relatively short time of patent protection. The reality is that, just as the most dangerous part of an aircraft flight is at take off (and landing), so is a drug generally most dangerous in its first year or so of clinical use. Benoxaprofen made the headlines largely because hundreds of thousands of patients were prescribed the drug in that dangerous first year. It may be a statement of the obvious that had fewer patients taken benoxaprofen fewer would have been damaged,[5] but scandals are made by numbers.

As we have argued before, ways must be found to set some limit to the uptake of drugs in their first year or so on the market (with a compensatory extension of patent life).[5] More important, any doctor who makes the clinical decision to use a new drug should recognise that by so doing he is under an ethical obligation to keep full notes and record and report any adverse event, whether or not it seems likely to be linked with the drug. Doctors should not expect payment for that record keeping; indeed, if they do not keep such records they are, in our view, negligent.

These arguments have been rehearsed before. The new feature of the drug debate is its emphasis on advertising and promotion. Some doctors, at least, recognise that their professional image is being tarnished by their apparent financial thralldom to the pharmaceutical industry—and the industry is beginning to see that its own image needs to be improved if politicians are to be restrained from trying to control or curb expenditure on promotion.

What are the causes for concern? Complaints about drug advertising in journals and by direct mail are mostly confined to the frequency and numbers of these advertisements. Recent attempts by some companies to promote drugs by feeding information directly to the public have been heavily criticised and seem unlikely to be repeated. More serious doubts are raised by the close links between the pharmaceutical industry and the design and analysis of clinical trials of its products and by publication of reports of drug research in journals with no system of peer review. And what has angered the consumer watchdogs are the drug company sponsored concerts, banquets, and excursions. How has the medical profession come to expect that not only should its postgraduate education be financed by an interested party—the drug industry—but that the industry should also pay for much of doctors' foreign travel and entertainment?

Surely the time has come for the medical profession and the pharmaceutical industry to extend the agreed code of practice[6] by setting reasonable boundaries for expenditure on drug promotion? A joint, non-governmental, committee might be set up to provide guidance and possibly to hear complaints. The industry could do much to refurbish its own image by establishing a foundation independent of any individual company to help finance research studies of the safety and efficacy of drugs. The more extravagant promotional activities should, we believe, no longer be seen as acceptable. It is up to individual doctors to make that plain.

[1] Taggart HMcA, Alderdice JM. Fatal cholestatic jaundice in elderly patients taking benoxaprofen. *Br Med J* 1982;**284**:1372.

[2] House of Commons Official Report (*Hansard*) Parliamentary Debates. Drug promotion. London: HMSO, 1983:col 1130. (Thursday 27 Jan 1983.)

[3] Informal Working Group on Effective Prescribing. *Report to the Secretary of State for Social Services*. London: DHSS, 1983. (Greenfield Report.)

[4] House of Commons Official Report (*Hansard*) Parliamentary Debates. Drug safety. London: HMSO, 1983:col 1117. (Thursday 27 Jan 1983.)

[5] Anonymous. Crying wolf on drug safety. *Br Med J* 1982;**284**:219-20.

[6] Association of the British Pharmaceutical Industry. Code of practice for the pharmaceutical industry. *Data sheet compendium*. London: ABPI, 1981-2:vi-xiii.

Excessive sweating of the palms and armpits

Laymen often use the handshake as a test of personality: to them a slippery grasp suggests a weak character and Uriah Heepishness. First impressions, especially those based on such a crude parody of the lie detector test, are not always right; but if weakness means a poorer ability to cope with stress and a greater tendency to withdraw from it than "normal" controls some support for the idea has seemed to come from a recent study of hyperhidrotics.[1] The numbers were small, however, and the "normal" controls were a group of applicants to medical school, a breed selecting themselves to take on stress and perhaps not representative of the whole population. In fact, lie detectors uncover anxiety rather than untruths; and though patients with anxiety neuroses do have above average spontaneous activity of the sweat glands[2] the reverse association cannot be taken for granted. Indeed, doctors who have dealt with large numbers of patients with sweaty hands detected few psychiatric disturbances apart from worry over their unpleasant symptoms.[3 4]

These symptoms may be crippling socially and need sympathetic and skilled management—even if they are due only to production of sweat at the upper limit of a range of normality and hardly ever to any underlying medical disorder. The same applies to the owners of sweaty armpits, who strongly dislike the minor waterfalls which trickle down the sides of their chests, soaking, staining, and even rotting their clothing.

Perhaps only a man named Shelley could write enthusiastically (let alone poetically) about the armpit and its effluents. Shelley and his colleague Hurley have recorded their campaign for axillary dryness over the years in a series of sparkling papers. In 1963, frustrated by the failure of conservative measures in the most severe cases, they devised a simple operation to remove a conveniently small area of skin from the vault of the axilla, where most of the active sweat glands are to be found.[5] The glands can be mapped out preoperatively with starch and iodine, but excision of much of the hair bearing area also gives good results.[6] Most patients have been delighted—despite some problems with postoperative infection and restriction of shoulder movements. Sometimes the scars become wide[7]—but they are well hidden, and the technique can be modified to overcome this.[8] Other methods of damaging the glands, such as cryotherapy[9] and subcutaneous curettage,[10] did not supplant the Hurley-Shelley operation, which rightly kept its popularity until 1975—when its inventors came up with another solution to what they called "the riddle of the axilla."

Why, they asked, do topical antiperspirants, effective on other areas of skin, work so poorly in the armpit? The answer lies in the sweat itself, which is so profuse there that it dilutes and washes them away. To get round this they revived aluminium chloride hexahydrate, long known to be an effective antiperspirant but one which had been discarded as intolerably irritant in aqueous solution owing to the formation of hydrochloric acid. Made up to 20% or 25% in absolute alcohol (quite strong enough to dissolve metal buckets[11] and passports[12]), and applied at night because the sweat glands switch off during sleep, this compound has proved to be highly successful.[13] Irritation of the skin may be a problem, but luckily the polyethylene occlusion that was originally recommended is often not needed. The armpit should not be shaved just before the application, and 0·5% hydrocortisone cream helps if irritation is still a nuisance. The aluminium salt takes some three weeks to dissolve, and proprietary preparations with

convenient roll tops are now available. The gelatinous hydroxides, which are precipitated in the sweat ducts, may linger on for a while, and treatment every two or three weeks may often suffice.

The Hurley-Shelley operation is used less often now. Ellis and Scurr, with experience of this operation on some 200 patients, used the aluminium mixture on a further 42 patients all of whom were ready to submit to surgery. Only four of these eventually had an operation, all because of persistent soreness and irritation from the lotion.[11]

But if axillary hyperhidrosis can now be dealt with fairly well, with an effective and safe operation available for the minority of patients who cannot tolerate the aluminium chloride mixture, the same cannot be said for palmar sweating. Clearly conservative measures should be used if possible, but the results of using both tranquillisers and systemic anticholinergics, with all their side effects, have usually been disappointing. In the past topical applications have not had much success either, but there have recently been reports of good results with methenamine (hexamine)[14] and with nightly applications of the alcoholic aluminium chloride hexahydrate mixture.[15] This general failure of topical applications led to efforts to drive the chemicals into the skin electrically with iontophoresis and to the surprising finding that ordinary tap water acts almost as well as any of these solutions and at the same time avoids systemic side effects. Levit has given a clear account of the practical details of tap water iontophoresis.[16] Once a reduction in sweating has been obtained treatment every few weeks may suffice, and patients may then avoid endless trips to hospital by acquiring a simple and effective apparatus to use themselves at home.

Other techniques such as biofeedback and conditioning[17] are still in their infancy but may offer some hope in the future. At present, however, if a fair trial of the above methods has not helped then sympathectomy should be considered. An operation which may require exploration through important deep structures in the neck or the removal of parts of the ribs should never be undertaken lightly. Various surgical approaches are available, but the supraclavicular route seems to carry an especially high risk of causing Horner's syndrome,[3] and Kux's endoscopic technique[4] is perhaps the least traumatic. Sympathectomy denervates the sweat glands not just of the palm but of up to one fifth of the body surface,[18] and compensatory sweating in other areas may become a problem. Despite this, patients relieved of their wet hands are kind about the operation, and the long term results are usually satisfactory.

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[1] Lerer B, Jacobowitz J, Wahba A. Personality features in essential hyperhidrosis. *Int J Psychiatry Med* 1980;**10**:59-67.
[2] Maple S, Bradshaw CM, Szabadi E. Pharmacological responsiveness of sweat glands in anxious patients and healthy volunteers. *Br J Psychiatry* 1982;**141**:154-61.
[3] Adar R, Kurchin A, Zweig A, Mozes M. Palmar hyperhidrosis and its surgical treatment. A report of 100 cases. *Ann Surg* 1977;**186**:34-41.
[4] Kux M. Thoracic endoscopic sympathectomy in palmar and axillary hyperhidrosis. *Arch Surg* 1978;**113**:264-6.
[5] Hurley HJ, Shelley WB. A simple surgical approach to the management of axillary hyperhidrosis. *JAMA* 1963;**186**:109-12.
[6] Bergkvist L, Engevik L. The surgical treatment of axillary hyperhidrosis. *Br J Surg* 1979;**66**:482-4.
[7] Andersen EB, Burchardt H, Taarnhøj P. Axillary hyperhidrosis. *JAMA* 1975;**231**:1026-7.
[8] Bretteville-Jensen G, Mossing N, Albrechtsen R. Surgical treatment of axillary hyperhidrosis in 123 patients. *Acta Derm Venereol (Stockh)* 1975;**55**:73-7.
[9] Ashby EC, Williams JLI. Cryosurgery for axillary hyperhidrosis. *Br Med J* 1976;ii:1173-4.
[10] Ellis H. Axillary hyperhidrosis; failure of subcutaneous curettage. *Br Med J* 1977;ii:301-2.
[11] Ellis H, Scurr JH. Axillary hyperhidrosis—topical treatment with aluminium chloride hexahydrate. *Postgrad Med J* 1979;**55**:868-9.
[12] Scholes KT, Crow KD, Ellis JP, Harman RR, Saihan EM. Axillary hyperhidrosis treated with alcoholic solution of aluminium chloride hexahydrate. *Br Med J* 1978;ii:84-5.
[13] Shelley WB, Hurley HJ Jr. Studies on topical antiperspirant control of axillary hyperhidrosis. *Acta Derm Venereol (Stockh)* 1975;**55**:241-60.
[14] Cullen SI. Topical methenamine therapy for hyperhidrosis. *Arch Dermatol* 1975;**111**:1158-60.
[15] Jensen O, Karlsmark T. Palmoplantar hyperhidrosis. Treatment with alcoholic solution of aluminium chloride hexahydrate: a simple method of transpiration measurement. *Dermatologica* 1980;**161**:133-5.
[16] Levit F. Treatment of hyperhidrosis by tap water iontophoresis. *Cutis* 1980;**26**:192-4.
[17] Duller P, Gentry WD. Use of biofeedback in treating chronic hyperhidrosis: a preliminary report. *Br J Dermatol* 1980;**103**:143-6.
[18] Shoenfield Y, Shapiro Y, Machtiger A, Magazanik A. Sweat studies in hyperhidrosis palmaris and plantaris. A survey of 60 patients before and after sympathectomy. *Dermatologica* 1976;**152**:257-62.

Locking up patients with psychiatric illness

Most inpatients with psychiatric illness are treated in open wards,[1] but for a time a few may be nursed in seclusion.[2] The latter is defined as the containment of a patient alone in a room or enclosed area from which he has no way out[3 4]; today such restraint is used in psychiatric hospitals,[5] secure units,[6] and special hospitals.[7]

Seclusion is carried out in two main circumstances: firstly, in an emergency to help cope with disturbed behaviour; and, secondly, and probably much less commonly, with the patient's consent in behaviour modification programmes.[4 8] Occasionally, however, there is no clear cut difference between these two activities, but whatever the reason the result is that an ill person may be isolated from human contact in a bare room for an unspecified period. Although prison rules govern removal from association and the use of solitary confinement, there is no statutory control of these procedures in the National Health Service. Moreover, the Department of Health and Social Security guidelines on the management of violent or potentially violent patients[9] have been criticised for their inadequacy.[10]

Doctors have a clear responsibility to prevent abuses of seclusion.[2] In 1974 a patient at the Broadmoor special hospital alleged that he was locked up by himself almost continuously for five weeks in a dirty room with a plastic mattress and no furniture on a stone or concrete floor. He was dressed in pyjamas, with no footwear. The ventilation was said to be inadequate and the room had no toilet facilities, except for two plastic chamberpots, which showed signs of use by a previous occupant. During his first week in the room the patient was not provided with toilet paper, only pieces of newspaper. His complaint of inhumane and degrading treatment was investigated by the European Commission of Human Rights (application number 6840/74): and subsequently, in 1979, new working guidelines concerning seclusion were introduced at Broadmoor.[11] Nevertheless, such cases rarely come to public notice.[7 12 13] Indeed, few papers have been published on the theoretical basis[14–16] and clinical use of seclusion.[16–19] Estimates from the United States are that between 4%[17] and 26%[16] of general psychiatric inpatients are secluded in the course of their hospital admission. This action