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FOHE

Role of genetic factors in lung cancer

1. Environmental factors, including smoking, are more important than genetic ones.
2. Studies on smoking-discordant identical twins - too few data at present.
3. Possible mechanisms
  - (i) Genetically-determined variation in Aryl Hydrocarbon Hydroxylase (AHH).
  - (ii) Genetically-determined variation in susceptibility to DNA damage by chemicals present in smoke.

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Cancers associated with cigarette smoking

(US Surgeon General, 1979)

<u>ICD*</u>	<u>Site of Cancer</u>	<u>Risk of death compared with non-smokers †</u>
<u>Definite</u>		
162-3	Lung, Bronchus	4.5 - 15.9
161	Larynx	6.1 - 13.1
140-1	Buccal cavity	1.0 - 13.0
145-8	Pharynx	2.8 - 12.5
<hr/>		
<u>Probable</u>		
150	Oesophagus	0.7 - 6.6
181	Urinary Bladder	1.0 - 6.0
157	Pancreas	1.6 - 2.7
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<u>Possible</u>		
180	Kidney	1.1 - 1.6
151	Stomach	0.8 - 2.3
152-3	Intestines including Colon	0.5 - 1.4
154	Rectum	0.6 - 2.7

\* International Classification of Diseases Code Number(s)

† In 8 different prospective studies.

96.26.2

Mortality Ratios for lung cancer in 4 prospective studies in males

(US Surgeon General, 1979)

<u>Study</u>	Non-smoker	Pipe smoker	Pipe & Cigar smoker	Cigar smoker	Cigarette smoker
Hammond & Horn (1958)	1.0	3.0	-	1.0	10.7
Doll & Peto (1976)	1.0	-	5.8	-	14.0
Best & McGregor (1966)	1.0	4.3	-	2.9	14.9
Kahn (1966)	1.0	1.8	1.7	1.6	12.1

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Approaches to reducing cancer  
risk from smoking

1. Ban altogether or strongly discourage.
2. Safer cigarette.

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Approaches to Safer Cigarettes

1. Maintain nicotine level but reduce tar.
2. Reduce the carcinogenicity of the tar.
3. Add safe flavours.

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**ASSESSMENT OF RISK FACTORS FOR CANCER  
CONCLUSIONS FROM AHF CONFERENCE, 1979  
BASED MAINLY ON USA & UK DATA**

**Major Factors**

Nutrition

Smoking

**Risk Attributable**

Up to 50 %

25 to 35 % in males;  
5 to 10 % in females

**Minor Factors**

Alcohol

Occupation

Ionizing radiation

Ultraviolet radiation

3 %

6 % in males; 2 % in females

Less than 3 %

Less than 2 %

**Minimal Factors**

Food additives

Drugs

General air pollution

Water pollution

Immunological factors

**Other Factors**

Genetic factors

Viruses

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**LUNG CANCER MORTALITY BY ASBESTOS EXPOSURE AND CIGARETTE SMOKING**  
(Hammond and Selikoff, 1979)

Asbestos exposure	History of cigarette smoking	Death rate (per 100,000p. a)	Mortality ratio
-	-	11.3	1.0
+	-	58.4	5.2
-	+	122.6	10.8
+	+	601.6	53.2



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**PERCENT CHANGE  
IN LUNG CANCER DEATH RATES  
1966-70 TO 1971-75  
(England & Wales)**

<u>Age Group</u>	<u>Men</u>	<u>Women</u>
35-39	- 22%	- 16%
40-44	- 17%	- 17%
45-49	- 4%	+ 16%
50-54	- 7%	+ 17%
55-59	- 6%	+ 24%
60-64	- 5%	+ 30%
65-69	- 2%	+ 23%
70-74	+ 9%	+ 23%
75-79	+ 21%	+ 24%
80-84	+ 26%	+ 31%
85+	+ 26%	+ 26%
All ages	+ 7%	+ 27%



Spring 2014  
1/2/14

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FJCR/SR

1st December, 1980

Dr. John Papadimitriou,  
Hellenic Scientific Society of Experimental  
Medicine,  
2 Pavine Street,  
Athens T.T.140,  
GREECE.

Dear Dr. Papadimitriou,

Because of continuing domestic problems with my son, I most regretably feel that I cannot come to Athens to attend your annual meeting. I feel very guilty about letting you down at the last minute. However, I have prepared a talk and slides and Professor Harold Ellis has very kindly agreed to speak on my behalf. I hope very much that this will not disrupt the programme too much.

I am returning the Air Tickets which were sent to me by Forum and will send you a copy of the text of my talk in 2 days time. Also Professor Ellis will bring a copy with him of course.

I hope there will be a future occasion on which I can visit you. My son will certainly be alright eventually but he needs a lot of support just now as he struggles to regain his self-confidence.

With deep apologies,

Yours sincerely,



Francis J.C. Roe

Enc.



Travel-Tourism-Conventions

**FORUM**  
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November 20, 1980

Dr. Fr. Roe D.M.  
19, Marryat Rd.  
Wimbledon Common  
London S.W. 19  
England

Dear Dr. Roe

At the request of Dr. John Papademetriou enclosed you will find ticket for your forthcoming trip to Greece.

Please note that reservations for your return have been made per your request and ticket will be validated accordingly after your arrival here.

Looking forward in seeing you in our country.

Yours very truly

FORUM  
Travel Tourism Conventions

HELLENIC SCIENTIFIC SOCIETY OF EXPERIMENTAL MEDICINE

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London SW 19 5 BB

Dear Dr. Roe,

The time for our scientific meeting is approaching.  
May I ask you to post me by the end of this month your manuscript,  
so that to be published in time.

In addition if we could know how many days you plan to stay in Athens,  
we'll be able to arrange your program in details.

Thanking you very much for your co-operation,

I remain very sincerely  
yours

  
John Papadimitriou M.D.,F.A.C.S