IARC Working Group No. 320E

REPORT OF AD HOC IARC WORKSHOPS ADVISORY GROUP

ON PRIORITIES FOR FUTURE EVALUATIONS

Lyon, 7–11 February 2005

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PREFACE

Statement in support of the IARC Monographs Programme

by members of the Advisory Group

Members of the Sixth Advisory Group of the IARC Monographs Programme met with some concern the contents of recent proposals in the Journal of Epidemiology and Environmental Health, as well as the comments made in the Report of the Fourth Advisory Group (Meeting Report No. 1). The Advisory Group wishes to emphasize that the IARC Monographs Programme is a well-established, well-functioning programme that has been in operation for over 40 years. The Programme has been subjected to continuous scrutiny and review, and has been modified and improved in response to these reasonable proposals. With regard to the commitment to public health, the Programme has been, and is, a model for other programmes. The Programme has been a pioneer in the development of methodologies for the evaluation of carcinogenic hazards and risks, and has been instrumental in the development of methodologies for the evaluation of carcinogenic exposures and agents in wide ranging of disciplines. It is the traditional Programme of choice for the evaluation of carcinogenic hazards and risks, and is used by many agencies and organizations worldwide. The Programme has been, and is, a model for other programmes in its commitment to transparency, independence, and scientific rigour. The Programme has been, and is, a model for other scientists with inappropriate interests in its participation, in evaluations and preparation for the, and in the conduct of, its meetings. The Programme has been, and is, a model for other programmes in its commitment to the dissemination of its results to the public, and to the widest audience of scientists, including those in the developing world, and in its commitment to the training of young scientists. Nothing that Lancet IARC Monograph Coordinator Kurt Straif and the authors of the Lancet Monograph Series have proposed in the Journal of Epidemiology and Environmental Health, or in the Report of the Fourth Advisory Group, has been in any way inappropriate, or has been in any way contrary to the spirit of the Programme. We, the members of the Sixth Advisory Group, wish to express our support for the Programme and the Advisory Group. We, in keeping with the spirit of the Programme, have also taken the opportunity to emphasize that, in spite of the scientific evidence that, for several agents,

Tobacco smoking

Tobacco smoke (including indirectly) and Scrapped Carcinogenic Lung Cancer in p

Artificial UV(C) Radiation (of IARC) Tan and UV-R

Ionizing radiation, including radiation from medical imaging, therapeutic and cosmetic purposes

Lumps (LDS) Under the Microscope in Human Heart as the Leading Carcinogen Research Agenda

Lancet IARC Monographs Program: Changing Attitudes Around Human Health, Lancet, Volume 365, Supplement 1, p 1, 2005.

1. List of participants

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Table 1. High-priority agents outstanding since the previous IARC *Monographs* Advisory Group Meeting (Sept. 1998)

	nominated this time	current IARC classification
tert-butylalcohol	no	--
1,2-diphenylhydrazine	no	--
lead and lead compounds	yes	Group 2B/3 (S7, 1987)
polybrominated biphenyls	no	Group 2B (S7, 1987)
polychlorinated biphenyls	no	Group 2A (S7, 1987)
bitumens (refined bitumens)	yes	Group 3/2A (S7, 1987)
diesel engine exhausts	yes	Group 2A (1989)
diesel fuels	no	Group 2B/3 (1989)
gasoline engine exhausts	yes	Group 2B (1989)
gasoline (leaded and unleaded)	no	Group 2B (1989)
alcohol drinking	yes	Group 1 (1988)
moist oral snuff and associated •nitrosamines	yes	Group 1 (S7, 1987)
primidone	no	--
salicylazosulfapyridine	no	--
nitrates/nitrites and endogenous •nitrosamine formation	yes	planning meeting needed
air pollution	yes	planning meeting needed
DDT	no	Group 2B (1991)

Table 2. Agents or exposures nominated for (re)evaluation in future *IARC Monographs*	
Industrial chemicals	Carbon black
	Ethylbenzene
	Ethylene glycol monobutylether (2-butoxyethanol)
	Fluid catalytic cracking oil (slurry oil)
	Formaldehyde
	Halothane
	Lead and lead compounds
	Naphthalene
	Propylene glycol monomethylether (1-methoxy-2-propanol)
	Vanillin
Complex mixtures	Bitumens
	Diesel engine exhaust
	Gasoline engine exhaust
Occupational exposures or occupations	Aluminium production
Lifestyle factors	Alcohol drinking
	Moist oral snuff and associated nitrosamines
	NNK
	NNN
	Psychological stress/depressed behaviour in relation to breast cancer
Pharmaceutical drugs	Histamine-2 receptor antagonists, *e.g.,* cimetidine, famotidine, nizatidine, ranitidine
Food additives, contaminants and components	Urethane
Naturally occurring substances	Methyleugenol
	Nitrates/nitrites and endogenous nitrosamine formation
	Ptaquiloside
Environmental contaminants	Air pollution
	Benzene
	Methyl-*t*-butyl ether (MTBE)
	Sulfur dioxide
	Sun radiation
Pesticides	2,4-D

Sixth IARC *Monographs* Advisory Group on priorities for future evaluations

Priority List of agents and exposures to consider in future IARC *Monographs*

Agent (present evaluation)	*Priority (urgency)*	*Comments*
Industrial chemicals		
Carbon black (2B)	high	New epidemiological studies (most informative: carbon black production) No new animal carcinogenicity data Mechanistic discussion (ultrafine-particle issue)
Ethylbenzene (2B)	low	No epidemiological studies relevant for re-evaluation New animal carcinogenicity data
Ethylene glycol monobutylether (2-butoxyethanol), propylene glycol monomethylether (1-methoxy-2-propanol) and some related glycol ethers	high	No epidemiological studies relevant for (re)evaluation NTP carcinogenicity study in rats and mice Widespread use and public health concern
Fluid catalytic cracking oil (2B)	delete	No epidemiological studies relevant for re-evaluation No new animal carcinogenicity data
Formaldehyde (2A)	high	New epidemiological studies available; two more will be finished soon No new animal carcinogenicity data Complex mechanistic data
Glutaraldehyde (and other aldehydes)	low	Used as substitute for formaldehyde NTP carcinogenicity study in rats or mice
	high	In combination with formaldehyde
Halothane (3)	delete	No new data relevant for re-evaluation Recent Dutch evaluation provides no new evidence of carcinogenicity
Lead and lead compounds (2B/3)	high (urgent)	New epidemiological studies and meta-analysis available New NTP document available soon Complex mechanistic data
Organic fibres: *para*-aramid, cellulose, polyvinyl alcohol (PVA)	high	Some epidemiological data available Animal carcinogenicity data available on *p*-aramid, cellulose and PVA (mechanistic issues; durability, study design) Widely used as substitutes for MMVF
Titanium dioxide	high	On-going epidemiological studies Mechanistic discussion (ultrafine-particle issue) (see carbon black)
Agent (present evaluation)	*Priority (urgency)*	*Comments*
Vanillin	delete	No relevant data available
Complex mixtures		
Bitumen (US: asphalt) (2B/3)	high	No new conclusive evidence Several on-going epidemiological and animal carcinogenicity studies
Diesel engine exhaust (2A)	high	Extensive new epidemiological studies, re-analyses and meta-analyses Potential major public health relevance In combination with gasoline engine exhaust
Gasoline engine exhaust (2B)	low	No animal data for gasoline exhaust Few epidemiological studies specifically addressing gasoline exhaust
	high	In combination with diesel engine exhaust
Occupational exposures or occupations		
Aluminum production (1)	delete	No new data relevant for re-evaluation of specific processes
Wood dust (hard and soft wood) (1)	delete	Difficult to disentangle soft and hard wood effects Recent SCOEL evaluation provides no new evidence
Lifestyle factors		
Alcoholic beverages (1)	high	- additional cancer sites (breast, liver, colorectal cancer) - better knowledge of mechanisms of action
Smokeless tobacco including moist oral snuff (1)	high	- epidemiology data on moist snuff and other smokeless tobacco products In combination with nicotine-derived nitrosamines
Nicotine-derived nitrosamines (i.e., NNN, NNK) (2B)	high	- new mechanistic data and human exposure information using biomarkers In combination with smokeless tobacco
Pharmaceutical drugs		
Oral contraceptives (1) Hormone replacement therapy (2B/1)	high	- evidence of additional cancer sites for oral contraceptives (OC) (cervical cancer, especially in HPV-positive women) and hormone replacement therapy (HRT) (breast cancer and ovarian cancer) - new practices and dosages
	high	This topic was evaluated recently and some studies are still on-going (HRT)

Agent (and present evaluation)	*Priority (urgency)*	*Comments*
Treatment regimens related to acid peptic disease	high	- this topic will be combined with a review of *Helicobacter pylori* infection - new data on aetiology of *H. Pylori* - widespread exposure of the regimens
Primidone	high	- long-term use as anti-epileptic - NTP animal carcinogenicity study
Salicylazosulfapyridine	high	- long-term human exposure as anti-inflammatory drug - NTP animal carcinogenicity study
Food additives, contaminants and components		
Urethane (2B)		- new mechanistic data - NTP report will soon be available
	high	Within the framework of a re-evaluation of 'alcoholic beverages'
Naturally occurring substances		
Growth hormones (GH)	low	- children with growth deficiencies are given GH - possible human exposure because GH is given to cattle - animal data show increase in mammographic densities and prostatic hyperplasia in macaques
Methyl eugenol	low	- widespread but low human exposure - NTP animal carcinogenicity study
Nitrate, nitrite and endogenous nitrosation	high	- epidemiological studies on fertilizer workers and on nitrate in drinking water An *ad hoc* planning meeting is needed to define the scope of this Monograph
Ptaquiloside and bracken fern	high	- new animal carcinogenicity data and some epidemiology in relation to bracken fern
Insulin-like growth factors (IGF)	low	- increase in endogenous IGF concentration in serum would lead to increase in breast, prostate and colon cancer. This is supported by on-going *in vitro* studies - IGF-1 present in cows' milk, possibility of human exposure - data on transgenic animals are available

Agent (and present evaluation)	*Priority (urgency)*	*Comments*
Environmental contaminants		
Air pollution	high	Could be divided into - outdoor air pollution - indoor air pollution An *ad hoc* planning group should convene to define the scope of this/these monograph(s)
Benzene (1)	low	- additional organ sites - new mechanistic data International meeting on benzene to be held soon
Methyl-*t*-butylether (MTBE) (3)	delete	No new data since previous evaluation
Microcystins and blue-green algae	high	- individuals exposed through food/water consumption
Sulfur dioxide (SO_2) (3)	low	- new epidemiology data
	high	When considered in a Monograph on 'air pollution'.
Pesticides		
Chlordecone (2B)	delete	- no new data relevant for a re-evaluation
Chlorophenoxy herbicides (2B)	Low	- some new epidemiology data
DDT (2B)	Low	- some new epidemiology data Could be evaluated together with chlorophenoxy herbicides

Acrylamide (2A)*		

* The Advisory Group discussed the issue of 'acrylamide in food', which has recently attracted much attention. As many new data will become available in the next few years, a re-evaluation will be necessary in the not too distant future.

The Advisory Group also discussed some metals with increasing exposure (aluminum, palladium, titanium, uranium) and noted that a Workshop on 'Mechanisms of metal carcinogenisis' may be warranted to discuss the potential for combined evaluation of some metals, in the absence of metal-specific data on carcinogenicity in epidemiological studies and in experimental animals.

The Advisory Group discussed the topic 'Psychological stress/depressed behaviour in relation to breast cancer risk' - which was nominated for evaluation – and noted that some epidemiological studies are available. The Group did not recognize the need to place this topic on the Priority List.