to study the relaxation effect systematically in consecutive patients with hypertension. To my surprise, none of them refused to participate. Whatever little scepticism they may have had at this point completely disappeared by the time they were well into the programme, and they often remarked, "I didn't realise I was so tense until I started this relaxation." Some felt even relieved that at last the doctors were paying attention to something they thought was necessary all along.

I used a biofeedback instrument, measuring and displaying by means of sound signals galvanic skin resistance (GSR) as an aid to teaching relaxation. Among other things, GSR is dependent on the sweat gland activity. As the patient relaxes GSR increases and is more difficult to control than when it stops. When that happens the sensitivity of the instrument is turned up, the sound is increased, and the patient has to relax even deeper before the sound stops once again. His task is made more and more difficult as he becomes better and better at relaxing. One of the snags I found soon after I started the study was that deep relaxation was very effective in sending people to sleep and some of the men started to snore within five to ten minutes. This may be a good thing for most but I wanted patients to control their blood pressure while still awake. The only way I could control this was by introducing some mental activity which kept them alert and yet profoundly relaxed.

A simple meditation fitted the bill but I was not confident enough at this time to mention the word "meditation" to all the patients. I used the principles of meditation—which focuses the attention on a word or an object or idea, or even a piece of music. Instead of using conventional mantra, I often asked them to repeat simple words like "relaxed" with each expiration. The results in a series of 30 patients were impressive and were replicated in a randomised controlled trial with 34 patients.⁴ The average reductions in systolic and diastolic pressure were 26 and 15 mm Hg respectively in the relaxation-meditation group and 10 and 5 mm Hg respectively in the control group, which was exposed to a comparable amount of medical attention and blood pressure measurements. If patients can be persuaded to practise relaxation on a regular basis and integrate relaxation in their daily lives, blood pressure reduction can be maintained for longer terms.⁵ In other experiments patients with hypertension managed experimental stress much better by showing a smaller rise in blood pressure and a more rapid recovery after stress.⁶ Other studies have shown that during the short term serum cholesterol seems to be reduced and smokers can be helped to stop or reduce smoking.^{7,8}

Of course it is relatively easier to measure blood pressure or serum cholesterol and count the number of cigarettes smoked, but it is harder to measure any improvement in the quality of life. If patients are happy without their sleeping pills, however, I feel that it is an improvement. You'll need proof by a sleep laboratory. It is encouraging when a patient tells me, "I started my relaxation last night when I could not sleep. I relaxed my right leg and I can't remember going beyond my left knee! I must have fallen asleep then", or, "After I started relaxation, my anger—whatever the reason—used to last hours and sometimes two or three days. Now I can get over my anger very quickly, sometimes within minutes." Once a wife of a hypertensive man came and told me, "I don't know what your advice to resign so that he could sleep without losing face. Of course this would mean giving up the big house he had just bought and the children would have to leave the private school, and it would be such a disappointment to his wife. He agreed to give relaxation-meditation a try. He not only remained the

manager but also stopped all his medications and is still off them eight years later. His comments on how meditation helped him were, "Before I learned the technique, I used to feel very apprehensive because I had so many problems to attend to and they all came to my mind at once. Meditation has taught me to concentrate on one problem at a time with complete exclusion of thoughts about the other problems, with the result that I am able to cope with them."

Of course there are plenty of problems still to be solved and better health methods to be evaluated but from the experience gathered so far, I feel convinced that the proper way to help the distressed and their relatives, to promote health and general wellbeing, and to prevent diseases of the mind, is to equip individuals with appropriate knowledge, adequate coping skills, and to influence their attitudes in such a way as to help them solve their own health problems. We can't bully people into healthy behaviour, but we can help them to develop their own utmost potential. I have treated approximately 300 patients who are either hypertensive or at increased risk of having coronary heart disease and there has been a not a single incident of unpleasant side effects. In view of the proved benefits, this is really gratifying.

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WANT OF APPETITE.

THIS may proceed from a foul stomach; indigestion; the want of free air and exercise; grief; fear; anxiety; or any of the depriving passions; excessive heat; the use of strong broths, fat meats, or any thing that pall the appetite; or hard digestion; the immediate use of strong liquors, tea, tobacco, opium, &c.

The patient ought, if possible, to make choice of an open dry air; to take exercise daily on foot or in a carriage; to ride horses; and to avoid all immoderate thought. He should use a diet of easy digestion; and should avoid excessive heat and great fatigue.

It want of appetite proceeds from errors in diet, or any other part of the patient's regimen, it ought to be changed. If nausea and retchings (few that the stomach is loaded with crudities, a vomit will be of service. After this a gentle purge or two of rhubarb, or of any of the bitter purging salts, may be taken. The patient ought next to use food of the stomach, but not to eat in a hurry. Though gentle evacuations be necessary, yet frequent purges and vomits are to be avoided, as they weaken the stomach, and hurt digestion.

EXERCISE is an excellent medicine in most cases of indigestion, weakness of the stomach, or want of appetite. It may be taken in the form of a walk, or it may be taken twice or three times a day in a glass of wine or water. It may likewise be mixed with the tincture of the bark, one drachm of the former to an ounce of the latter, and two spoonfuls of it taken in wine or water, as above.

THE chalybeate waters, if drunk in moderation, are generally of considerable service in this case. The salt water has likewise good effects; but it must not be used too freely. The waters of Harrogate, Scarborough, Moffat, and most other Spas in Britain, may be used with advantage. We would advise all who are afflicted with indigestion and want of appetite, to repair to these places of public recreation. The very change of air, and the cheerful company, will be of service; not to mention the exercise, dilution, and amusements, &c. (Bucchan's Domestic Medicine, 1786.)

Emergencies in the Home

Electrocution, drowning, and burns

A FRASER-DARLING

The three emergencies of electrocution, drowning, and burns do not often occur in the course of a general practitioner's work. It is unlikely that he will be present until after the incident has taken place. Nevertheless, a doctor trained in emergency procedures can do much to ensure the safety of the victims, and bring order to the situation and reassurance to the panic-stricken bystanders. An increasing number of general practitioners are now members of immediate care schemes and are equipped with resuscitation equipment for intubation and assisted respiration as well as equipped to do transfusions, which may be life saving on these occasions.

Electrocution

- The aims of the emergency management of electrocution are:
- (1) To ensure the safety of the victim and rescuers.
  - (2) To maintain respiration and cardiac functions.
  - (3) To provide first-aid treatment of associated injuries, particularly fractures and burns.

The effect of an electric current at the normal British domestic voltage passing through the body depends on the value of the current flow, the time it takes to flow, and its pathway through the body. Concentrations of electrical energy at the points of contact will cause not only surface burns but also deep tissue damage. Current passing from hand to foot may affect the heart, while current passing through the brain may inhibit the respiratory centre. The patient may be comatose, pulseless, and apnoeic.

PROCEDURE

- The doctor should take the following steps.
- (1) Switch off the current and if possible disconnect any apparatus. It is essential to insulate oneself by using a stick, rubber gloves, or a mat to move the victim away from the source of electricity. On no account use your bare hands, and avoid grabbing the patient by the armpits, which may be moist and therefore better conductors. Do not assume that because the current is switched off that you are safe. In these days of do-it-yourself electrical work there is always the danger of faulty wiring. If the victim is near a high-voltage cable or an electrified rail do not approach him until an engineer certifies that the current has been switched off, or you may be the next victim.
  - (2) Assess the level of consciousness. (a) If the person is conscious and speaking, treat any concomitant injuries—that is, burns or fractures from falls. (b) If unconscious, check the respiration, and if the person is breathing turn him to the "recovery" position; if not breathing, start artificial respiration.
  - (3) If there is no in-junction after 16 inflations check the carotid pulse, and if this is absent give a sharp blow to the left side of the lower edge of the sternum. If there is no response then start external

cardiac massage and artificial respiration. Doctors with resuscitation equipment should intubate the patient and continue artificial respiration using a Laerdal or other bag.

Admission to hospital for any case of electrocution is mandatory because cardiorespiratory complications may occur subsequently. Assessing all burns is also essential as they may be deeper than at first apparent, and depending on the extent of the burn they may require excision and grafting.

Drowning

For the practical management of a drowned patient it matters not whether the person has drowned in sea water or fresh water. Some people suffer respiratory paralysis associated with laryngeal spasm before water enters the lungs, and these respond well to resuscitation. The aim of emergency management is to restore respiratory and cardiac functions.

PROCEDURE

As soon as the person's head is above water artificial respiration by the mouth-to-mouth method should be started if possible and certainly as soon as he has been brought ashore or into a boat. There is a *literally* no second to be wasted. This should be continued for at least 15 minutes before attending to any other measures such as loosening clothes and checking the carotid pulse. If the person recovers then continue assisted respiration, timing it to occur with his own breathing. It is important not to give pure oxygen if there is spontaneous respiration. The patient should then be placed in the "recovery" position to avoid asphyxia from inhaled vomit. Victims of drowning may have gulped large quantities of water which they are liable to regurgitate. The patient should be watched carefully because respiratory failure may recur requiring further resuscitation. If the carotid pulse is absent then external cardiac massage should be given. Again the patient should be intubated if the equipment is to hand. It is important to remember that the person will be suffering from acute hypothermia, and this may be the main condition requiring treatment. It is essential to rewarm the person as rapidly as possible.

Burns

The aims of immediate care in injuries due to burning from whatever cause are:

- (1) To prevent further damage by cooling.
- (2) To prevent or reduce the effects of hypovolaemic shock.
- (3) To prevent infection.
- (4) To prevent further damage from mechanical or chemical trauma.
- (5) To ensure early and rapid transport to hospital for severely burned patients.

The majority of burning accidents at home are due to scalds from boiling water in kettles or saucepans and to clothes catching fire. Very young and very old people are most at risk and least able to withstand the effects of burning.

It is important to distinguish managing the burning accident from managing the resulting injuries.

THE BURNING INCIDENT

Though a doctor is no more likely to be present when a burning incident occurs than any other person he must know what to do. **Flame burns**—In the event of the victim being found with his clothes on fire, the flames should be smothered as rapidly as possible with anything to hand—for example, a rug or blanket. Once the flames have been smothered it is important to soak the overlying clothes in cold water for at least 10 minutes. It is important to realise that though the flames may have been extinguished clothes may still be smouldering and therefore will continue to "cook" underlying tissue. It is essential to ensure rapid cooling to reduce the degree of injury, especially for deep burns. The rapid cooling is soothing to the patient and research has confirmed that this reduces the degree and depth of the injury without adversely affecting the definitive management in hospital. Clothing which is not stuck to the skin should be removed as it retains heat.

Scalding incidents—Immediate soaking in cold water is the best action, immediately followed by removing clothing that overlies the burnt area.

Chemical injuries—Immediate irrigation with cold water of the affected area for not less than 10 minutes is essential along with removing contaminated clothing.

ASSESSING BURNS

The "rule of nines" is the best guide for estimating the extent of burning. Burns of more than 15% of body surface in adults and 10% of body surface in children will require transfusion owing to the severe loss of circulating plasma into the burnt tissues. The patient's outstretched hand is equivalent to 1% of the body surface and any burns more extensive than this will require hospital treatment, as will full-thickness skin burns. It is the size of the area of skin burnt rather than the thickness that determines the seriousness of the injury.

The "rule of nine" for estimating the area of burns

FIRST-AID MANAGEMENT OF BURNS

Once the patient is safe from further burning then wrap all burned areas in a clean sheet. If the head or face is burnt a pillowcase may be used with holes cut for the eyes, nose, and mouth. The patient should be kept just warm with a blanket. Do not apply any medicaments whatsoever to the burnt area. If there is severe pain a small dose of intravenous morphine may be given, but pain is not usually a feature

of severe burns especially if they are full-thickness burns. Do not give fluids by mouth unless the burns are more than 10% of body surface and there is likely to be a delay before admission to hospital. In these circumstances give small, frequent drinks of water. Children may complain of severe thirst and must not be allowed to gulp fluids as this may induce vomiting with further loss of fluid and electrolytes. Doctors in immediate care schemes who carry volume-expanding fluids (Hartmann's or dextrose-saline or plasma) should set up an intravenous drip for patients with burns of more than 10% body surface.

Burns the size of a postage stamp or larger that are caused by electricity, molten metals, or chemicals require hospital treatment as they are apt to be full thickness and may require grafting. Finally, transport a severely burned patient as soon as possible to a suitable centre equipped to deal with his injuries. Burnt patients travel best soon after the injury before hypovolaemic shock occurs.

OTHER TYPES OF BURNING INJURY

Occasionally a person may swallow a corrosive chemical causing severe burning of the alimentary tract. This requires urgent admission to hospital with instructions that the person should not, if possible, vomit. Occasionally toxic gases may cause burning and irritation of the respiratory tract and the subsequent development of respiratory obstruction should be borne in mind.

NON-ACCIDENTAL INJURY

If the doctor is asked to see a child who has cigarette burns on his body, this should alert him immediately to the possibility of physical abuse, and he should take appropriate action to protect his patient.

The purpose of this article is to guide the doctor who is called to an accident caused by electrocution, drowning, or burning on how to provide immediate and essential care to the victim before admission to hospital.

I would like to thank Mr N Pyrgos, consultant surgeon, A and E Department, Lincoln County Hospital, for advice and criticism in preparing this article.

NEXT to milk, we would recommend good light bread. Bread may be given to a child as soon as it flows an inclination to chew; and it may at times be allowed as much plain bread as it will eat. The very chewing of bread will promote the cutting of the teeth, and the discharge of *saliva*, while, by mixing with the milk in the stomach, it will afford an excellent nourishment. Children discover an early inclination to chew whatever is put into their hands. Parents observe the inclination, but generally mistake the object. Instead of giving the child something which may at once exercise its gums and afford it nourishment, they commonly put into its hands a piece of hard meat, or impenetrable coral. A crumb of bread is the best pumuck. It not only answers the purpose better than any thing else, but has the additional property of nourishing the child and carrying the *saliva* down to the stomach, which is too valuable a liquor to be lost.

No piece of food induces the health more than the modern custom of lying a bed two hours in a morning. This is the general practice in great towns. The inhabitants of cities seldom rise before eight or nine o'clock, but the morning is undoubtedly the best time for exercise, while the stomach is empty, and the body refreshed with sleep. Before the morning air braces and strengthens the nerves, and, in some measure, answers the purpose of a cold bath. Let any one who has been accustomed to be a bed till eight or nine o'clock, rise by fix or seven, spend a couple of hours in walking, riding, or any active diversion without doors, and he will find his spirits cheerful and serene through the day, his appetite keen, and his body braced and strengthened. Custom looses renders early rising agreeable, and nothing contributes more to the preservation of health. (Bucchan's Domestic Medicine, 1786.)

Pitfalls in Practice

Finding a practice

IV: What a contract should include

JOHN OLDROYD

This article is based on an audiovisual presentation made for vocational trainees in general practice by the MSD Foundation.

Last week Dr Ian Keen received a contract from his future partners. It had been drawn up by a solicitor known to the two senior partners. A critical reading of the contract showed that it favoured the senior partners and included clauses that could make life very difficult for Dr Keen in the future. Here are some suggestions of what a contract should include.

What a contract should include

Although there is no suitable model agreement that could cover the individual circumstances of every partnership, there are certain items that every agreement should include.

- (1) Name and title of the firm
- (2) Duration of the partnership
- (3) Capital of the partnership
- (4) Premises of the partnership
- (5) Expenses of the partnership
- (6) Income of the partnership
- (7) Division of receipts
- (8) Provision of tax liability
- (9) Holidays, study leave, illness causing absence
- (10) Conditions of expulsion of a partner
- (11) Restrictive covenants
- (12) Mandatory membership of defence society or for sickness benefit insurance
- (13) Arbitration procedures
- (14) Superannuation matters.

INCOME

What is a reasonable income for an incoming partner to expect? No hard and fast rule can be laid down. Circumstances of both the individual practice income and the local and national market in medical graduates will determine this. The wine will look at the advertisements of current vacancies. But don't be misled by high gross incomes advertised. Net incomes will be reduced by the practice expenses, and this is often a very different figure. Equally, parity will be largely dependent on the market and local circumstances.

It is usual to consider all receipts as the property of the

partnership, but some practices exclude monies from outside appointments earned by a partner. This could be justified only if the work is performed when the partner has no responsibility to the practice—that is, on his half-day or weekend off. Special NHS allowances accruing to individual partners, such as seniority payments, vocational training payments, and post-graduate training allowance, could, however, properly be excluded from the practice pool. The case of a trainee's allowance will depend on the practice arrangements.

WORK LOAD

It is unusual to describe work load in the agreement. Yet this can be done in general terms, and no agreement should be signed unless the junior partner can assure himself that the distribution of work is equitable in terms of his remuneration and expectations.

PREMISES

Premises are a frequent bone of contention in partnerships. Where these are rented it is usually advisable for the partnership as a whole to hold the lease rather than one partner. Where, however, the premises are owned by one partner, consideration should be given to the rights of the continuing partners in the event of the retirement or death of the owner.

ASSENTS

Increasingly partners are involving themselves in medico-political and NHS work at both national and local level, resulting in their absence from the practice. Mutual agreement will be necessary to define how much absence should be allowed without recompense to the partners continuing the practice. It seems reasonable, and is customary, to allow such absence for short periods without recompense because there is some intangible benefit to the practice for this necessary work. Legacies and gifts should be specifically dealt with in the agreement.

Further information

General guidance on partnership contracts is available for BMA members by asking the BMA Personal Services Bureau for their invaluable leaflet, *Medical Partnerships Under the National Health Service*, which is free of charge from the Bureau at Tavistock House, Tavistock Square, London WC1H 9JT.

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