

Alcoholism

Essential CME is a series involving a continuous self learning process in Family Practice for general practitioners, primary care physicians and generalist medical officers. With the introduction of the category "Family Physician" and the need for certification and recertification in the future, this series is aimed at the busy doctor to help him or her to update knowledge on broad issues in family practice by using different approaches. Some parts will be focused on helping the general practitioner to obtain certification as a "Family Physician" via postgraduate examinations.

There are five parts to the section.

Part One is called BENCHMARKS FOR THE BUSY GP. Instead of reading through a long article, a group of GPs will have extracted the important facts on the subject from a general practice perspective.

Part Two will be on SOUTH AFRICAN RURAL GENERAL PRACTICE. It will deal with the issues arising from practice in remote rural clinics. It will be context related to practising in poverty stricken communities and problem orientated to the specific conditions arising from this context.

Part Three is called TEACHING OLD DOCS NEW TRICKS and is a mock oral examination for a postgraduate degree in family medicine.

Part Four will be a self evaluation section by short MULTIPLE CHOICE QUESTIONS (MCQS).

Part Five is a selection of SOURCES OF INFORMATION and resources for further reading.

Throughout these sections family practice perspectives and theories will be integrated with the clinical aspects. Obviously this CME section cannot cover all that is "essential" in a prescriptive way but aims to help you revise, stimulate your interest and provide some guideposts.

This is number fifteen in the series and is on ALCOHOLISM

Part I

Benchmarks for Busy GPs

This section is not a comprehensive review but a short selection of abstracts to help you focus on important aspects of the subject partly in the form of reminders and memory joggers.

There are almost as many definitions of alcoholism as there are alcoholics

GPs are ideally placed to provide treatment and care for alcoholics and problem drinkers. GPs seem to be reluctant to assume this role. Why?

It is partly because of our negative views about the efficacy of treatment and the poor returns on efforts expended. There is an endless demand for time and patience. Yet it has been shown that GPs are at least as successful as specialist clinics in the treatment of severely dependent drinkers.

The new young GP is called out to a house where the alcoholic husband is locked in the bedroom. The distraught wife is in the kitchen with the neighbours, who have come in to help. There follows an hour or two wherein our young GP sits on the bed next to the patient and tries to reason with him. There's a fair amount of wailing and crying interspersed with aggression. This is disillusion time.

This may lead on, in later practice, to the doctor feeling aggressive towards alcoholics especially with after hours calls.

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This attitude often changes on about day three of drying out when a human being starts to emerge.

Family practice training attempts to avoid this disillusionment by role playing these events and discussing avenues of management before the doctor is placed in these real life situations.

One of the answers to the management of alcoholic patients is **the concept of shared care**. The care is shared between the patient and the doctor and between the doctor and all the other agencies that become involved in the support of the patient.

It is an illness that is one of the ultimate tests of good general practice. It requires individual care and patient-centred care in conjunction with a team approach which involves, amongst others, psychologists, family counsellors, specialist clinics etc. It is a never-ending-story of one-step-forwards-and-two-backwards continuing care and rehabilitation.

Some explanations of alcoholism

There is no such thing as an absolute cure for alcoholism.

It is often difficult to determine when the boundary between heavy drinking and alcoholism is crossed.

Addicted alcoholics have all been, for a considerable time, heavy drinkers.

There are more hidden or unacknowledged drinkers than known alcoholics.

As a group, they tend to be good human material-in the early stages they are as intelligent, sensitive and as effective as the rest of society.

Alcoholism is less likely to be suspect-

ed in a woman, and therefore more likely to be missed.

There is no such thing as a typical alcoholic personality, but there are certain features which many alcoholics share.

Alcoholism is a complicated illness which is essentially a chronic relapsing condition with different phases manifesting over several years.

A successful outcome will therefore depend on an extended programme of treatment.

All alcoholics should have the same sort of ongoing therapeutic vigilance as unstable diabetics. The motto of AA is "one day at a time".

To expect that admonitions, injections and goodwill will do the trick is like trying to catch tigers in mousetraps.

The secret of successful treatment is to get acceptance of the need for help, but this can be the most difficult part.

"One must always take the long view with alcoholism; like other chronic conditions if we can keep symptoms at a minimum, prevent complications, sequelae and relapses, and if the person is more content and productive, treatment has achieved its optimal effect."
(Gillis, 1991)

Laboratory tests in alcoholism

Relying on blood tests to detect alcoholism can lure the doctor into an all-or-none mental position in which a normal result seduces the doctor into relaxing his vigilance for early alcohol abuse.

A short review of sensitivity, specificity and predictive value is given here because I find them very difficult concepts to grasp.

Sensitivity is the proportion of

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patients with the disease who have a positive test result. If we have a test that is 100% sensitive, and the patient tests negative, we can say with confidence that the patient does not have the disease. Since the test is 100% sensitive, we know that there are no false negatives. A positive test, on the other hand, is not so helpful, because we do not know whether it is a true or false positive. The problem, in general practice, is that sensitivity varies with the stage of the disease.

Specificity is the proportion of patients without the disease who have a negative result. If a test is 100% specific and the patient tests positive, we can say with certainty that the patient has the disease. Since the test is 100% specific, we know that there are no false positives. A negative result, however, is less helpful, because we do not know whether it is a true or false negative.

Predictive value is a key index, for it tells us the power of a test to change the probability that the patient has the disease in question. It tells us about the false positives and negatives. There is a predictive value positive and a predictive value negative. It is important to be aware that the predictive value varies with the prevalence of the disease.

Serum gamma GT (SGGT) is a widely used screening test for alcohol abuse. It is elevated in every stage of alcoholic liver disease. It can be used to help with diagnosis and also in follow up to check on abstinence. Remember there are other causes of a raised gamma-GT such as injury to the liver and enzyme inducing drugs.

In alcoholic liver disease (as opposed to non-alcoholic liver disease) the **alanine aminotransferase (ALT)** is not elevated to the same extent as the

aspartate aminotransferase (AST) and the **AST:ALP ratio** is increased to above **two**.

Serum protein changes include a decrease in serum albumin.

Serum bilirubin may be elevated.

Polymorph leucocytosis may be present in up to a third of cases.

Aspartate aminotransferase (AST) is elevated in cases of alcoholic hepatitis and **alkaline phosphatase (ALP)** in 80% of patients with alcoholic hepatitis.

Established drinkers may have a raised **mean corpuscular volume (MCV), macrocytosis (round), raised serum urate and triglyceride concentration and reduced potassium**.

POINTS TO PONDER

Suicide is 30 times more common in alcoholics, and one half of all fatal motor car accidents are due to drunk driving.

Less than 20% of patients with alcohol problems are identified in any medical settings.

The definition of alcohol abuse does not depend upon the amount, frequency or pattern of drinking.

The negative social and family consequences of drinking are not correlated to the actual amount or frequency of alcohol consumption.

Patients who have two or more relatives with a history of alcohol abuse are at three times the normal risk of abusing alcohol themselves.

Many of us have patients in our practices who don't really want to be cured. They just want to be admitted for a few days to be dried out and fed so that they can go out and start drink-

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ing again. They have, during a life time of drinking, been on rehabilitation courses, detoxification programmes, some divorces etc.

What is the agenda here? (If anyone out there knows the answers, please let me have them). Some of them even outlast their doctors. As Rabelais said "There are many more old drunks than old physicians".

PHYSICIAN HEAL THYSELF

Physicians are more likely to drink to excess than the general population.

A physician who drinks heavily is unlikely to recognize when a patient's drinking is problematic (denial reaction).

The most prevalent misconceptions about alcoholism is that **it is not something that happens to people like us**. This misconception is compounded by the inability to agree on what precisely the term alcoholism means.

THE CAGE QUESTIONNAIRE

This is a quick and easy to remember set of questions to obtain a history of alcoholism.

C Have you ever felt you ought to **CUT DOWN** on your drinking?

A Have people **ANNOYED** you by criticizing your drinking?

G Have you ever felt bad or **GUILTY** about your drinking?

E Have you ever had a drink first thing in the morning (**EYEOPENER**) to steady your nerves or get rid of a hang-over?

Two or more affirmative answers indicates probable alcohol abuse. A "yes" answer to EYEOPENER suggests physical dependence on alcohol.

"Doctor, my husband has an

appointment with you this afternoon. I'm worried about his drinking, but please don't tell him I told you"

All general practitioners have had this phone call. The message is "please confront him about his drinking on my behalf". Try not to take the "bait". You are about to become the football in a family conflict and you are about to take sides. Something one must try not to do. This phone call usually comes when you are already behind schedule and you have a patient in front of you. Nevertheless **it is a very important call** and should not be rushed. Try and discuss the matter fully with her (send your other patient out for some Zen moments) and encourage her to come in with him.

The art of the telephone consultation is really tested with family members of alcoholics. Some GPs have a structured way of conducting telephone consultations and make notes as they go along with problem lists, actions taken, needs etc basis.

NHG standard on problematic alcohol consumption

The NHG standards are guidelines set up by the Dutch College of General Practitioners. A standard consists of: the published standard itself, a summary on a plastic card for day to day reference, a scientific review article, references and a teaching package.

Some items on problematic alcohol consumption in NHG standard are:

Problem drinkers often remain hidden in the broad category of problem patients.

In practice, things are often gradual and the process of management can extend over several consultations that can be divided into phases.

Some of the risk-indicators are

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headache, reflux related complaints, excessive use of or asking for hypnotics and tranquillisers, excessive nicotine use, no or unexpected reactions to treatment.

These unspecific signals may lead to a conjecture or a presumption of problematic alcohol consumption.

It is not always possible to immediately investigate these conjectures.

This **presumption\conjecture** is converted to a **confirmation** (or refutation) by opening a discussion in a direct or indirect manner.

The indirect approach may incorporate

questions, for tactical reasons, at the end of a lifestyle history (e.g. after questions about work, attitudes to stress, exercise, smoking habits, eating habits etc).

It is important to remain in contact with the patient.

The patient may be asked to keep an "alcohol diary" or a journal. Patient charting is carried out for, amongst others, identification of signals, reporting data from third parties and for recording agreements made.

Professions at risk of alcohol abuse

Catering industry workers, personnel in alcohol industry, managers and businessmen, sales people, journalists, workers in entertainment industry, military, and doctors.

NEXT ISSUES ARE :

July 1995
Hypertension

August 1995
Urology

September 1995
The Difficult Patient

October 1995
Immunisation

November 1995
Allergy

December 1995
Practice Management

South African Rural Practice

This section presents a problem orientated approach in the context of rural practice.

The context a remote rural GP or government clinic treating low income or poverty stricken patients. The roads to the clinic are difficult to travel on and may require a four wheel drive at times. There are no facilities for investigations, no X-ray facilities etc. The constraints of poverty and unemployment dictate that medicines that are dispensed are generic or cost effective and may be based on the essential drug list (see **Resource Section**). Most patients that attend the clinic are illiterate and can only speak and understand their own vernacular language.

In no other illness has the doctor to rely so much on his intuition and "sixth" sense as in detecting the early signs of alcoholism. This is especially so in a cross-cultural consultation.

Like many other conditions in this setting, alcoholism often has to be a **conjectural** or **presumptive** diagnosis that remains elusive and infuriatingly unconfirmable.

When frank signs of alcoholism such as malnutrition, loss of pigmentation or excessive pigmentation, tremor, averted gaze or loss of eye contact etc are present, then it is often too late.

The key, therefore, to the management of alcoholism is in its prevention or early detection. Most of us are left using valuable time and resources, at the end of road, trying to clear up the results of years of undetected and unprevented alcohol abuse.

The treatment of alcoholism should be an all embracing community based approach that includes socio-economic upliftment, education and multidisciplinary

nary teamwork. This all sounds wonderful and the words socio-economic, community-based and multidisciplinary roll easily off the tongues of the politically correct. In fact they **are correct** but they often seem like distant theories to those working in primary care.

The resources available for the rehabilitation of alcoholics such as multidisciplinary care or structured alcohol rehabilitation programmes in this context are virtually non-existent.

Some of the great paradoxes of alcoholism are social acceptability of alcohol, the advertising of the alcohol industry, the lack of government legislation and man's quest for release from this troubled life.

Diagnosis

Unless the doctor specifically asks about drinking, most alcoholics will remain anonymous. It sounds simple but this is an illness where one has to make fairly direct enquiries to identify the problem. **Denial is the name of the game.** This is an onion of many layers and tears.

Nevertheless there are ways of asking that are less threatening than others. I ask firstly about their general health or diet then about whether they smoke or not and then about whether they drink or not in as matter-of-fact way as possible. Ask how often and when they eat. Maintaining regular meal times appears to be rare in alcoholics. Acceptance and a non-judgemental approach is, it is said, one of the keys to open communication.

Once the condition and its effects is explained, I have the impression that

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Blacks are more accepting of the diagnosis and its effects on their families and work, than Whites. Whether this is a misconception on my part, I'm not sure.

The problem for Black patients is the unchanging contexts of their lives that they have to return to. It is more difficult for them to change their behaviour patterns without the infrastructural support that is available for more affluent groups.

One of the commonest presentations is with tuberculosis. Others present as assaults, accidents, gastrointestinal problems or septic wounds. Impotence can be a feature that drives the patient to the doctor especially with alcoholism in a diabetic or in a patient on antihypertensives. Hypertension itself is a pickup point for alcoholism.

The drinking problem may present via a wife who presents with multiple somatic complaints and problems that are related to her husband's drinking.

Alcoholism may be the commonest basic reason for admission of Black patients with acute psychosis.

Tobacco smoking and dagga are common associates of alcohol and are "gateway" drugs.

A painful existence

There is a non-specific constellation of symptoms that are a common presentation in this context. They centre around limb pains, joint pains, tiredness, chest pains and headache. There are few physical signs to find. They can be due to a pathological process (fibromyalgia etc) or the symptoms may be Balintian "offers" or an expression of poverty, alcoholism and depression channelled into an authentic or acceptable physical form.

Alcoholism is a serious biopsychosocial disorder that involves problems at all levels. It is a good illustration of systems theory in that alcoholism pervades many aspects of the patient's life, the family, the workplace and the health care providers.

We are trained to treat cirrhosis, alcoholic heart disease and the end-stages of alcoholism. The early exploration of the psychosocial aspects of patient's lives is rarely taught in medical school. What are these early signs? The earliest problems are usually interpersonal and they occur long before any medical complications. They are usually marital disputes, parent-child conflicts and work problems.

Case finding\screening

A high index of suspicion is needed almost as a trigger at the back of one's mind to pick up the early signs as mentioned above.

There used to be a dictum in surgery that went something like "if you think of appendicitis in your diagnosis then take it out". In alcoholism the dictum could be "suspicion is half-way to diagnosis". This has been used to refer to the detection of tuberculosis as well. Several studies suggest that screening especially for early detection can be rewarding. If we do not seek, we will not find.

The self-fulfilling prophecy of alcoholism

Alcoholics often evoke feelings of hostility, disdain and pessimism of outlook in the doctor. The doctor feels helpless and pessimistic and fails to offer appropriate treatment. The patient keeps drinking, and the doctor's beliefs are confirmed.

Some aspects of management

Theories of alcoholism that concentrate **solely on the individual**

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patient have been abandoned. Nearly all treatment programmes involve the families in some way or other. How does one do this in the context of a rural, poorly serviced community?

It may be easier than you think because the relatives have often been concerned about the problems for years but have not known how to intervene. Cultures and families have rules, attitudes and beliefs about the amount and pattern of alcohol use and there may be a conspiracy of silence which involves a complex interplay of denial and guilt, which they may be all too willing to discuss with an interested non-judgemental healer.

Alcohol has a normal social function in almost all cultures. For instance, with Zulus, beer (**utshwala**) was not only an intoxicating drink but was a nourishing food source. Very few ceremonies are complete unless there is beer, eg at weddings, funerals and ceremonies marking the different stages of life. It is used, for instance, as a means of reconciliation after a serious quarrel. Those who have quarrelled come together (**ukuthelelana amanzi**), give a full account of the things that made them angry and then drink beer from the same pot.

(Krige E J. The social system of the Zulus. Pietermaritzburg: Shuter & Shooter, 1950).

Many of these customs have changed as bottle stores with a wide variety of spirits etc are now available. A universal law of nature states that **availability governs use**. Social use has been overtaken by abuse and the "stopper is seldom put back in the bottle". Overcrowding, unemployment, insecurity, frustration, lack of entertainment and sporting facilities all contribute to the problem.

When a doctor asks about alcohol use, the patient almost always assumes that

he is enquiring about alcohol abuse. There follows a game of several defensive strokes with a few glances down the leg side and the odd neat deflection through the slips.

Few doctors have the time to go into much depth in this context.

Nevertheless regard this as one of the greatest challenges of general practice – perhaps the greatest and most difficult.

You have to regard it as a long hard winter campaign (Wellington and Hannibal were good at this sort of thing).

Four points to long winter campaigns:

Firstly the doctor-patient relationship is everything.

Secondly show to the patient how the presenting problem is related to the drinking. "Your fatigue, stomach etc... is contributed to by your drinking". Linking the symptoms to the alcohol avoids blame and confrontation and is understood by the patient and they are less defensive.

Thirdly, try and negotiate follow-ups with family members present.

Fourthly, at one follow up, when you have time, try a genogram – it can be a revealing and therapeutic exercise.

(Reference : When drinking is part of the problem. In McDaniel S, Cambell T L, Seaburn D B. Family-Orientated Primary Care. A Manual for Medical Providers. New York: Springer-Verlag, 1990)

Delirium Tremens

The treatment of delirium tremens extends over three to five days. Try and do as thorough a physical examination as possible in the circumstances. Check for cardiac arrhythmias and car-

WE NEED YOUR HELP

Your comments on this CME Section are welcome :

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We need help to provide an ongoing education that is appropriate to practice. We invite you to make up MCQs or ideas on benchmarks, rural practice etc.

Please return to :

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SA Family Practice
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or Fax to 01213-92387

Part 2

diac failure and pneumonia

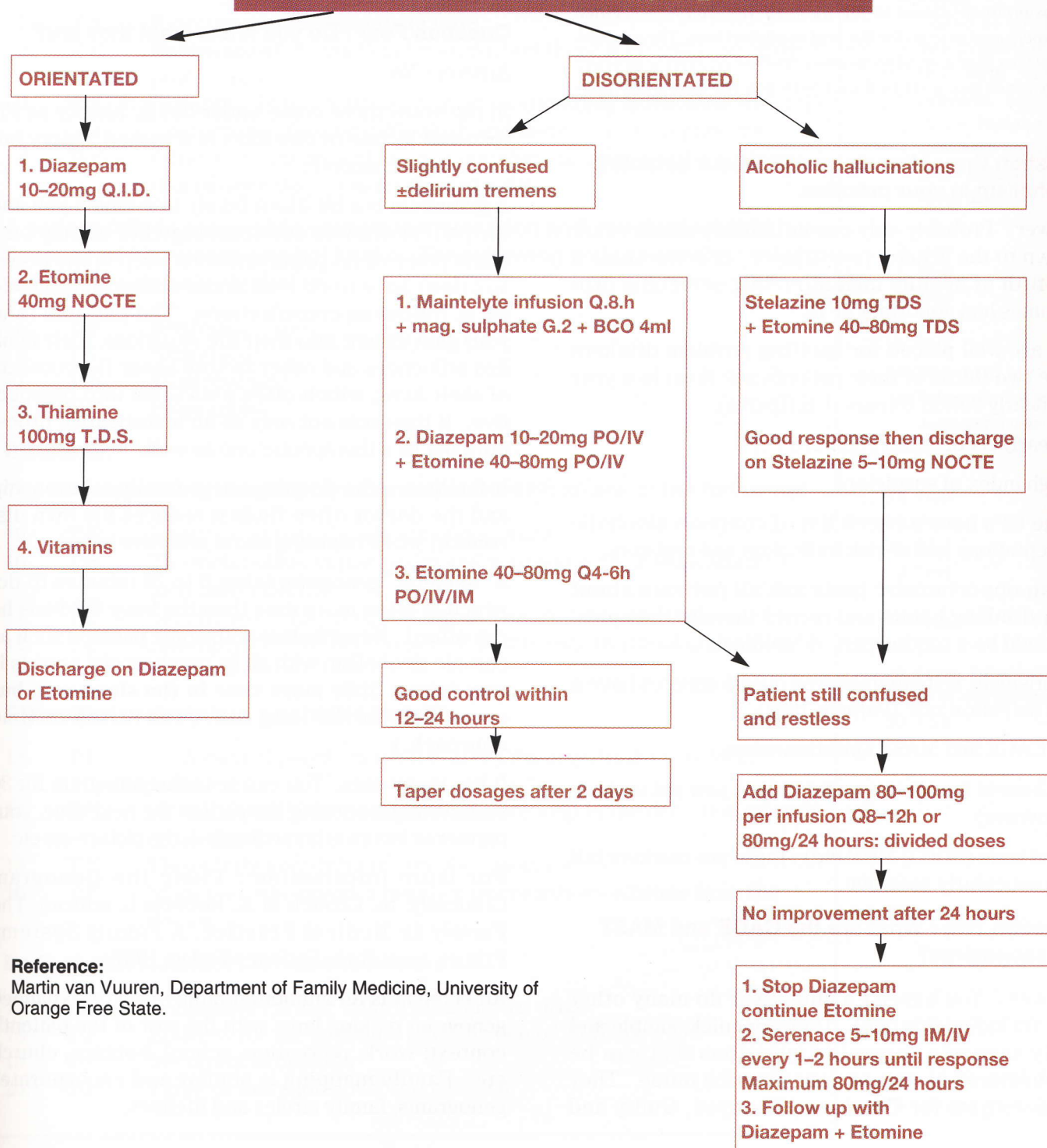
Do a dextrostix.

They often have low potassium and magnesium as well as thiamine and nicoti-

namide deficiencies. Thiamine (vitamin B) in a dose of 100mg per day is used to prevent Werniche's encephalopathy.

The commonest drugs used for the agitation are benzodiazepines: Chlordiazepoxide 25 to 50 mg or diazepam 10 mg every four to six hours or Lorazepam 1-2mg..

Flow diagram for management of alcohol withdrawal symptoms



Reference:

Martin van Vuuren, Department of Family Medicine, University of Orange Free State.

Teaching Old Docs New Tricks

You are a general practitioner in your mid forties and have been in practice for fifteen years in a rural area of South Africa. You have attended some congresses but the work load of your practice and bringing up your family have left you with a need to update your knowledge. You decide to sit one of the postgraduate exams in family medicine. You have written the papers and now go for the oral examinations. The examiner explains that a revolution has occurred in family practice theory since you qualified and asks you the following question:

Question One : How do you go about detecting alcoholism in your practice.

Answer : Probably only one in 10 heavy drinkers are known to the general practitioner. In some studies one-fifth of healthy men attending screening programmes had abnormal LFTs.

GPs are well placed for spotting problem drinkers since two-thirds of their patients see them in a year and nearly 90% in 5 years (UK figures).

For early recognition you need :

A high index of suspicion.

Some GPs have a check list of common alcoholic presentations and at-risk indicators and registers.

On an opportunistic basis ask all patients about their drinking habits and record them in the notes. It should be a routine part of "medicals".

Surprisingly, self-administered questionnaires have a high detection rate (Palmer, 1992).

The CAGE and MAST Questionnaires.

The honest question (useful only if you get an honest answer)

Blood tests (SGGT, MCV etc) : these are markers but not particularly sensitive.

Question Two : What are the CAGE and MAST questionnaires?

Answer : You haven't a clue. (Nor do many other GPs, including this one). They are quick, simple and fairly accurate screening questions that can be administered by you or your practice nurse. They are acronyms for Cut down, Annoyed, Guilty and

Eye-opener, and Michigan Alcohol Screening Test.

Question Three : Do you use genograms or ecomaps in your practice?

Answer : No

Question Four : Do you know what they are?

Answer : No

In my notes these come under family history as FH followed by one or two lines in a rushed history but times have changed :

A genogram is a bit like a family tree which you and the patient draw or construct together usually on a blank piece of A4 paper and then keep in the notes. You don't have to do it all at one sitting and can add on at following consultations. The patients (and you) gain insight into their life situations, their families influences and other factors about the contexts of their lives, which often puts them into perspective. It thus acts not only as an investigative procedure but as a therapeutic one as well.

It facilitates the doctor-patient-family relationship and the doctor often finds it reduces his own discomfort when inquiring about sensitive issues.

A "skeletal" genogram takes 5 to 20 minutes to do, which is often more time than the busy GP feels he can afford. Nevertheless with some patients such as chronic alcoholism with all its psychosocial aspects **it may take a little more time in the short run, but saves time in the long run. (The stitch-in-time approach.)**

It has many uses. You can scan the genogram for 30 seconds before seeing the patient the next time, your partner or locum is immediately in the picture etc etc.

For more information : Using the Genogram Clinically. In: Crouch M A, Roberts L. editors. The Family In Medical Practice. A Family Systems Primer. New York: Springer-Verlag, 1987.

An ecomap is an annotated family tree or expanded genogram making links with the rest of the patient's context, work, recreation, school, hobbies, church etc. Family mapping is similar and incorporates genograms, family circles and lifelines.

Multiple choice questions are intended to cover the factual clinical areas of general practice. They also test reasoning ability and understanding of basic facts, principles and concepts. The questions are of the true/false type. In some examinations marks are deducted for incorrect answers or failure to answer while in others marks are not deducted for incorrect answers. These questions are not set in an "examining mode" but rather in an "education mode".

Circle T for True or F for False.

The foetal alcohol syndrome

1. T/F It occurs more frequently in boys.
2. T/F Babies are often small and preterm and there is no catch-up growth postnatally.
3. T/F Irritability in the newborn period is commonly associated with failure to thrive, feeding difficulties and disruptive sleep patterns.
4. T/F Clinical effects are only seen when there is a daily maternal ingestion of over 80ml (4 spirit drinks) a day.

A patient fails to respond to your drug medication and you suspect that it is because of his excess alcohol intake. The following drugs have their effect reduced by chronic alcohol use.

5. T/F Benzodiazepines
6. T/F Rifampicin
7. T/F Meprobamate
8. T/F Propranolol

Disulfiram

The GP prescribing disulfiram (antabuse) should be aware of the following:

9. T/F It may potentiate the effects of diazepam
10. T/F The metabolism of phenytoin and warfarin is retarded leading to increased effects.
11. T/F Simultaneous use of disulfiram and metronidazole is safe.
12. T/F Amitriptylline has been reported to intensify the alcohol-disulfiram reaction.

Difficulties in detecting alcoholics include

13. T/F Professional people in competitive jobs may drink away from home.
14. T/F At-risk check lists and registers do not help in the detection of early alcoholism.
15. T/F The elderly may drink in complete isolation.
16. T/F Many patients expect a negative or censorious attitude from the doctor.

Early at-risk indicators for alcoholism are :

17. T/F Congestive cardiac failure of unknown origin
18. T/F Epilepsy for the first time after the age of 25 years
19. T/F Recurrent bronchitis
20. T/F Three or more jobs over the last year

Answers

1. False. It occurs more frequently in girls which may be due to the fact that it is more lethal to the male foetus who dies in utero.
2. True.
3. True
4. False. At maternal intake of 40 ml per day (2 spirit drinks) the birth size is reduced by 160g. Minor facial anomalies have been noted when 4-6 drinks were taken daily.
5. True
6. True
7. True
8. True
9. True
10. True
11. False. It may lead to acute psychosis.
12. True
13. True
14. False
15. True
16. True
17. True
18. True
19. False. Tuberculosis is an at-risk indicator
20. True

BOOKS THAT SOUTH AFRICAN GPs FIND MOST USEFUL TO KEEP IN THEIR ROOMS

- The South African Family Practice Manual, published by South African Family Practice.
- The Merk Manual of Diagnosis and Therapy. 16th ed. Rahway, New Jersey : Merk Research Laboratories. 1992.
- Current Medical Diagnosis & Treatment. Lange Medical Publications/Prentice Hall. published yearly.
- The Paediatric Handbook. edited by H de V Heese. Cape Town : Oxford University Press. 1992.
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- The Diagnosis and Management of Sexually Transmitted Diseases. ed. R Ballard. available from STD Research Unit, SAIMR, Box 1038, Johannesburg 2000.
- South African Medicines Formulary. 2nd ed. MASA Publications. 1991.
- MIMS Desk Reference. Mims/Times Media Ltd. published yearly.
- ECG Made Easy by Hampton J R, Edinburgh : Churchill-Livingstone, 1992.
- Pharmacotherapy by C P Venter 2nd ed. Pretoria: MC Publishers, 1993.
- Antibiotic Guidelines by Koornhof H J, Liebowitz L D. Pretoria : J L van Schaik, 1991.
- Oxford Handbook of Clinical Specialities by Collier J A B, Longmore J M, Harvey J H. 3rd ed. Oxford: Oxford University Press, 1991.
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