therapy. The rescuer should not explore the victim's pharynx with fingers or instruments because this can be fraught with anatomical deception. A small child may be held upside down and gently back slapped.

If these measures bring no relief the victim will be in panic if still conscious and the rescuer will be in a state of high alert. Nevertheless, thought and observation are the priorities. Is this food impaction or something else? If the victim is becoming cyanosed this means that his circulation is brisk but hypoxic, indicating acute respiratory obstruction. If he is pallid this indicates circulatory failure. Frank cyanosis warrants further attempts at food disimpaction, while pallor suggests that either the cause of the catastrophe is a myocardial ischaemia or that the original choke is passing into hypoxic ventricular fibrillation. A pale victim should be placed on the floor.

The Heimlich manoeuvre is usually demonstrated in the standing position, the rescuer standing behind the victim. The victim's knees may, however, buckle beneath him and he may fall through the arms of the rescuer. For this reason the sitting manoeuvre is more practical, when the rescuer leans over the back of the chair. In either case the rescuer clenches one wrist with the other hand in the victim's epigastrium and thrusts sharply inwards and upwards several times if necessary in the hope of blowing out the impaction. The epigastric thrust may also invoke a regurgitation from the stomach up the oesophagus which may assist in disimpaction. On the other hand, a regurgitation may compound the food problem—and could create an aspiration hazard in someone with a myocardial infarction.

Whatever the original cause of the disaster, unless he has revived, the victim will now be passing into unconsciousness and a cardiopulmonary arrest is imminent or in progress. In either case the victim should be placed supine on the floor. The head should be firmly hyperextended and vigorous mouth to mouth ventilation attempted while lifting up the jaw. If ventilation is not achieved this is further evidence of food impaction and an enthusiastic probing by the rescuer's fingers is now justified in an attempt to identify and remove the object. If ventilation is achieved, either a food impaction has resolved or it was never present. In either case, standard cardiopulmonary resuscitation should be instituted if ventilation alone does not resolve the problem.

Failure to ventilate supposes either inadequate manipulation of the head and chin or continued obstruction of the airway from food impaction. As the victim is now lying on a hard floor surface in the supine position I recommend closed cardiac compressions, say 15 compressions, followed by a further digital exploration of mouth and pharynx. As well as creating blood circulation the chest compressions act like a Heimlich manoeuvre. If a further attempt at mouth to mouth ventilation proves unsuccessful the victim's airway must now be entered as a matter of life or death: circulatory arrest is likely so that there is nothing to lose.

The operation required is cricothyrotomy (laryngotomy), not tracheotomy. Maintain the hyperextended head position and place a cushion under the shoulders. The blade of the sharpest available knife is scraped horizontally down the midline of the thyroid cartilage from the laryngeal eminence (Adam's apple) down into the groove between it and the cricoid cartilage. (Practise this with the blunt edge on yourself.) This manoeuvre is, to my mind, the easiest way of finding the cricothyroid groove. An alternative is to use a fingernail instead of a knife.³ Keeping the head extended and the skin taut, saw briskly back and forth over the midline so as to limit the incision to below 2 cm if possible.

(If you doubt the sense of vigour that I suggest, try incising the skin of an uncooked chicken with a table knife.) If the cricothyroid membrane has not been cut with the skin incision, it may now be entered by a vertical thrust (vertical to the floor but in the horizontal plane of the neck) with a sharp pointed knife. Either way, an entry into the cricothyroid area should be made with the knife which is then rotated through a right angle in order to open up the space.

Little or no bleeding indicates circulatory arrest and facilitates mouth to neck (laryngostomy) ventilation after removal of the knife. Closed cardiac compression will be needed to complement the mouth to neck ventilation. With the return of spontaneous circulation and respiration some means will be needed to maintain the patency of the laryngostomy—a knife, drinking straws, or the barrel of a retractable ballpoint pen. To minimise bleeding into the trachea, the victim should be placed in the lateral recovery position on a bed or settee tilted to a 30° head down inclination. Close supervision will be needed until the patient reaches hospital. An ambulance will provide oxygen, which may be offered by a conventional facemask to the laryngostomy, but its continued patency is of paramount importance.

At hospital the obstruction can be removed by direct laryngoscopy and, in most cases, endotracheal intubation can be performed and the laryngeal opening closed.

T HILARY HOWELLS

Director,
Department of Anaesthesia,
Royal Free Hospital,
London NW3 2QG

- 1 Heimlich HJ. A lifesaving manoeuvre to prevent food choking. *JAMA* 1975;234:398-401.
- 2 Haugen RK. The cafe coronary. Sudden death in restaurants. *JAMA* 1963;186:142-3.
- 3 Wright D. Tracheostomy and laryngotomy. In: Robb C, Smith R, eds. *Operative surgery*. 3rd ed. London: Butterworths, 1976:246.

Prophylaxis against unipolar depression

Lithium has an established place in the prophylactic treatment of bipolar affective disorders but not in the treatment of unipolar disorders. Its efficacy has recently been examined in a Medical Research Council multicentre trial.¹

Unipolar depression is a non-specific term with no agreement about the types of affective disorder that it includes. Sometimes it is used to mean any depression—including minor or neurotic depressions—occurring in patients who do not have a bipolar disorder. On other occasions it is used to mean only serious or psychotic depressions, and on still others to mean only recurrent depression. Recently Boyd and Weissman have proposed that the term non-bipolar depression would overcome this confusion.² In America that would correspond to the diagnosis of major depressive disorder as categorised by the American Psychiatric Association's diagnostic system DSM III.

Such depressions are common. Weissman and Myers have estimated that the point prevalence for non-bipolar depression is 4.3% (3.38% in men, 5.2% in women) with a life time expectation of illness of around 20%.³ Figures for prevalence vary considerably from study to study, however, and it is extremely difficult to determine how much this is due to differences in study design or definitions and how much to true differences in prevalence.

One consistent finding is that recent studies have tended to show higher prevalence figures—indicating that affective

disorders may be getting more common. For example, Hagnel and colleagues interviewed the population of Lundby in southern Sweden on three occasions between 1947 and 1972.⁴ Their findings suggest that minor and moderately severe depressive episodes may be getting more frequent while the incidence of severe melancholic depression remains stable.

Undoubtedly, therefore, non-bipolar depression is an important contemporary health problem—yet relatively little is known about its course and outcome. Most studies have followed up only inpatient cohorts. The picture is complicated because such studies have straddled several different treatment eras—electroconvulsive therapy from 1945 onwards, phenothiazines from 1955, tricyclic antidepressants from 1960, and lithium from 1965 onwards. Estimates of the proportion of patients who will have only a single episode of depressive illness with no recurrence vary greatly. Angst and his colleagues in a one to 12 year follow up found that only 5% of their unipolar group and 0.5% of their bipolar group had had a single episode.⁵ At the other extreme, Lundquist in a 10 to 13 year follow up period found that 61% of his unipolar and 55% of his bipolar patients had had only a single episode.⁶ Most studies report figures between these two extremes, with an average of between 20% and 40% of patients admitted to hospital for unipolar depression and a similar proportion of patients with bipolar depression seeming likely to have only one episode. Higher relapse rates have been reported consistently since the introduction of effective treatment, but there is no evidence that these two facts are causally related. Possibly closer follow up and more regular medical contact have increased the detection of relapse. Possibly, too, the lengthy period of admission of six months or more that occurred before the introduction of electroconvulsive therapy and tricyclic drugs incorporated several episodes rather than a single episode. By contrast, there is reasonable agreement on mortality: around 15% of a cohort of patients with unipolar depression will be dead after 10 years.⁷ Suicides and accidents account for almost all the excess mortality.

Unipolar depression is, then, a disorder affecting over 4% of the general population at any one time; one in five of the population will suffer from it at some time during their life, and most of those sufferers whose illnesses bring them to the attention of psychiatrists will have repeated rather than single episodes. Clearly, before any drug is recommended for what may be very long term use in such a common disorder its effectiveness must be fully established and its benefits to the patient must clearly be shown to outweigh the risk of adverse effects.

There is no general agreement about the prophylactic use of lithium in recurrent non-bipolar depressions. Prien and Schou reviewed the same range of publications in 1979, coming to different conclusions.^{8,9} Combining results from nine studies on lithium and five on antidepressants, Schou estimated that prophylactic treatment with lithium reduced the mean percentage of patients falling ill during the first year from 67% to 22% and that prophylactic antidepressants reduced the relapse rate from 67% to 35%.⁹ Prien was more cautious: he pointed out that there was some evidence that lithium was an effective prophylactic but that the results were not as dramatic as in bipolar illness.⁸ He also commented that the American Food and Drug Administration Advisory Committee and the American Psychiatric Association Task Force on Lithium have concluded that there was insufficient evidence to recommend the use of lithium for long term maintenance treatment of unipolar illness. The results of Prien's latest trial await full publication, but he has

reported that lithium was not significantly different from placebo in preventing relapse, whereas imipramine and the imipramine-lithium combination were (Prién 1983, unpublished observations).

Peselow and colleagues have recently reported that the prophylactic effect of lithium was not striking.¹⁰ Their criteria for relapse were stricter than in most studies in that not only admission to hospital but also the appearance of symptoms of major depressive illness requiring additional drug treatment counted as a relapse. Only 36% of patients with unipolar depression remained free from relapse over two years compared with 49% for patients with bipolar disease and 31% for those who were cyclothymic. They concluded that lithium may not decrease the frequency but may decrease the amplitude of depressive episodes.

The Medical Research Council's latest multicentre trial found that lithium was as effective as amitriptyline.¹ The preliminary results of this study had already been published,¹¹ and this final report three years later provides a fuller discussion of relapse rates and presents details of side effects. The trial set out to compare the efficacy of lithium, amitriptyline, and placebo in terms of frequency of relapse over three years among patients who had recovered from a unipolar depressive illness. Patients were between 25 and 65 years old, of both sexes, with a diagnosis of primary depressive illness of at least one month's duration and with no history of mania or physical disability sufficient to preclude treatment with lithium or amitriptyline. The patients met the criteria of Spitzer *et al* for major depressive disorder.¹²

Patients who had had three or more episodes of depression including the index episode formed the bulk of the study and were allocated at random to lithium or amitriptyline (group 1). In a second, smaller study (group 2) patients who had had either one or two episodes including the index episode were randomly allocated to lithium, amitriptyline, or placebo. The preliminary findings have already been heavily criticised.¹³ Despite 95 investigators working in nine centres over four and a half years only 106 patients were recruited. Most patients came from Edinburgh and were probably reasonably representative of unipolar depressives treated by psychiatrists in that centre. Some centres recruited only one or two patients over the whole study period and it is impossible to know what selection factors may have been operating to produce such a low recruitment rate. Another important problem was that, though the sample was stratified for age before random allocation, it was not stratified for number of previous episodes, and substantial differences developed between the lithium and amitriptyline groups: three times as many patients who went on to be treated by lithium had had six or more previous depressive episodes. In the patients treated with either lithium or amitriptyline the results confirm previous work indicating that lithium and a tricyclic antidepressant are equally potent at preventing relapse—but nevertheless most patients still relapsed. Sixty nine per cent of patients had had a further episode before the end of the three year follow up period.

The study of patients in group 2 (random allocation of treatment) is an example of the type II error, with not enough patients being entered to have a chance of showing differences between the two active treatments unless such a difference was so large as to have been clinically obvious already. The relapse rate was again high—61% of the patients had had a subsequent episode at the end of three years.

The morbidity from side effects from lithium and amitriptyline was roughly equal. A gain in weight was the most

frequent side effect with amitriptyline. More patients on lithium had multiple side effects.

What can we learn from this study? For patients with recurrent non-bipolar depression (at least three episodes in five years) lithium and amitriptyline provide some prophylaxis—but despite carefully controlled and monitored treatment most patients will still relapse. Probably in everyday clinical practice relapse rates would be much higher. Despite this positive finding further studies are needed. Both drugs have clinically important side effects while providing very imperfect protection against relapse. The choice between lithium or an antidepressant should, therefore, depend on other factors such as tolerance by the patient and long term toxicity. Though lithium has some advantages—it does not produce brief hypomanic attacks and blood concentrations can be easily monitored—many will conclude that its tendency to produce hypothyroidism, polyuria, and perhaps renal damage would make it a drug of second choice. Which-ever prophylactic drug is used the evidence from this study is that it should be continued for at least three years.

The much more common clinical presentation is of a patient who has had only one or two depressive episodes. Should he or she continue to receive antidepressants and if so for how long? Mindham's study and subsequent work have shown clear benefit from antidepressant medication for at least six months.¹⁴ The case for continuing drugs for longer is still not clear. We do not know whether patients who get better with newer, non-tricyclic antidepressants should continue with them or be transferred to a well tried, proven, and much cheaper tricyclic drug for prophylaxis. Coppen *et al* suggested that maprotiline and mianserin are not as effective as lithium in preventing relapse.^{15 16}

The Medical Research Council has a distinguished record of promoting well designed and important trials in the management of affective disorders. Further trials are clearly needed to expand and continue the group 2 study reported here. We need a large study of unipolar depression, in both general practice and general psychiatric practice, looking at the clinical course, response to prophylactic treatment, and the level of morbidity both from the illness and from the treatment over a three to five year period.

Lithium, a tricyclic, and perhaps one or two of the newer non-tricyclic antidepressants should be compared. In all the studies so far patients have been withdrawn when they relapsed—but the real clinical world is not like that. The clinician still needs to know whether it is worth persevering with prophylaxis. Does one relapse mean that the drug should be stopped, or do patients who relapse still do better with some drug than with none at all?

So, though treatment of acute episodes of depression and prophylaxis against bipolar illness are often relatively successful, we are still not at all good at preventing recurrent depressive episodes by drugs—or at least by drugs alone. Whether other approaches such as cognitive psychotherapy either alone or in combination with drugs will prove to be more successful has yet to be established.

C P FREEMAN

Senior Lecturer in Psychiatry,
University of Edinburgh,
Royal Edinburgh Hospital,
Edinburgh EH10 5HF

¹ Glen AIM, Johnson AL, Shepherd M. Continuation therapy with lithium and amitriptyline in unipolar depressive illness: a randomized double-blind, controlled trial. *Psychol Med* 1984;14:37-50.

² Boyd JH, Weissman MM. Epidemiology. In: Paykel ES, ed. *Handbook of affective disorders*. New York: Guildford Press, 1982:109-25.

³ Weissman MM, Myers JK. Affective disorders in a US urban community. *Arch Gen Psychiatry* 1978;35:705-12.

- ⁴ Hagnel J, Lanke J, Rosman B, Ojesjo L. Are we entering an age of melancholy? Depressive illness in a prospective epidemiological study over 25 years; the Lundby study, Sweden. *Psychol Med* 1982;12:279-89.
- ⁵ Angst J, Bastrup P, Graf P, Hippus H, Poldinger W, Weis P. The course of monopolar depression and bipolar psychosis. *Psychiatrica Neurochirurgia* 1973;76:489-500.
- ⁶ Lundquist G. Prognosis and course in manic depressive psychosis. A follow-up study of 319 first admissions. *Acta Psychiatrica et Neurologica Scandinavica* 1945;135(suppl):1-96.
- ⁷ Tsuang MT, Woolson RF. Excess mortality in schizophrenia and affective disorders. *Arch Gen Psychiatry* 1978;35:1181-5.
- ⁸ Prien RJ. Lithium in the prophylactic treatment of affective disorders. *Arch Gen Psychiatry* 1979;36:847-8.
- ⁹ Schou M. Lithium as a prophylactic agent in unipolar affective illness. *Arch Gen Psychiatry* 1979;36:849-51.
- ¹⁰ Peselow ED, Dunner DL, Fieve R, Loutin A. Lithium prophylaxis of depression in unipolar, bipolar II and cyclothymic patients. *Am J Psychiatry* 1982;139:747-52.
- ¹¹ Medical Research Council Drug Trials Subcommittee. Continuation therapy with lithium and amitriptyline in unipolar depressive illness: a controlled clinical trial. *Psychol Med* 1981;11:409-16.
- ¹² Spitzer RL, Endicott J, Robins E. *Research diagnostic criteria (RDC) for a selected group of functional disorders*. New York: Biometrics Research, Psychiatric Institute, 1978.
- ¹³ Anonymous. Multicentre depression [Editorial]. *Lancet* 1981;iii:563-5.
- ¹⁴ Mindham R, Howland C, Shepherd M. An evaluation of continuation therapy with tricyclic antidepressants in depressive illness. *Psychol Med* 1973;3:5-17.
- ¹⁵ Coppen A, Montgomery SA, Gupta RK, Bailey JE. A double-blind comparison of lithium carbonate and maprotiline in the prophylaxis of the affective disorders. *Br J Psychiatry* 1976;128:479-85.
- ¹⁶ Coppen A, Ghose K, Rao R, Bailey J, Peet M. Mianserin and lithium in the prophylaxis of depression. *Br J Psychiatry* 1978;133:206-10.

Double first in Wales

Later this year Europe will get its first professor of health education and promotion and Britain its first large scale programme to prevent heart disease: the professor will be in Cardiff and will direct the heart programme, which will cover the whole of Wales. The new professor is to be Dr John Catford, who is at present a community physician in Winchester and leader of the Wessex Positive Health Team. He was also one of the main authors of the Canterbury report on preventing coronary heart disease.¹

Britain needs such a heart programme because—as Professor Truswell explains in another leading article this week (p 509)—we are failing to reduce our death rates from heart disease as fast as many other Western countries. Much of this is due to governmental and public indifference, but a programme like those in North Karelia and Stanford would focus efforts on heart disease and show whether Britain is capable of developing, implementing, and evaluating such a programme. Wales is a good place to start because it has higher mortality from heart disease than England (about 10 000 Welsh people die every year) and its own culture, administrations, and media.

But in the now traditional British manner both the programme and the chair have been underfunded by the Health Education Council, which has set aside £1½m for five years. This works out at about 11p a year for each Welshman. The Canterbury report estimated that the cheapest effective programme would cost 30p a year for each person¹; in other countries they have cost much more: North Karelia—50p a year for each person, and Stanford at least a £1 a year. With these programmes (as with most things) you get what you pay for, and Dr Catford will have to spend much of his time at first scratching around for more money. A new director and professor could be much better employed.

The reason why we need a professor is that health promotion and education in Britain are in a mess. We have said before² (and been much criticised for it^{3 4}) that the Health Education Council in London has taken a long time to make any impact. Since then the Scottish Health Education Group is widely deemed to have lost its way and the Health Education Council is still suffering purges. Academic respectability and an independent and powerful voice are badly needed by health promotion. What is wanted even more, of course, is a real commitment from the DHSS and the NHS to health promotion: perhaps