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## Smoking and Commercial Airline Flights in Europe

THE REVIEW of smoking and cancer in Europe by La Vecchia and his colleagues in a recent issue of the *EJC* affords us no respite in efforts to control what is “unquestionably the single most important cause of cancer” [1]. If the current burden of smoking-related illness is not sufficient stimulus for appropriate action, we can always consider what lies ahead. Given the long induction period for lung cancer, future high-risk groups can be identified from past and current habits [2]. Particular problems cited by La Vecchia *et al.* are the upward trends in the incidence and mortality from lung cancer in females, and the increases in smoking-related neoplasms expected within the next 2 decades in southern and eastern Europe, areas of high smoking prevalence and high-tar cigarettes.

The effect of direct exposure to tobacco smoke is not the only concern. Illness caused by environmental tobacco smoke (ETS)—passive smoking—is steadily moving up the agenda of problems faced by health professionals, employers and employees, and governments. In this issue of the *Journal*, Woodward and McMichael (p. 1472) consider the epidemiological evidence for the carcinogenicity of ETS, and discuss the nature of “proof” and its use by scientists, public health bodies and the judiciary. Any intervention at either the individual, clinical level or at the population-wide, public health level must be based on good science and reasonable expectation of benefit over cost. But, as Greenland states: “Public health decisions must (also) consider the cost of inaction if the substance at issue is indeed harmful. . . .” [3]. The parallels of the situation with passive smoking in the 1990s and that of direct exposure to

tobacco in the late 1950s and 1960s are hard to deny. There is much to be done on both fronts, and much will depend on timely legislation by clear-sighted governments. One opportunity for early action is the protection of air-travellers from ETS.

A publication of the European Bureau for Action on Smoking Prevention entitled *Let's Fly Smoke-Free* [4], gives a succinct review of the steady but patchy progress made by European carriers towards a smoke-free environment in commercial aircraft cabins, a goal set by the Council of Health Ministers of the European Communities in 1989. It should be read by all those concerned with smoking and public health in Europe.

*Let's Fly Smoke-Free* reports that some airlines, for example, Air Inter (France), Olympic Airways (Greece) and British Airways, prohibit smoking on all domestic flights. Others, for example, Alitalia (Italy) and Air France, restrict smoking to certain routes, based on flight duration, or to certain aircraft, or are in the process of running trial schemes. Still others make no concession to the comfort, safety and health of their employees and customers with regard to smoking—provision of “non-smoking” seating within the confines of a cabin amounts to nothing but cynical lip-service. The situation with regard to international flights, especially those of long duration or leaving the continent, is somewhat less satisfactory. Lauda Air (Austria), Air UK and Air Canada are currently the only carriers with total non-smoking policies, though others, for example, Malev (Hungary) and LOT (Poland), have some smoke-free international flights. Canada will have a complete (domestic and international) non-smoking policy for both its airlines by mid-1993.

The Committee on Airliner Cabin Air Quality of the US National Research Council gives four main reasons for a ban on smoking in aircraft: to lessen irritation and discomfort to passengers and crew, to reduce the risk of illness associated with ETS, to enhance aircraft safety and to ensure appropriate standards of cabin air quality. Each of these reasons is motivated by public health considerations. To them, we might add that any antismoking measure, especially a high-profile one, assists the general community attitude in its rejection of tobacco use as a “normal” aspect of social behaviour. Tobacco companies, as all mass marketers, know well the value of an accepting, or at least indifferent, public environment in which they can promote their product. As an enemy of public health, the tobacco industry warrant no concession as to the lie of the field of battle.

What is the extent of the problem? One statistic from *Let's Fly Smoke-Free* especially relevant to occupational health is that 40 000 flight attendants spend on average 900 hours per year in the aircraft cabin environment. Many will work in the galley area for extended periods: this area may be particularly exposed to ETS because of seating arrangements for smokers. The judgement of the Australian Federal Court in February 1991 that passive smoking was a cause of lung cancer and other illnesses [5, 6] sets a judicial precedent which should encourage employers to consider their current responsibilities and future culpabilities in a more urgent light. However, experience, also from Australia, shows that some airlines are unlikely to declare strict non-smoking policies voluntarily—even in the face of increasing consumer acceptance. The two Australian domestic carriers—one government-owned, the other privately operated—professed themselves quite willing to adopt total non-smoking policies, but neither felt able to be the first to do so. Whether this was for reasons of commercial timidity or because of the well-known external pressures that are applied at such times is uncertain. The fact is that the total bans on smoking

on domestic flights and on international flights in Australian airspace were due to government legislation. In times of change, organisations sometimes need a higher authority upon whom they may offload their responsibilities; they may then turn to whatever sources of pressure are impinging on them and say “See! It's all the government's doing”. When it comes to the washing of hands, there is more than one sort of pilot in sections of the airline industry.

In the past, the tobacco industry has fought public health measures on the basis of the scientific evidence. In the case of active smoking the industry has substantially, albeit rather silently, conceded. We are at a somewhat earlier stage in the debate on passive smoking, but mounting scientific evidence [7] and the support of government bodies and the courts give reason for optimism. Increasingly, the tobacco industry appeals to notions of “smokers' rights” and “freedom of choice” to support its interests. The closed environment of the aircraft cabin provides little scope for compromise on these issues and throws their speciousness into sharp relief. This does not absolve regulatory authorities and airlines from considering the well-being of smokers. While flights of short duration should prove no real problem, longer flights may mean some discomfort to some smokers. For the frequent flyer, the prospect of such discomforts may lead to the optimal solution: giving up smoking. For others, both pharmacological and psychological aids are available. One small airline, Paramount, already offers nicotine pastilles to passengers on request. What is clear is that consideration of the small proportion of smokers who may be affected by bans must not be permitted to take precedence over the discomfort and health concerns of the majority.

The moves toward a “New Europe”, with joint approaches to many financial, legal and social problems, provide the ideal framework for Europe-wide legislation to ban smoking on all flights in European airspace. Piecemeal approaches by individual carriers or national governments are confusing, expensive and inefficient. Such experience as already exists shows that any difficulties in implementing bans will be minor, short-lived and greatly outweighed by the advantages to both airlines and their customers.

Prerequisites for successful legislation are now in place: the weight of scientific evidence, substantial partial moves towards the goal, indications of public acceptance, and a European outlook on the problem. What are we waiting for?

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## Palliation of Malignant Obstruction—Use of Lasers and Radiotherapy in Combination

TO THE PRACTISING radiotherapist, the availability of new techniques to provide rapid reversal of an obstructed upper digestive tract or airway offers exciting prospects for more effective treatment [1, 2]. In the past the use of radiotherapy, even to modest palliative doses, has sometimes been rendered difficult, even impossible, because of the poor general condition of many of these patients, either through malignant cachexia, obstruction of the oesophagus or a major airway, or other associated medical problems [3, 4]. The morbidity of radiotherapy in these seriously ill patients can be considerable and is poorly documented in the literature. In a recent paper [3], Caspars *et al.* showed clearly that patients with severe dysphagia at presentation gained little from radiotherapy alone, regardless of the patients' general condition and the decision to treat with radical or palliative doses of radiation. In contrast, those with only mild impairment of swallowing at presentation did very much better.

Laser therapy, though employed only relatively recently as a means of luminal debulking, has already become established since it provides rapid reversal of obstruction in a high proportion of patients with a low incidence of complications [5-7]. Unlike conventional radiotherapy, which even if effective may take several weeks to relieve dysphagia, laser therapy provides an almost immediate effect. The laser therapist treats the tumour under direct vision, so treatment can be applied to the parts of the tumour causing the worst obstruction. Some parts can be vaporised instantly, although other parts are necrosed *in situ* and will slough over a period of a few days. Recanalisation can usually be achieved by one or two treatments, re-establishing a partial or sometimes physiologically near-complete passage and which may lead to sufficient improvement in function to allow for a more definitive treatment. This means, for example, that patients with complete dysphagia who were generally felt unsuitable for irradiation, can now be considered as potential candidates for treatment.

In contrast to external beam irradiation, brachytherapy may also relieve obstructive symptoms within a few days [8]. It is likely that laser therapy and brachytherapy will prove complementary. With brachytherapy, irradiation is delivered circum-

ferentially, so it is particularly suitable for annular lesions of the oesophagus and gastric cardia. Tumour necrosis can be produced at depths of up to 1-5 cm from the lumen. If normal tissue is exposed to the radiation, there is a risk of radiation-induced oesophagitis which can be persistent and troublesome and may later progress to stricture formation. Laser therapy carries the two advantages of more precise control of the treated area together with the lack of cumulative toxicity, but cannot safely penetrate so deeply, making it more suitable for exophytic tumours. If both techniques fail to provide adequate recanalisation, there remains the option of inserting a prosthetic tube, although this inevitably reduces the quality of swallowing [7].

For small and localised cancers, it has long been taught that surgery gives the best prospect of cure, although there has never been a formal trial comparing surgery with radical radiotherapy [9, 10]. However, for many patients with locally advanced cancer of the oesophagus, a nihilistic therapeutic approach has become increasingly common over the past few years. It has been widely felt that even in patients considered technically fit for surgical resection, there is no evidence that the results are any better than in those treated by radical irradiation alone [9, 10] or indeed that either is any better than less radical techniques for palliation of dysphagia for which the morbidity and mortality are so much less. For the majority of patients with carcinoma of the oesophagus, palliation of dysphagia is all that can realistically be attempted, though a small minority of cases should undoubtedly be treated more intensively [11]. The quality of life in most patients is very poor if no attempt is made to improve the inevitably progressive dysphagia and although a number of techniques exist, the long-term success rate is only modest. A recent review of the competing approaches to palliation of malignant dysphagia with surgery, radiotherapy, laser or prosthetic intubation highlighted the difficulties [1] and also pointed out that surgical removal of the primary tumour in its entirety gives the best relief of dysphagia, though the morbidity and mortality are too high to regard this technique as appropriate other than in special circumstances.

Whilst laser therapy is valuable for direct tumour debulking, it has nothing to offer as a means of controlling the cancer beyond the confines of what can be treated within the lumen itself. Patients often need to be warned of this as the tumour is