician vary greatly from practice to practice. Physicians in teaching practices and most group practices have access to a nurse or nursing assistant. Many physicians in solo practice minimize their practice expenses by employing only a receptionist. This is an important consideration: policies utilizing available staff will be more effective than those which rely solely on the physician's memory. On the other hand, if the workload of the auxiliary staff is increased, other activities may suffer.

A Screening Policy

In order to ensure that all hypertensive patients in the practice are identified, the physician must establish a screening policy. The critical issues are how often to screen patients and what to do about patients whose BP is not recorded. Both issues are controversial.

The policy that best fits family practice is one that can be conducted in concert with routine care. This has been termed "case-finding" to distinguish it from more general screening programs.⁵ When a specific policy is formed for all patients, then McWhinney's term "continuous practice population screening" (CPPS) is more fitting.⁶ This is based on the system developed by Tudor Hart⁷ in his prac-

tice. CPPS embodies the idea that the screening will be conducted "over time" on the whole practice population. In this scheme, patients attending for any health problem also have their BP checked. Table 1 lists the characteristics of CPPS and contrasts it to the standard intermittent screening programs.

The Ontario Hypertension Task Force (1977) recommended measuring BP for every patient at every contact.³ This recommendation was repeated in June 1979 in a consensus report of hypertension task forces.⁸ The basis for this stance is given as an "informal survey of primary care clinicians". A recent study found that only 23% of Toronto physicians reported measuring the BP of middle-aged patients at every visit.⁹ I suspect this response is an overestimation. Even if a BP measurement could be done in one minute, then 30 patients will add 30 minutes to an already busy day. Also, the mean number of visits in family practice is 2.9 visits/year, but the median is 2.0. The distribution of visits is therefore skewed; a sizable proportion of visits are made by frequent visitors.¹⁰ The frequent repeat measurement of blood pressures in those known to have normal BPs seems a waste of energy to most patients—and to all physicians. The 'everyone, every time' policy has merit of not requiring decision-making and may be practical for some.

More attainable is a policy to screen each patient at least once every two years^{11, 12} or at least once every five years.⁷ This approach is based on the slow progression of hypertension, and the knowledge that 95% of patients will be seen in the office at least once

every 5 years.^{12, 13} To work, this policy requires a mechanism to denote those who have had a BP reading and at the same time to highlight those who require a reading. In the absence of any special mechanism, five year screening rates will be about 70% for all adults 20-65 and 83% for those over 55 years of age.¹⁴

Effecting the Policy

Screening should be a joint effort of the physician and his staff. This is an excellent time for delegation. If a trained office staff member has time to take the BP at every visit, fine; but in the real world there is no reimbursement for taking BPs and the physician has a limited staff. I believe measuring BP once every two years is a realistic target. The simplest technique for quickly identifying those whose BP should be measured is to write the last year a BP was recorded with a colored marker in an obvious spot on the front of the chart. A different color is used for every year. This can be kept current by the receptionist checking each chart for a BP record as she refiles the charts. At the other end, as each chart is pulled for the day's appointments, the last year of BP recording is checked; if the patient is due for a BP check, then a brightly colored note saying "BP NEEDED" is clipped to the chart for the doctor's attention. This system has worked well with minor modifications in the 17 experimental practices in our study. We initially used colored dots, but these were more expensive and tended to fall off. A computer should be able to take on this task, but reliable, easily available software is still in development.

There are several practical considerations to make the screening policy work well. Sphygmomanometers must be readily available: there should be one in every consulting room and in the doctor's bag. The practice should

TABLE 1
Comparison of Screening Techniques

Intermittent General Population Screening	Continuous Practice Population Screening (CPPS)
Blood pressure readings offered in special clinics.	Blood pressures systematically taken on all patients attending office for any purpose at designated intervals.
1. Captures only a selected portion of the population.	1. Captures the entire practice population.
2. 'One shot'.	2. Continuous process repeated at regular intervals.
3. Separation of screening procedure from investigation and management.	3. Integration of screening diagnosis and management.
4. Add-on to existing health service.	4. Part of existing health service.

TABLE 2
Five Year Screening Rates in 17 Family Practices

Age at onset of screening	% Screened	
	M	F
20-29	81.7	89.8
30-39	90.0	91.7
40-49	90.9	94.8
50-59	94.2	94.5
60-65	96.1	96.3

have at least one obese cuff and one pediatric cuff and at least one mercury sphygmomanometer to calibrate aneroid and electronic apparatuses. Finally, the doctor has to notice reminders clipped to the chart. With this policy, five year screening rates over 90% are easily achievable (Table 2). Most of those missed will be younger male patients who are seen after hours or very infrequently.

What About Those Missed?

With the recording on the outside of the charts, the physician can quickly identify patients whose BP has not been measured for more than five years. What to do about those patients? There has been some debate about whether to call patients in for a BP check.¹⁵ Some physicians feel it is akin to soliciting business. Others argue that a responsible physician is concerned about the longterm welfare of his patients. Undiagnosed hypertension can result in severe morbidity for which we have little to offer: our commitment to maintaining the health of our patients requires us to take an active stance. In our study, we used a postcard offering an opportunity for BP measurement on several days (Figure 1). Some people had moved away, others phoned to say they were no longer patients. Many felt it a useful exercise. Of the delivered postcards, 30% resulted in a BP being taken.

Follow-up Systems

Having determined that the patient has borderline, mild or moderate hypertension, the issue of follow-up arises. Follow-up and management are intimately related. Patients on drug therapy will be more closely supervised than those with borderline hyper-

tension who are being observed annually.

Dentists have discovered that patients left to their own devices will conveniently forget appointments, so most remind their patients of upcoming appointments by mail or phone. Few medical offices have the available staff to contact more than a few patients. A simple file box of 12 sections, one for each month, can quickly identify patients who are at risk to being lost to follow-up.

Each hypertensive has his/her own file card with the name and a daytime phone number. Each card is filed by the month the next visit is due. Each hypertensive's chart is identified by a colored sticker. Before the day's charts are refiled, those with a hypertensive sticker are reviewed to determine the timing of the next appointment. The patient's file card is moved forward to the appropriate month. Bimonthly, the charts of those patients whose file card remain are reviewed to make sure they haven't visited. All those outstanding are followed up with a phone call to remind them of the need to visit the office.

This simple tickler file worked well with minor variations in all 17 practices in the UWO study. Some practices kept monthly lists that were crossed off as patients attended. In other practices, doctors wrote the follow-up period directly on the file card which the patient returned to the receptionist as he/she left the office.

We and others have also used the computer to identify all hypertensive patients who have not been seen in a six or 12 month period.¹⁶ The computer identifies all patients who appear to be lost to follow-up; their charts are checked and appropriate contact made.

Ethics of Follow-up

There are few concerns about contacting a person who is already under care for a problem. The College of Physicians and Surgeons of Ontario has ruled that such conduct is proper.¹⁵ Many physicians would argue that you have an obligation to contact a person who has dropped out of care. It may be an oversight or simple forgetfulness, or lack of clarity from the doctor.

Others would respond that patients as adults have an obligation to care for their own wellbeing and the doctor can't be a nursemaid. I stand with the doctors who take the extra effort to care for their patients. However, patients should not be badgered. They must be allowed to refuse to take medication or to be trotted quarterly into the doctor's office, but they must be fully informed before making this decision.

Evaluation

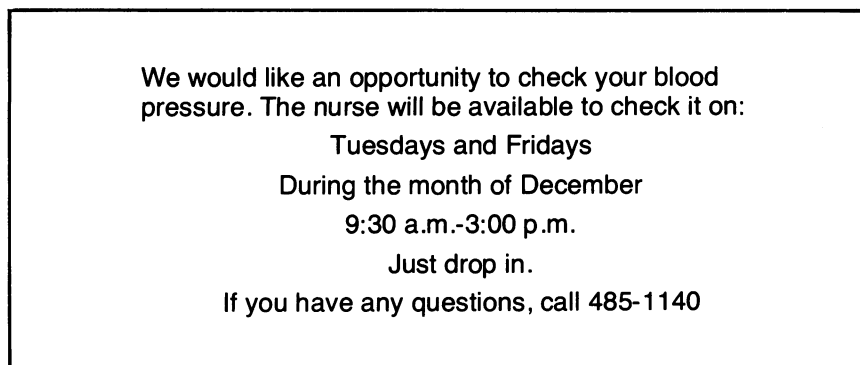
The quickest way to evaluate the adequacy of your screening procedure is to pull a sample of charts and to determine the proportion of patients with a BP reading in the preceding two or five years. A systematic sample (say every 10th or 20th chart) consisting of 50 charts will identify the true proportion screened within $\pm 10\%$.¹⁷ Exact formulae can be found in most standard statistical texts under "confidence limits on a single proportion". Similarly, the adequacy of follow-up of hypertensives can be assessed by sampling the charts of hypertensive patients.

An important part of any evaluation is to ask your office staff and your patients how they feel the system is working.

Conclusion

Each family physician has the choice and the obligation to institute in his practice clear policies about his patients' blood pressures. The procedures required are not radically new, nor are they complex. The time is ripe to organize the office for effective hypertension detection and follow-up. Only when this has been accomplished will the family physician become fully effective and the criticisms raised against family practice be convincingly rebutted. ●

Fig. 1
Postcard Invitation for BP Screening.



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DESYREL

(trazodone HCl)

A REMARKABLE ADVANCE IN THE TREATMENT OF DEPRESSION.

ACTION

Trazodone hydrochloride is a psychoactive compound with sedative and antidepressant properties. Its mechanism of action in humans is not clear. Trazodone hydrochloride is well absorbed after oral administration with peak plasma levels obtained within one-half to two hours after ingestion. Absorption is somewhat delayed and enhanced by food. The mean plasma elimination half-life is 4.4 hours for the period from 3 to 10 hours after dosing, and 7 to 8 hours for the period from 10 to 34 hours. The drug is extensively metabolized with 3 or 4 major metabolites having been identified in man. Approximately 60-70% of ¹⁴C-labelled trazodone was found to be excreted in the urine within two days and 9-29% in feces over 60-100 hours. Trazodone is 89-95% protein bound in vitro at concentrations obtained with therapeutic doses.

INDICATIONS AND CLINICAL USE

DESYREL (trazodone hydrochloride) is of value in the symptomatic relief of depressive illness.

CONTRAINDICATIONS

Known hypersensitivity to trazodone.

WARNINGS

Recent clinical studies in patients with pre-existing cardiac disease indicate that DESYREL (trazodone hydrochloride) may be arrhythmogenic in some patients in that population. Arrhythmias identified include isolated PVC's, ventricular couplets, and in two patients short episodes (3-4 beats) of ventricular tachycardia. There have also been several post-marketing reports of arrhythmias in DESYREL-treated patients who had pre-existing cardiac disease. Until the results of prospective studies are available, patients with pre-existing cardiac disease should be closely monitored, particularly for cardiac arrhythmias. DESYREL is not recommended for use during the initial recovery phase of myocardial infarction.

PRECAUTIONS

General: The possibility of suicide in depressed patients remains during treatment and until significant remission occurs. Therefore, the number of tablets prescribed at any one time should take into account this possibility, and patients with suicide ideation should never have access to large quantities of trazodone.

Safety of Driving: Since DESYREL (trazodone hydrochloride) may impair the mental and/or physical abilities required for performance of potentially hazardous tasks, such as operating an automobile or machinery, the patient should be cautioned not to engage in such activities while impaired.

Interactions: Trazodone may enhance the response to alcohol and the effects of barbiturates and other CNS depressants and patients should be cautioned accordingly.

Because it is not known whether an interaction will occur between DESYREL and MAO inhibitors, administration of DESYREL should be initiated very cautiously with gradual increase in doses as required, if an MAO inhibitor is given concomitantly or has been discontinued shortly before medication with DESYREL is instituted.

DESYREL may cause hypotension; caution is required if it is given to patients receiving antihypertensive drugs and an adjustment in the dose in the antihypertensive medication may be required.

Because of the absence of experience, concurrent administration of electro-shock therapy should be avoided.

Use in Pregnancy and Nursing Mothers: Since the safety and use of DESYREL in pregnant women has not been established, it should not be used in women of childbearing potential unless in the opinion of the physician the expected benefits justify the potential risk to the fetus. Since DESYREL and/or its metabolites have been detected in the milk of lactating animals, it should not be administered to nursing mothers unless the potential benefits justify the possible risks to the child.

Use in Children: The safety and effectiveness of DESYREL in children below age of 18 have not been established.

Laboratory Tests: It is recommended that white blood cell and differential counts should be performed in patients who develop sore throat, fever, or other signs of infection or blood dyscrasia and DESYREL should be discontinued if the white blood cell or absolute neutrophil count falls below normal.

Hyperprolactinemia and Breast Tumors: There is sufficient experimental evidence to conclude that chronic administration of those psychotropic drugs, such as trazodone, which increase prolactin secretion has the potential to induce mammary neoplasms in rodents under appropriate conditions. Tissue culture experi-

ments indicate that approximately one-third of human breast cancers are prolactin dependent in vitro, a factor of potential importance if the prescription of these drugs is contemplated in a patient with a previously detected breast cancer. Although disturbances such as galactorrhea, amenorrhea, gynecomastia and impotence have been reported, the clinical significance of elevated serum prolactin levels or increased secretion and turnover are unknown for most patients. Neither clinical studies or epidemiological studies conducted to date, however, have shown an association between administration of these drugs and mammary tumorigenesis; available evidence is considered too limited to be conclusive at this time.

ADVERSE REACTIONS

The most common adverse reactions encountered are drowsiness and dry mouth. Adverse reactions reported include the following:

Behavioral: drowsiness, fatigue, lightheadedness, dizziness, difficulty in concentration, mild confusion, lethargy, retardation, forgetfulness, disorientation, excitement, agitation, insomnia, anxiety, tension, nightmares, hostility and, rarely, hypomania, delusions and hallucinations.

Neurologic: tremor, headache, ataxia, akathisia, muscle stiffness, slurred speech, retarded speech, vertigo, tinnitus, tingling of extremities, paresthesia and, rarely, impaired speech, muscle twitching and numbness.

Autonomic: nasal congestion, blurred vision, constipation, sweating, urinary retention and incontinence.

Cardiovascular: orthostatic hypotension, hypertension, tachycardia, palpitations, shortness of breath, syncope and arrhythmias.

Gastrointestinal: nausea, vomiting, diarrhea, gastrointestinal discomfort, anorexia, increased appetite.

Endocrine: decrease and, more rarely, increase in libido, weight gain and loss and, rarely, menstrual irregularities and retrograde ejaculation.

Miscellaneous: skin rash, itching, edema, aching joints and muscles, peculiar taste, hypersalivation, anemia, chest pain and hematuria.

SYMPTOMS AND TREATMENT OF OVERDOSAGE

Overdosage of DESYREL (trazodone hydrochloride) may cause an increase in incidence or severity of any of the reported adverse reactions, e.g. hypotension and excessive sedation. In one known suicide attempt, the patient presented with symptoms of drowsiness and weakness three hours after ingesting 7.5 grams (12.5 times the maximum daily dose) of trazodone hydrochloride. Recovery was uneventful. Death by deliberate or accidental overdosage has not been reported. There is no specific antidote for trazodone hydrochloride. Management of overdosage should, therefore, be symptomatic and supportive. Any patient suspected of having taken an overdosage should be admitted to hospital as soon as possible and the stomach emptied by gastric lavage. Forced diuresis may be useful in facilitating elimination of the drug.

DOSE AND ADMINISTRATION

Dosage should be initiated at a low level and increased gradually noting carefully the clinical response and any evidence of intolerance. It should be kept in mind that there may be a lag in the therapeutic response. Increasing the dosage rapidly does not normally shorten this latent period and may increase the incidence of side effects.

Usual Adult Dosage: The recommended initial dose is 150-200 mg daily, in two or three divided doses. DESYREL (trazodone hydrochloride) should be taken shortly after a meal or light snack in order to reduce the incidence of adverse reactions. The initial dose may be increased according to tolerance and response by increments of 50 mg, usually up to 300 mg daily in divided doses. In some patients, doses up to 400 mg daily and, rarely, up to 600 mg daily in hospitalized patients, may be required. Occurrence of drowsiness may require the administration of a major portion of the daily dose at bedtime or a reduction of dosage. Once an adequate response has been achieved, the dosage may be gradually reduced, with adjustment depending on therapeutic response. During prolonged maintenance therapy the dosage should be kept at the lowest effective level. Use in the Elderly: If used in the elderly, doses not exceeding one-half the recommended adult dosage should be used, with adjustments made depending on tolerance and response.

Because safety and effectiveness in children have not been established DESYREL is not recommended in the pediatric age group.

AVAILABILITY

DESYREL (trazodone hydrochloride) Tablets, 50 mg, are orange, round, film-sealed, scored tablets. Bottles of 100.

DESYREL (trazodone hydrochloride) Tablets, 100 mg, are white, round, film-sealed, scored tablets. Bottles of 100.

DESYREL is a schedule F drug and cannot be obtained without a written order from a licenced practitioner.

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