or epilepsy, when an alternative such as the metyrapone test may be used.⁹ Nevertheless, the metyrapone test relies on measuring serum 11-deoxycortisol or urinary 17-hydroxycorticosteroid excretion, which is not now commonly performed in Britain. Similarly, the corticotrophin releasing factor test is little used, given that it measures only one component of the axis, the pituitary, and may give normal results in patients with hypothalamic disease.^{10 11}

A normal adrenal response to tetracosactrin requires previous exposure of the gland to endogenous adrenocorticotrophic hormone. Hence a normal test result in the short tetracosactrin test suggests that the production of adrenocorticotrophic hormone is normal and the test should be a simple, safe, and cheap means of assessing the hypothalamic-pituitary-adrenal axis. Some have claimed that this suggestion is valid,^{9 12 13} but others have challenged its reliability.¹⁴⁻¹⁶ The test has now been re-evaluated in a large number of patients, most of them with pituitary adenomas,^{17 18} and found to be reliable in predicting the requirement for glucocorticoid treatment in patients with hypothalamic-pituitary disease. The tetracosactrin test also predicts adrenal function early after hypophysectomy¹⁹ and the patients that can stop glucocorticoid replacement after hypophysectomy.²⁰ Nevertheless, the short tetracosactrin test may not be so reliable in predicting the return of normal hypothalamic-pituitary-adrenal function during the withdrawal of long term glucocorticoid treatment,²¹ when an insulin stress test may be needed.

Given the evidence that the short tetracosactrin test performs as well as the insulin stress test in the vast majority of instances, why do fewer than a quarter of British endocrinologists use it?¹⁸ Stewart and his colleagues did not answer this question,¹⁸ but traditions die hard. Physicians in a district general hospital see few cases in which to compare the two tests, and so they have little chance of becoming confident with the short tetracosactrin test. But they are now justified in sparing most of their patients the discomfort of an insulin

stress test, given the knowledge that the short tetracosactrin test will rarely mislead.

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Our children's teeth

Fluoridation needed to overcome social inequalities in caries prevalence

The dental health of British children has improved dramatically in the past 25 years.^{1 2} In England and Wales the prevalence of dental caries fell in all age groups and in all geographic regions between 1973 and 1983.¹ For example, among 5 year olds the mean number of decayed teeth was 3.4 in 1973 and 1.7 in 1983, while over the same decade the percentage of children in this age group completely free from decay rose from 29% to 52%. A further survey is expected in 1993, and data on caries are currently being collected routinely by health districts in England and Wales.³ All these surveys will, it is hoped, show further improvement in the dental health of children, but there are some disturbing trends.

Dental caries has become a class related disease that is commoner in poorer communities. This is a recent change as before 1970 the prevalence of decay was similar in all social groups and only its treatment varied: advantaged children received more fillings and fewer extractions than their less fortunate contemporaries. Now children from affluent backgrounds have less decay, producing appreciable national, regional, and local variations.

In 1983 the mean number of decayed teeth in 15 year olds was 5.6 in England, 6.7 in Wales, 8.4 in Scotland, and 9.2 in Northern Ireland. Within England regional differences were striking, with the lowest prevalence in the south and the highest in the north.² During 1985-6, 5 year olds in West Essex had only 0.75 decayed teeth on average, whereas in several districts in the north west this value exceeded 3.⁴ That such differences are socially determined is shown by the high percentage of decay in several less affluent inner city areas in London.

Changed practices of preventive dental care probably explain this changed pattern in the prevalence of caries. The "rules" for dental health are now well established, and the Health Education Council (now Authority) summarised them in four simple statements⁵: food and drink containing sugar should be restricted to mealtimes; the teeth and gums should be cleaned daily with a fluoride toothpaste; children in areas with suboptimal concentrations of fluoride in the drinking water should take fluoride drops or tablets daily; and everybody should attend the dentist regularly. These rules are now widely used by health educators, and the social gradients that

exist in the prevalence of dental caries almost certainly arise because the rules are better understood and more widely followed in affluent communities.

Attempts to improve further the dental health of children must take account of these socially determined differences. Water fluoridation must remain the cornerstone of policy because it benefits all consumers regardless of social constraints on health behaviour.

The past decade has been important in the history of water fluoridation in Britain. In 1978 an individual citizen applied for an interdict to restrain the Strathclyde Regional Council from fluoridating its water supplies. There followed the longest case in British legal history, after which the judge, Lord Jauncey, fully endorsed the effectiveness and safety of water fluoridation but questioned its legality. This prompted the government to introduce a bill, and after extensive parliamentary debate the Water (Fluoridation) Act was passed in 1985.

This act requires health authorities to consult widely before

requesting their water suppliers to fluoridate. In some parts of the country—notably, the Trent, North Western, and Mersey regions—this consultation process is complete or well under way. Extensive support for fluoridation has come from the dental, medical, and allied professions, and the prospects are good for implementing several new major fluoridation schemes that will further improve the dental health of children, particularly among the groups in which it is still unacceptably poor.

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Attracting patients to dentists

Dentists will have to attract reluctant patients

Dental disease is pandemic in Britain despite a reduction in caries in recent years.¹ Dental disease produces chronic pain, and possibly "a third of the employed population cannot function at work for limited periods because of dental problems."² People need to be attracted to dentists, and once there they need to be encouraged to return. Although there has been some debate about how often people should seek dental care³ and about what care they should be given,⁴ most people need to have teeth repaired and gums treated.

Unfortunately only 43% of adults report that they attend for regular frequent dental check ups.¹ In Scotland similar numbers have made that claim, but dental records confirmed that only 16% attended at least once a year.⁵ Reports of attendance from respondents themselves probably therefore overestimate the numbers who seek dental checks frequently.⁵ Throughout the Western world there are many people who seek dental care only when in trouble—"the irregular attenders."⁶

Because there have been many unfavourable reports about dentistry in the popular press it is not surprising that many people in Britain are irregular attenders. In Britain and overseas, however, many surveys (but not all) have found that fear of dental treatment is the most important deterrent to attendance.⁶⁻¹¹ Several other influences have been noted: the attendance of parents; the desire to keep natural teeth¹⁰; the cost of treatment^{9,12}; guilt about poor oral health¹³; accessibility of dental services⁹; what is considered by peers to be normal use of dental services¹⁴; appraisal of one's own dental health⁹; and belief in the efficacy of treatment for dental health and appearance.⁹

The cost to patients of treatment has provoked much concern among dentists,¹⁵ especially now with the introduction of charges for dental inspections in Britain. Nevertheless, charges have had only a small effect on attendance.^{9,16} Charges have, however, increased rapidly in Britain in the 1980s, and this research needs to be updated.

Unfortunately even multivariate studies predict irregular attenders with only a wide degree of error,⁶ and almost all studies have relied only on respondents' reports of

attendance. Future research should include records of actual attendance.

Opportunities to test hypotheses and to increase attendance have been provided by advertising campaigns in The Netherlands and Britain¹⁷ (British Dental Foundation and Yorkshire Television, unpublished pilot advertising project, 1987, and Glasgow Local Dental Committee, unpublished report, 1986), but it is not clear if these tackled deterrents such as fear of treatment. The results from The Netherlands are not encouraging,¹⁷ and details of the British campaigns remain unpublished. Dentists probably differ widely in their ability to help patients to overcome their reservations about dentistry,^{9,18} and hence optimistic advertisements for the profession as a whole could be misleading. Among other approaches one controlled investigation has shown that personalised reminders increase the return of child patients.¹⁹ Behaviour therapies for adults too nervous to visit the dentist enable them to attend,²⁰ but these studies have relied only on patients' reports of attendance.²⁰

Fear of treatment is highly persistent and has changed little with pain free dentistry.²¹ This fear is highly correlated with expectations of pain,^{8,21} which unfortunately does occasionally occur with the failure of local anaesthetics.²² Nevertheless, many studies have shown what dentists could do to reduce patients' fears and discomfort.²³⁻²⁶ Such studies of communication between dentists and their patients can make only general recommendations, and dentists should confirm with each patient what his or her main concerns and preferences are. It is hoped that better communication will increase attendance, but the only study to test this hypothesis presented no data.²⁷

Several years ago it was recommended in Britain that communication skills should be taught in the undergraduate dental curriculum,²⁸ but it is not clear how well this has been implemented. The General Dental Council is now to examine the teaching of behaviour sciences in dental schools, and a multidisciplinary organisation, the Behaviour Sciences in Dentistry Group, has been formed to encourage their dissemination and implementation.