

# THE MEDICAL JOURNAL OF AUSTRALIA

## AUSTRALIAN COUNCIL ON SMOKING AND HEALTH (A.C.O.S.H.)

### Special Supplement on Smoking and Health

Vol. 2

SYDNEY, SATURDAY, JULY 26, 1975

No. 1

---

#### CONTENTS

Open Letter to the Medical Profession . . . . .	1
Do Cigarettes Really Cause Anything Except Fires? . . . . .	1
Smoking and the Heart—The Basis for Action . . . . .	2
List of Illnesses and Disabilities Associated with Smoking . . . . .	3
Smoking Considered as an Addiction . . . . .	4

---

#### OPEN LETTER TO THE MEDICAL PROFESSION

DEAR DOCTOR,

One of the chief responsibilities accepted by the Australian Council on Smoking and Health (A.C.O.S.H.) is to generate interest and action by the medical profession in the health problems associated with smoking. If this is to be achieved, it is axiomatic that doctors must be kept up to date on this subject.

Some important articles have appeared recently in British journals on several aspects of smoking. A.C.O.S.H. is impressed by their educational potential, and has had abstracts prepared of three of them, which are presented herewith. In this shortened form it is hoped they will be widely read and, so far as is possible, put to good purpose especially in conveying to patients, and others, some of the reasons why smoking is harmful. I can assure readers of these shortened articles that they will find them worth while.

In response to numerous requests, A.C.O.S.H. has had printed a list of illnesses associated with smoking. A copy of this is also presented for easy reference. Further copies will be gladly sent on request.

Australian Council on Smoking and Health (A.C.O.S.H.),  
St John House,  
21 Macquarie Place,  
Sydney 2000. Telephone: 241-3510.

Yours sincerely,  
COTTER HARVEY,  
President.

#### DO CIGARETTES REALLY CAUSE ANYTHING EXCEPT FIRES?

Do cigarettes really cause anything except fires? This, of course, is a rhetorical question. But it may well be asked by anyone reading the arguments of the tobacco industry, concluding that: "those who choose to attack the industry cannot prove that there is a causal relationship between smoking and health"; "no one has yet found the cause of any cancer, let alone of lung cancer"; "it has not been proved that smoking causes any known disease". At first glance these dogmatic assertions

seem unassailable. However, they contain an inbuilt fallacy, which is implicit in the phrases "the cause of any cancer" and "smoking causes . . .". They ignore the multifactorial aetiology of many common diseases, including cancer, heart, lung and rheumatic disease and so on.

This concept was fully developed in a lecture given to the Royal College of Physicians of London some years ago on the aetiology and pathogenesis of disease by Professor

J. F. Brock entitled "Nature, nurture and stress in health and disease".<sup>1</sup> Professor Brock considered aetiological factors in three fundamental groups: (i) genetic factors; (ii) positive environmental factors (that is, disease-producing agents); (iii) negative environmental factors (that is, deficiencies of health-promoting factors). "Experience of health and disease depends on the interplay between inheritance and environment from the moment of conception onwards." The second group includes various agents (stressors), potentially damaging, and capable of producing pathological lesions; tobacco smoking is obviously one of these.

Professor Brock's thesis postulates a genetic component in disease, and this implies that there is a pool of persons carrying, say, a cancer gene, awaiting the necessary stimulus, either stressor or failure of nurture, to activate the carcinogenetic process. We know beyond all doubt that the most important of all the causes of lung cancer is cigarette smoking. If and when the gene is discovered, and those carrying it are identified, the remainder may feel free to smoke without fear of lung cancer. Meanwhile, the risk remains, which for heavy cigarette smokers has been likened to that of playing Russian roulette.

Another smoking-associated malady, coronary heart disease, which is more prevalent and more economically disastrous than bronchial carcinoma, illustrates well this

<sup>1</sup> Brock, J. F., *Lancet*, 1972, 1: 701.

multiple aetiology. As Brock points out, it is a disease in which multiple environmental factors act over long periods of time upon a susceptible genotype to produce coronary sclerosis. Other stressors then operate, resulting, often suddenly, in myocardial infarction. They have been well documented: fatty diet, lack of exercise, emotional stress and cigarettes. No thinking person accepts that cigarette smoking *per se* causes a heart attack. But obviously one ingredient in the aetiological mix can be eliminated by cessation of smoking.

One could go on. The lay public recognizes the smoker's cough, and knows that cigarette smoking is the most important cause of chronic bronchitis and emphysema. But do most smokers cough? As Brock notes, a given stressor agent may produce different patterns of disease in two subjects according to their constitutional make-up (phenotype).

The tobacco industry continually plays up the "controversy". The medical profession should be sufficiently informed to be able to convince the intelligent layman that this is a "no contest".

Smoking is a very important, and often the chief, exciting cause of many diseases. It is not the only cause. Its place in aetiology has been determined. Research continues in an effort to evaluate exactly how and why smoking causes harm—in short, its place in pathogenesis. This will remain a subject for scientific discussion and debate for some time, but is this fairly called "The Smoking and Health Controversy"?

## SMOKING AND THE HEART — THE BASIS FOR ACTION

"SMOKING and the heart—the basis for action" is the title of a paper by Dr Keith Ball and Dr Richard Turner which appeared in *The Lancet* on October 5, 1974. In the belief that the message contained therein merits the attention of all practising doctors, this series of extracts has been prepared. Preferably, of course, the article should be read in full.<sup>2</sup>

### GENERAL

The counsel of the individual doctor is probably the most effective measure for persuading a person to abandon smoking, but it must be informed to be effective.

### MORTALITY

Between the ages of 35 and 44, smoking [in British physicians] increased the mortality [from coronary heart disease] nearly five times, and nearly four times between 45 and 54.

### PATHOLOGICAL EVIDENCE

A much greater severity of atherosclerosis has been found in the coronary, peripheral and cerebral arteries at necropsy in smokers than in non-smokers.

### THE EFFECT OF STOPPING SMOKING

... the answer to the question, "Does stopping cigarettes improve the outlook?" is clear. If middle-aged smokers give up their cigarettes, the risk of

developing and dying from C.H.D.<sup>2</sup> is considerably reduced.

### THE MECHANISMS

The two most important known constituents of tobacco smoke which affect the heart are nicotine and carbon monoxide. Nicotine . . . increases the work of the heart and myocardial oxygen requirements, and at the same time contributes to coronary atherosclerosis and its complications. When the coronary circulation is already impaired, the consequences of smoking may be serious . . . CO<sup>3</sup> . . . reduces the amount of oxygen available to the myocardium at the time when the work of the heart has been increased by the absorption of nicotine.

### HOW TO HELP PEOPLE TO STOP SMOKING

For many, the direct instruction by a doctor to stop smoking results in immediate and effective cure.

Stopping smoking must be seen to be as important as any other therapy prescribed. The follow-up is as vital in the control of smoking as in diabetes . . . "No smoking for as long as you live" is the prescription.

Advice should be given to the family who may also be at risk and can help the patient by providing a smoke-free home.

Hospital patients will find it much easier if they enter a non-smoking ward. In hospital non-smoking should become the norm.

<sup>2</sup> Coronary heart disease.

<sup>3</sup> Carbon monoxide.

<sup>1</sup> Ball, K., and Turner, R., *Lancet*, 1974, 2: 822.

No single cure is ever likely, since smoking is a complex habit of behaviour and addiction . . . . . An effective cure would rank with the discovery of penicillin in its effect on the health of mankind.

The greatest benefit will come from helping children never to start smoking. Dependency is so rapidly acquired that 70% of children who smoke more than one cigarette are said to become confirmed smokers.

Doctors have a particular responsibility by bringing pressure on the authorities to abolish the advertising and promotion of cigarettes, to prohibit vending machines accessible to children, and to reduce smoking in public places.

The prevention of heart disease by advice on smoking and other risk factors could become one of the most rewarding activities in medical practice.

## LIST OF ILLNESSES AND DISABILITIES ASSOCIATED WITH SMOKING

WE are often asked what diseases are associated with—and in most cases mainly due to—smoking. The following list has been drawn up from Reports of the United States Department of Health, Education and Welfare (1974), *The Health Consequences of Smoking*, the Royal College of Physicians' publication *Smoking and Health Now* (1971) and other sources. It may be regarded as authoritative.

### CARDIOVASCULAR DISEASE

1. Cigarette smoking is one of the major risk factors contributing to the development of coronary heart disease.
2. Autopsy studies suggest that cigarette smoking is associated with a significant increase in atherosclerosis of the aorta and coronary arteries.
3. Cigarette smoking increases the risk of dying from non-syphilitic aortic aneurysm.
4. Cigarette smoking is a major risk factor in the development and aggravation of peripheral vascular disease.
5. It is probable that the hyperthrombotic state occurring after smoking is a major factor in all these conditions.

### CHRONIC OBSTRUCTIVE BRONCHOPULMONARY DISEASE

1. Cigarette smoking is the most important cause of chronic obstructive bronchopulmonary disease.
2. It increases the risk of dying from emphysema and chronic bronchitis.
3. Cigarette smokers develop postoperative pulmonary complications more frequently than non-smokers.
4. Young cigarette smokers of high school age have impaired respiratory function compared with non-smoking peers.

### CANCER

1. Cigarette smoking is the main cause of lung cancer in men.
2. Cigarette smoking is a cause of lung cancer in women in smaller proportion than in men, but this is increasing more rapidly because of increased smoking by women.
3. Cigarette smoking is a significant factor in the causation of cancer of the larynx.
4. Smoking is a significant factor in the development of cancer in the oral cavity.

5. Smoking is associated with the development of cancer of the oesophagus.

6. Studies have demonstrated an association of cigarette smoking with cancer of the urinary bladder among men.

7. Studies have suggested an association between cigarette smoking and cancer of the pancreas.

### PEPTIC ULCER

1. Cigarette smoking males have an increased prevalence of peptic ulcer, and increased mortality therefrom.
2. Smoking reduces the effectiveness of treatment and slows the rate of healing.

### SMOKING AND PREGNANCY

1. Smoking is associated with decreased fertility in both male and female, increased occurrence of abortion, lowered birth weight and more stillbirths.
2. These effects on the mother in pregnancy can be reversed if she gives up smoking, and reduced if she smokes less than ten low tar content cigarettes per day.

### INFANCY

1. The infants of smoking mothers have twice as many respiratory infections in early life as those of non-smoking parents.
2. They have a significantly higher rate of admission to hospital for bronchitis and pneumonia through the first year of life.

### ORAL CAVITY

1. Pipe and cigar smoking are both significantly related to cancer of the oral cavity.
2. Major prospective epidemiological studies have found increased rates of cancer of the oral cavity and pharynx for cigar smokers as well.
3. The risk of a second primary cancer in those sites is greater in continuing smokers than in those who quit.
4. Ulcers, membranous gingivitis, alveolar bone loss and stomatitis nicotina are more commonly found among smokers than among non-smokers.
5. There is evidence that smoking may be associated with edentulism and delayed socket healing.
6. Non-smokers have an advantage over smokers in terms of oral health.

### ACCIDENTS

1. Smokers are more prone to accident at home, driving a car (twice as many) and elsewhere, than non-smokers.

### PIPES AND CIGARS

1. Some risk exists from smoking cigars and pipes, but if the smoke is not inhaled it is small compared with that from smoking cigarettes.

### EXERCISE PERFORMANCE

1. Clinical studies in healthy young men have shown that cigarette smoking impairs exercise performance, especially for many types of athletic events.

### THE PASSIVE SMOKER

1. The effect of tobacco is, to many, irritative. Some people are "allergic" to it.

2. To those persons with a heart or lung condition, side stream smoke is positively harmful, in that, if inhaled, it will, by its carbon monoxide content, diminish the amount of oxygen available to the tissues, with carboxyhaemoglobin replacing oxyhaemoglobin.

3. In public places, the right of the individual to breathe air free from smoke should have a higher priority than the right to smoke.

4. Provision should be made in all indoor work areas, all forms of transport, all cafes and restaurants, all halls of assembly and entertainment—and even in the home—to allow non-smokers, who form an increasing majority, to breathe air free from pollution by tobacco smoke.

## SMOKING CONSIDERED AS AN ADDICTION

It has long been recognized that smoking, especially of cigarettes, is a habit hard to break. Gradually it is being appreciated that, for all practical purposes, it must be grouped among the addictions.

Point has been given to this in an article<sup>1</sup> entitled "The smoking habit and its classification", by an eminent London psychiatrist, Dr M. C. H. Russell. He stigmatizes cigarette smoking as "probably the most addictive and dependence-producing form of object-specific self-administered gratification known to man". He notes that, although three out of four smokers either wish or have tried to stop, only about 15% succeed permanently; the majority are dependent smokers. The strength of any habit depends on well established principles, based on frequent reinforcements. Among these are the number of smoking episodes (20 cigarettes per day equals 7,300 per year), the strength of peer approval and the time factor related to the immediate gratification of smoking (nicotine reaches the brain in 14 seconds), which far outweigh the fear of a remote health risk. This rapid absorption explains in fact why cigarette smoking is so much more dependence-producing than alcohol and other drugs.

The reasons why people smoke are varied, and indeed many smokers are unable to give a satisfactory answer. Dr Russell has studied the work of earlier researchers, and, adding his own experiences, describes seven types of smoking. It will be noted that some of these overlap, but the coverage seems complete.

1. *Psychological Smoking*.—This is engaged in to create an image of toughness and sophistication. It is largely confined to adolescents in social situations, but for most this leads on to smoking for pharmacological rewards.

2. *Sensorimotor Smoking*.—The subject enjoys the various sensations involved (oral, manual, the process of puffing, watching the smoke and so on); this is especially evident in pipe smoking. It is an unimportant type, limited to some 10% of smokers.

3. *Indulgent Smoking*.—This is the most common form engaged in for pleasure and relaxation, as at coffee break,

<sup>1</sup>Russell, M. C. H., *The Practitioner*, 1974, 212: 791 (June).

or after meals, but not when at work or otherwise absorbed. There is no real craving, but as it is usually associated with inhalation, the pleasure is largely due to the pharmacological effect of nicotine.

4. *Sedative Smoking*.—This is especially found among women and tense, nervous people. It is associated with addictive smoking, and perhaps the tension and anxiety are really withdrawal symptoms.

5. *Stimulation Smoking*.—In contrast to type 3, this occurs when the smoker is active. It is used to enhance performance by the stimulating action of nicotine, to delay fatigue and to help cope with a difficult situation. Cigarette consumption tends to be high and chain smoking is common; these smokers are often both addictive and automatic (types 6 and 7).

6. *Addictive Smoking*.—This type of smoking is a necessity, with withdrawal symptoms after a break of 20 to 30 minutes, ceasing only during sleep.

7. *Automatic Smoking*.—This is found only in the very heavy smokers of types 5 and 6. There is no longer much awareness of smoking, so much as an acute awareness whenever a cigarette is unavailable.

It is emphasized that this classification represents types of smoking, not types of smokers. The types may overlap, but usually the smoker follows a predominant pattern. As the habit develops, there is usually a progression from psychosocial to predominantly pharmacological motives. It must be noted that the motives for starting to smoke are all psychosocial, but one survey found that only 15% of those teenagers who smoked more than a single cigarette avoided becoming regular smokers.

This paper is a basic contribution to our knowledge of smoking behaviour. It could be read with profit by all who are concerned over what Barbara Ward and Rene Dubos believe "may well be the most lethal of all breathable pollutants—tobacco".<sup>2</sup>

<sup>2</sup>Ward, B., and Dubos, R., *Only One Earth—The Care and Maintenance of a Small Planet*, 1973, Penguin Books, Australia Ltd, Ringwood, Victoria.