

# Screening and surveillance of workers exposed to mineral dust

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World Health Organization  
Geneva  
1996

WHO Library Cataloguing in Publication Data

Wagner, Gregory R.

Screening and surveillance of workers exposed to mineral dust / Gregory R. Wagner.

1.Pneumoconiosis -- diagnosis 2.Dust -- toxicity 3.Minerals 4.Occupational exposure  
5.Epidemiologic surveillance -- methods I.WHO Meeting on the Screening and Surveillance of  
Workers Exposed to Mineral Dust (1993 : Geneva, Switzerland) II.Title

ISBN 92 4 154498 8

(NLM Classification: WF 654)

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TYPESET IN HONG KONG  
PRINTED IN ENGLAND  
95/10740 -- Best-set/Clays -- 7000

# Contents

<b>Preface</b>	vii
<b>Acknowledgements</b>	ix
<b>Chapter 1. Introduction</b>	1
<b>Chapter 2. Definitions</b>	3
Screening	3
Surveillance	4
<b>Chapter 3. Screening for toxic effects of workplace exposure</b>	6
<b>Chapter 4. Elements of screening and surveillance programmes</b>	9
<b>Chapter 5. Diseases associated with exposure to selected mineral dusts</b>	12
Diseases associated with exposure to crystalline silica dust	13
Diseases associated with exposure to coal mine dust	14
Diseases associated with exposure to asbestos dust	16
<b>Chapter 6. Tests for detecting diseases induced by exposure to mineral dust</b>	20
Conventional chest radiography (X-rays)	20
Additional imaging techniques	22
Measures of lung function	23
Questionnaires	25
Physical examination	26
Sputum examination	27
Bronchoscopy and broncho-alveolar lavage	28
Tuberculin skin-testing	29
Stool examination for occult blood	29
<b>Chapter 7. Recommendations</b>	30
<b>References</b>	35

## CONTENTS

### Annexes

<b>1. List of participants in the WHO Meeting on Screening and Surveillance of Workers Exposed to Mineral Dust</b>	41
<b>2. Examples of screening and surveillance programmes</b>	43
<b>3. Technical considerations in the use and interpretation of chest radiographs</b>	52
Methodological issues in radiographic interpretation	52
The International Labour Office classification system	54
<b>4. Technical considerations in the use of spirometry</b>	58
Recommended procedures and quality control	58
Interpretation	58
<b>5. Questionnaire development and use</b>	62
Steps in questionnaire design and development	64
Questionnaire analysis	66
Intervention	67
Assessment, review and revision	67

# Preface

Screening and surveillance are two complementary tools used by public health professionals to follow the status of and trends in the health of various populations. These tools enable health professionals to identify problems, assess them and plan appropriate interventions. Both screening and surveillance are of particular significance for occupational health professionals responsible for assessing the health of people at risk for disease as a result of exposure to hazards in the workplace.

Screening and surveillance provide information on the health of working populations and contribute to the collation of national occupational health statistics. Moreover, such information is necessary for the planning and implementation of occupational health and safety programmes directed at the reduction of harmful exposures, improvement in working conditions and prevention of occupational diseases and injuries. As these efforts are international in scope and are carried out under a variety of conditions, they can benefit from a harmonization of definitions, approaches and methodologies.

In response to this need, the World Health Organization (WHO) initiated a project resulting in the present publication. A meeting of an international group of experts (see Annex 1 for a list of participants) was held, where a consensus was reached on the need for and methods of screening and surveillance of workers exposed to mineral dust, and a draft text of the current publication was discussed and revised.

The first part of this publication provides the reader with definitions of screening and surveillance and describes the main elements of such programmes. The second part describes in greater detail practical aspects of the screening and surveillance of working populations exposed to selected mineral dusts. It is hoped that this publication will encourage the implementation of appropriate screening and surveillance programmes in WHO Member States.

Occupational respiratory diseases, particularly those induced by inhaling mineral dust, are prevalent in developing as well as many

## PREFACE

developed countries. Although the health impact of the so-called “silent epidemic” of occupational respiratory disease is significant, to know its true magnitude requires an improvement in diagnostic criteria and notification and reporting systems, all components of the screening and surveillance of working populations. In this respect, the present publication, written with the practitioner in mind, provides information that is useful for all health professionals, but particularly for occupational physicians, epidemiologists, occupational nurses, occupational hygienists and others like primary health care workers who are dedicated to protecting and promoting the health of working populations.

It is my great pleasure to acknowledge the work of all the experts who participated in the WHO Meeting on the Screening and Surveillance of Workers Exposed to Mineral Dust. In particular, I would like to thank Dr M. R. Becklake, who chaired the meeting and made valuable contributions to the manuscript, and Dr G. R. Wagner, who drafted the manuscript, served as rapporteur at the meeting and subsequently finalized the text. The contribution of the International Labour Office (ILO) and its representative Dr M. Lesage and the technical and financial support given by the National Institute for Occupational Safety and Health (NIOSH) in the United States are gratefully acknowledged. Special thanks are also offered to Dr F. He, the scientific coordinator of the project.

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# Acknowledgements

In addition to those mentioned by Dr Mikheev in the Preface, the author would like to thank the following individuals: Dr M. D. Attfield and Dr J. L. Hankinson for assistance in the preparation of technical annexes; Dr J. E. Parker and Dr E. L. Petsonk for review of the manuscript; and Ms A. Wolfe for assistance in manuscript preparation.

# CHAPTER 1

## Introduction

Diseases caused by exposure to mineral dust persist in both developed and developing countries despite substantial knowledge about the means of their prevention. Disease prevention can be achieved by the application of engineering techniques that limit workers' exposure to mineral dust. Such technologies can also be supplemented by administrative strategies and by the use of personal protective equipment. An optimal distribution of public health resources would emphasize primary prevention through exposure control. Medical screening and surveillance are secondary strategies which are, however, integral parts of a disease prevention programme.

Exposure to mineral dust occurs in a variety of circumstances. Workers subject to exposure may be engaged in mineral extraction, refining and use, as well as in quarrying, tunnelling and construction. The social, political, public health and economic context in which exposure to mineral dust occurs is also diverse. Any programme for screening and surveillance of workers exposed to mineral dust should reflect the physical as well as the general legal and economic environment in which it is established.

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