

age standardised incidence rate for malignant melanoma of the nodular and superficial spreading types per 100 000 of the population for 1979-80 was highest in the subtropical coastal area at 37.2, followed by the tropical coastal at 36.1. The subtropical inland figure was 23.7 and tropical inland 28.8. Thus the highest incidence is found in the coastal area around Brisbane, the major population centre in Queensland. Nevertheless, these observed differences in incidence are still entirely compatible with a role for exposure to ultraviolet light, in that measurement of ultraviolet light striking equipment on the ground is not the same as that striking patients' skin. The rural agricultural worker with limited access to sunbathing facilities is less likely to expose himself to excessive sun, or perhaps any sun, on areas other than face and hands than is his city dweller cousin, who has ready access to sunbathing facilities in lunch hours and at weekends and is tempted to make the most (or worst) of every burning ray.

The conclusion to be drawn from the Queensland research is that though measurement of hours of available daily ultraviolet light, and its intensity on the ground, is of considerable interest, it may not always give a true measure of patient exposure. This may be done using light sensitive polysulphone monitors clipped to clothing.¹⁵ Use of these badges has already yielded interesting information about ambient ultraviolet light in different climatic conditions.¹⁶ Detailed documentation is also needed of lifestyles, sun exposure, tanning capacity, and other phenotypic variations in patients with melanoma and an appropriate number of controls.

The latest unknown factor to be added to the conundrum of ultraviolet light and melanoma is the use of sunbeds or artificial solarium. These machines emit light almost exclusively in the ultraviolet light A (320-360 nm) range. Ultraviolet light A alone has been considered non-carcinogenic, but recent studies on animals suggest that ultraviolet light A may be able to accelerate or potentiate the well recognised carcinogenic capacity of ultraviolet light B in the development of non-melanoma skin cancer.¹⁷ Retsas¹⁸ has recorded that nine of his patients with melanoma had used sunbeds regularly and two of our Glasgow patients give a similar history. More data and appropriate controls are needed to place these figures in proper perspective.

The current lack of a good animal model for malignant melanoma makes for difficulties in testing hypotheses about the parts played by constant and intermittent exposure to ultraviolet light on either normal skin or on melanocytic naevi. A further problem, outside the scope of this leading article is the recently recognised change in the immune system in animals after exposure to ultraviolet light B¹⁹ and in man after exposure to ultraviolet rays from commercial solarium.²⁰ Surveys of immunosuppressed patients with renal transplants have found a higher than expected incidence of non-melanoma skin cancer, suggesting that for certain tumour types the Burnett hypothesis of immune surveillance remains valid.²¹ Data on melanoma in patients with transplants are limited, but here again the incidence appears to be higher than expected.²² The possible interactions between ultraviolet light and hormonal state or pre-existing melanocytic naevi are outside the scope of this article.

At present, therefore, the exact sequence of events from initiation of the tumour to clinical expression of malignant melanoma is not clear. Environmental factors appear to play a very much greater part than heredity, implying that with greater understanding of the effects of ultraviolet light on both the cutaneous surface and possibly the immune system a substantial proportion of all cases of malignant melanoma

might be prevented. Until this information is available the family doctor's most important contribution to management of malignant melanoma is recognition of the lesion in its very early stages and prompt referral of the patient for confirmation of the diagnosis and appropriate treatment. Caught in time, malignant melanoma is curable.

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Who should be an author

Papers with many authors are becoming more common. In the early 'forties papers published in the *New England Journal of Medicine* averaged just under two authors; in 1978 the figure was just under five.¹ This increase has led editors and others to question how much each of these many authors may actually have contributed to the paper—and how far each would be willing to take responsibility for it,²⁻⁴ for editorial queries about the manuscript commonly elicit mumbled excuses about

that section having been prepared by one of the other authors. The explanation is clear enough: authorship is important in getting grants and jobs and some names count more than others; and the conclusion must be that the names on a paper can no longer be taken at face value.

The related problem of the ordering of authors is discussed by Dr Mouloupoulos and his colleagues on page 1608. Even if the contribution is real and the authorship genuine, how do those who grant the money and the jobs assess an individual's contribution to a long list of multi-author papers? There is no convention for indicating the extent of each author's contribution. Sometimes the first author is the most important; sometimes he is merely the most junior. Sometimes the last author is the technician; sometimes he is the professor. Many units always put the head of the department's name last (sometimes known as "noblesse oblige"). This is acceptable if he has actually conceived the study and guided his juniors through it,⁵ but an unwarranted (though not always resented) intrusion if he has had little to do with the work. Some journals avoid the problem by listing authors in alphabetical order—but then they receive disproportionately few articles from people whose names begin with letters late in the alphabet.⁶

Where does all this leave the reader? Huth has argued that authorship is a responsibility and not a right or a reward,⁷ and certainly readers should be able to assume that authors will take public responsibility for the content of a paper.³ And the responsibilities are serious: recent cases of fraud have highlighted the more extreme consequences of a too casual attitude towards authorship. After the exposure of the systematic frauds carried out by Dr John Darsee at Emory and Harvard universities⁸ several of Darsee's coauthors wrote to major medical journals retracting their papers.⁹⁻¹³ Though conceding that deliberate fraud by a colleague may be hard to detect, the editor of the *New England Journal of Medicine* (one of the affected journals) argued forcefully that coauthors should know what was being done, why it was being done, and how it was being done and take some responsibility for the integrity of the work.¹⁴ At least one of the retractions suggests discrepancies in the original article that should have been spotted by anyone concerned at all closely with the work—surely the least that can be demanded of an author.

Both Relman and Huth have suggested that editors should take the initiative in dealing with the problem of multiple authors,^{3,14} and authors themselves would welcome guidance—those with the most to lose from a devalued coinage are those who have worked hardest to earn it. The Vancouver group of medical editors is considering issuing guidelines, and others have already done so.^{2,3,15} Suggestions have ranged from complete anonymity of all authors¹⁶ to lists of contributors with their individual contributions, like film credits,⁴ but the common ground is that authors should have made a significant contribution to the scientific formulation or execution of the study. In practice this means having taken part in conceiving and designing the study, collecting the data, or analysing and interpreting them (and perhaps too in writing them up). Guidelines produced by the Swedish Medical Association and its journal emphasise the importance of deciding who will be an author at the outset and not at the last moment, getting the consent of all authors to publication, and not granting authorship simply for the sake of departmental peace. Work that falls short of the contribution demanded for authorship should, of course, be acknowledged.

One of the legitimate reasons why numbers of authors have increased is that there are more studies across interdisciplinary

boundaries and, in clinical medicine, more multicentre trials. Clearly it is unrealistic in such papers to expect all the authors to have a detailed knowledge of each other's disciplines or data. Nevertheless, they should each understand and be prepared to defend the intellectual framework of the study and the way it was performed as well as that part of it for which they were responsible.

Editors may provide guidelines but the solutions must rest with authors themselves. At its simplest an author should ask himself whether—speaking alone—he would be willing and able to defend the paper, its contents, and its integrity against its critics. If he hesitates at all he should have very good reasons before putting the article and his name into print.

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Health or smoking

Why do we need another report from the Royal College of Physicians on smoking¹ when so few doctors smoke and the harmful effects of tobacco are so widely acknowledged? The answer lies in the obdurate refusal of the government to recognise the force of the evidence and in the urgent need for new initiatives to stem the growing numbers of smokers among schoolchildren and young adults. Furthermore, new research findings and perspectives have changed the picture in many ways and doctors need to be fully informed if they are to function as convincing, credible health educators.

Despite some decline in smoking by adults tobacco still accounts for 15-20% of all deaths in Britain; of every 1000 young men who smoke one will be murdered, six will die on the roads, but 250 will be killed before their time by tobacco. Aside from cancers (of the lung, mouth, larynx, oesophagus, pancreas, and urinary tract) and heart disease, smoking also kills thousands of patients with chronic bronchitis and emphysema and peptic ulcers—and it is an important avoidable hazard to the fetus.